Glossary

Term	Description
Collective Risk	Collective Risk can be thought of as 'crash density' and is related to the crash history of the section of road. Collective Risk is a measure of the number of deaths and serious injuries (DSIs) per km that can be expected on a road segment over the next five years. There are five risk levels (High, Medium-High, Medium, Low-Medium, and Low), and the threshold levels for the overall collective risk level vary based on corridor length and urban versus rural.
High-risk road	A high-risk road (or road section) is a road that has either a 'High' or 'Medium-High' Collective Risk, Personal Risk, or Infrastructure Risk Rating.
Infrastructure Risk Rating (IRR)	IRR is based on nine variables that have a significant influence on determining road safety risk. It is determined independently of crash history (unlike Collective Risk and Personal Risk) and represents the underlying risk inherent to the road. The variables assessed are: • Road stereotype • Alignment • Carriageway width (lane and sealed shoulder) • Roadside hazards • Land use • Intersection density • Access density • Traffic volume There are five risk levels (High, Medium-High, Medium, Low-Medium, and Low). The threshold levels for the risk levels vary based on urban or rural adjacent land use.
One Network Road Classification (ONRC)	The ONRC is the New Zealand Transport Agency's classification system, which divides New Zealand's roads into six categories based on how busy they are, whether they connect to important destinations or if they are the only route available. Primary collectors, secondary collectors and access roads are pertinent to this case. • **National**: These roads make the largest contribution to the social and economic wellbeing of New Zealand by connecting major population centres, major ports or international airports, and have high volumes of heavy commercial vehicles or general traffic. • **Arterial**: These roads make a significant contribution to social and economic wellbeing, linking regionally significant places, industries, ports or airports. They may be the only route available to important places in a region, performing a 'lifeline' function. • **Regional**: These roads make a major contribution to the social and economic wellbeing of a region and connect to regionally significant places, industries, ports and airports. They are major connectors between regions and, in urban areas, may have substantial passenger transport movements.

Term	Description
	• **Primary collector**: These are locally important roads that provide a primary distributor/collector function, linking significant local economic areas or population areas. o **Traffic volumes**: more than 3,000 vehicles per day (vpd) o in urban areas, and more than 1,000 vpd in rural areas. Greater than 150 heavy commercial vehicles (HCV) per day. o **Connectivity**: Links places with populations greater than 2,000 people. o **Speed**: Generally moderate speed environment in urban areas. Moderate to high speed in rural areas. o **Access:** Access primarily to adjoining property. • **Secondary collector**: These roads link local areas of population and economic sites. They may be the only route available to some places within this local area. o **Traffic volumes:** more than 1,000 vpd in urban areas, and more than 200 vpd in rural areas. Greater than 25 HCV per day. o **Connectivity:** Links places with populations greater than 250 people. o **Speed**: Generally moderate to low speed environment. o **Access:** Access primarily to adjoining property. • **Access**: This is often where your journey starts and ends. These roads provide access and connectivity to many of your daily journeys. o **Traffic volumes:** less than 1,000 vpd in urban areas, and less than 200 vpd in rural areas. Less than 25 HCV per day (if any). o **Connectivity:** Links places with populations less than 250 people. Collect and distribute traffic to/from local properties within an area. o **Speed:** Generally moderate to low speed environment. o **Access:** Significant access to adjoining properties.
Mean Operating Speed	The average free-flow speed based on TomTom data. The average speed that vehicles actually travel on that section of road.
Personal Risk	Personal Risk can be thought of as 'crash rate' and is related to the crash history of the section of road. Personal Risk is a measure of the risk of an individual dying or being seriously injured on a road corridor. It is calculated by dividing the Collective Risk by traffic volume exposure. There are five risk levels (High, Medium-High, Medium, Low-Medium, and Low).
Posted Speed Limit	The posted speed limit is the speed limit shown on speed limit signs.
Safe and Appropriate Speed (SAAS)	The SAAS is the travel speed that is determined to be safe and appropriate for a road segment based on the road function, design, safety and use.
Travel Speed	The average speed vehicles actually travel on that section of road.

AT Safe Speeds Tranche 2A Speed Limit Review Process

Quality Assurance Information

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Contents

Glossary of Terms

Term	Definition
Base Information	Information that is used in combinations to determine metrics or assist in making decisions.
Land Use	The human or economic functions that take place on the land adjacent to the road.
5- year crash history	The injury crashes recorded in Waka Kotahi's Crash Analysis System (CAS) during a period of 5 years.
Section length (km)	The length of a given road section.
Annual average daily traffic (AADT)	The average volume of vehicle traffic using a road for a day over a given year.
Road alignment	The horizontal alignment of a given road section.
Carriageway width	The width of a given road segment's carriageway.
Roadside hazards	The number of roadside hazards per km of road section, categories into a band.
Intersection density	The number of intersections per km of road section.
Access density	The number of accesses per km of road section.
Road Stereotype	The number of lanes and if the carriageway is divided.
One Network Road Classification (ONRC)	How the road is classified as part of the ONRC given its characteristics.
Freight priority	Identified as a freight priority route in a Network Operating Framework or similar strategic document.
Operating speed / travel speeds	The average free-flow speed for a given road segment.
Existing posted speed	The existed posted speed limit on a given section of road.
Network Legibility	Network legibility is the process of insuring that the network makes sense on a whole to road users rather than just individual road sections in isolation.
Safe and appropriate Speed (SaAS)	SaAS is a travel speed that reflect the function, design, safety and use of any given road.
Mega Maps suggested speed	The Mega Maps suggested speed is the default SaAS specified in the Mega Map tool.
Homogeneous road segments	Road segments where all of the base information remains the same over the length of the segment.
Vulnerable Road User (VRU)	Non-motorised road users, such as pedestrians and cyclists.

Supporting Documents and Tools

This process utilises the following documents and tool(s) in order to determine the proposed speed limit for a given road:

Vision Zero for Tāmaki Makaurau

Auckland Transport's safety strategy and action plan.

Mega Maps

The Waka Kotahi geospatial speed management tool. This tool draws on a wide range of data sets to provide strategic road safety metrics to road controlling authorities.

Safer Journeys Risk Assessment Tool (Mega Maps) Edition II: Using and Interpreting the Tool

A document that outlines the process for using and interpreting the Mega Maps speed management tool.

Infrastructure Risk Rating (IRR) Manual

Sets out the methodology for calculating the IRR for any given road segment.

Speed Management Guide

Sets out the speed management framework for how road controlling authorities determine SaASs.

The Guide was published in November 2016[1] as part of the Safer Journeys Safer Speeds Programme and in advance of the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule)[2]. The guidance is evidence based, nationally consistent, prioritises improvements to safety and economic productivity, achieves value for money and contributes to the credibility of the speed management programme.

Land Transport Rule - Setting of Speed Limits 2017

The Setting of Speed Limits Rule set by the Ministry of Transport in 2017 allows for road controlling authorities to set speed limits for roads in their jurisdictions and outlines the requirements they must adhere to.

1 https://www.nzta.govt.nz/assets/Safety/docs/speed-management-resources/speed-management-guide-first-edition-201611.pdf

2 https://www.nzta.govt.nz/assets/resources/rules/docs/setting-speed-limits-2017.pdf

1. Introduction

As a nation, we need to see a reduction in deaths and serious injuries on our roads whilst also moving people and goods efficiently around our transport network in a way that is aligned to the Safe System approach. The Safe System approach underpins Vision Zero. It was pioneered in Sweden and acknowledges the physiological and psychological limitations of humans and puts ultimate responsibility on the designers and operators of the system to accommodate these human limitations. This approach is derived from an understanding that people make mistakes, and from an ethical standpoint no-one should be killed or seriously injured on roads. The focus is on adapting the road system to humans, rather than human behaviour to the roads.

The Safe System approach demands a holistic approach to the safety of the road system and the interactions among roads and roadsides, travel speeds, vehicles and road users. It is an inclusive approach that caters for all groups using the road system, including drivers, motorcyclists, passengers, pedestrians, cyclists, and commercial and heavy vehicle drivers. The Safe System approach operates on the following guiding principles:

- **People make mistakes**: Humans will continue to make mistakes, and the transport system must accommodate these. The transport system should not result in death or serious injury because of errors on the roads.
- **People are vulnerable and the system should be managed within human biomechanical injury limit**: Our bodies have a limited ability to withstand crash forces without being killed or seriously injured. A Safe System ensures that the forces in collisions do not exceed the limits of human tolerance. Speeds must be managed so that humans are not exposed to impact forces beyond their physical tolerance. System designers and operators need to consider the limits of the human body in designing and maintaining roads, vehicles and speeds.
- **Shared responsibility**: The burden of road safety responsibility no longer rests solely with the individual road user. System managers have a primary responsibility to provide a safe operating environment for road users and ensuring that the system is forgiving when people make mistakes.
- **Strengthening all parts of the system**: All pillars of the road system need to be strengthened so that if one part fails, other parts will protect the people involved from serious harm.

Central to the Safe System approach is human tolerance to crash impacts and the management of kinetic energy transfer so these are within survivable limits. Managing the transfer of kinetic energy in the road transport system is key to managing injury outcomes. Outside of vehicle design and primary road infrastructure treatments, speed management is the key method for managing kinetic energy transfer. Having travel speeds that are aligned to the Safe System approach are statistically proven to provide a significant reduction to both deaths and serious injuries and remain the most practical way for addressing safety of vulnerable road users, such as pedestrians, cyclists and motorcyclists.

This document outlines the methodology for reviewing existing speed limits and proposing any speed limit changes within the Auckland Transport (AT) road network for Tranche 2A of the speed management programme. It is important to understand that the final speed limit for any given road will be determined following consultation with the public and key stakeholders.

Safe Speed Programme - Tranche 2A

The Safe Speed Programme Tranche 2A includes speed limit reviews in several different settings. As slightly different approaches have been applied for reviewing speed limits in these different road

environments, Workstream categories have been created for carrying out the speed management process. The workstream categories for Tranche 2A include:

- Rural roads – Roads that exist in a rural environment where there is little to no pedestrian demand;
- Town centres – Roads located within a town centre;
- Residential areas – Roads that exist in a residential area;
- Schools – Roads that are directly next to a school or function with a high number of school-based movement;
- Urban roads – Roads in an urban context that are not in a residential area or town centre; and
- Complementary speeds – Roads that have been selected because they either:
    - Function at a SaAS due to new infrastructure that has been developed and now require a speed limit to complement that lower operating speed
    - Address a non-intentional problem that has been created through the first tranche of the Safe Speeds programme.

In complementary speeds, rather than having their own unique process, all road segments are reallocated to a different workstream based on their road environments. The given road segment will then have a proposed speed limit determined according to the process of the specified workstream it has been reassigned to.

2. Process Flowchart

The general information flow and workstream specific information flow in the Tranche 2A speed limit review and proposal process are captured as process flowcharts in Figures 1 and 2 respectively. The general information flow process is summarised below whilst the specific process steps are described in detail in the sections after the flowchart figures.

General Information Flow Overview

The general information flow process can be summarised as:

1. **Segmentation** of the network in homogeneous road segments.
2. Calculation of **road safety metrics**, including the Collective Risk, Personal Risk and Infrastructure Risk Rating (IRR) for each road segment.
3. Determination of the **SaAS** using the Speed Management Framework specified in the Speed Management Guide.
4. Identify the **speed management intervention** approach that is most likely to be appropriate.
5. Apply **engineering judgement** to ensure the technical assessment provides network legibility and aligns with Auckland Transport's Vision Zero Strategy.

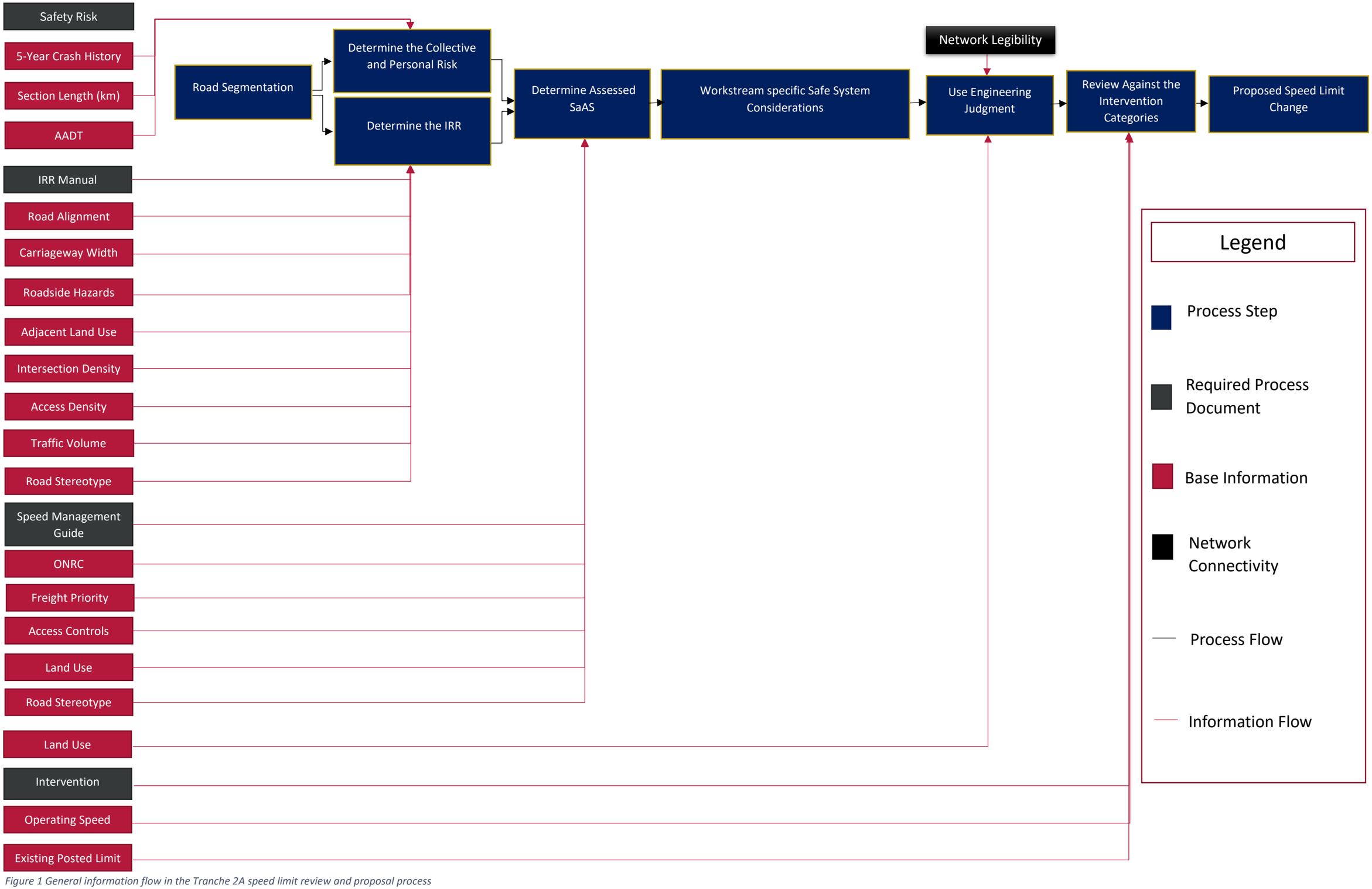

Figure 1 General information flow in the Tranche 2A speed limit review and proposal process

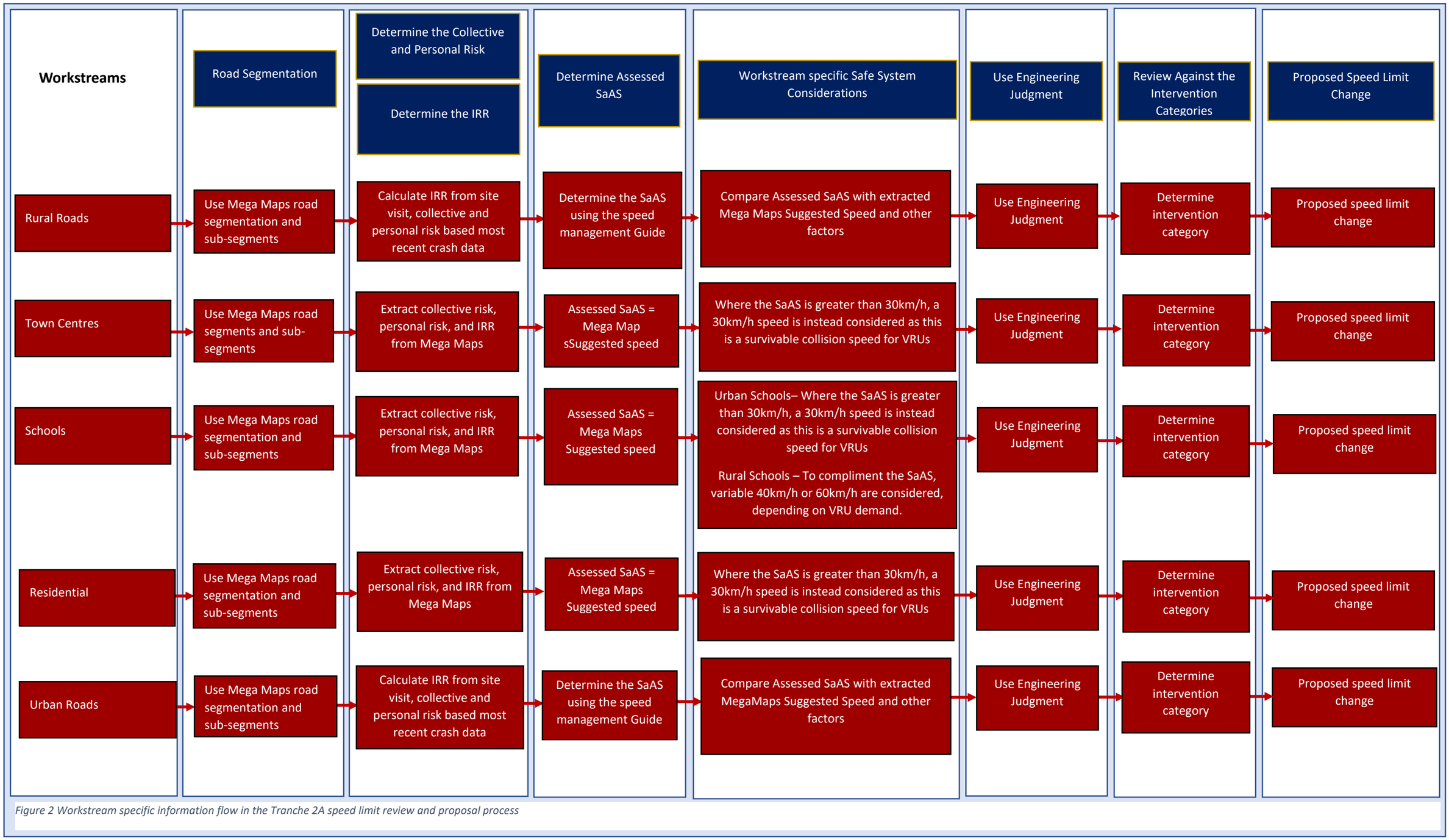

Figure 2 Workstream specific information flow in the Tranche 2A speed limit review and proposal process

Table 1 outlines where this information generally sourced. Where variables are determined differently within specific workstreams, this is discussed separately.

Table 1 Information sources

Base information	Source	Original source
Land Use	Mega Maps	Land use classification is modelled using urban and rural boundaries and the density of residential and commercial developments sourced from planning zones, Open Street Map (OSM) and Land Information New Zealand (LINZ) datasets.
5-Year Crash History	Crash Analysis System (CAS)	Extracted from a Waka Kotahi CAS system (crashes 2016-2020)
	Mega Maps	Mega Maps uses crashes extracted from the Waka Kotahi CAS System (crashes 2015-2019).
Section Length (km)	Mega Maps	The section length is determined using geospatial measuring tools.
Annual Average Daily Traffic (AADT)	Mega Maps	The Average Annual Daily Traffic (AADT) is determined based on information contained in a Waka Kotahi centreline dataset that is maintained by CoreLogic.
Road Alignment	Mega Maps	Horizontal alignment is determined using a geospatial process that calculates degrees of curvature per km. Alignment classification follows the banding specified in the Waka Kotahi Economic Evaluation Manual (EEM).
Carriageway Width	Mega Maps	Lane width is determined based on information contained in a Waka Kotahi centreline dataset that is maintained by CoreLogic. Separate lane and shoulder width information is not available within the dataset, so assumptions are made based on the carriageway width. These assumptions are: • Local roads have a maximum lane width of 3.3m with the shoulder forming the balance of the carriageway. • State Highways have a lane width of 3.6m with the shoulder forming the balance of the carriageway.

Base information	Source	Original source
Roadside Hazards	Mega Maps	Roadside hazards can be estimated from a combination of land use classification and road alignment.
Intersection Density	Mega Maps	Intersection density is calculated using a geospatial process that calculates intersection density along a road segment based on the underlying road centreline.
Access Density	Mega Maps	Access density is estimated from adjacent land parcels, where it is assumed that each land parcel has one access point to the frontage road.
Road Stereotype	Mega Maps	Road stereotype is determined based on information contained in a Waka Kotahi centreline dataset that is maintained by CoreLogic.
One Network Road Classification (ONRC)	Mega Maps	The ONRC is sourced from a Waka Kotahi centreline dataset that is maintained by CoreLogic.
Freight Priority	Auckland Transport	Identified as a freight priority route in a Network Operating Framework or similar strategic document
Operating Speed	Mega Maps	Real time traffic information over specific sections provided by TomTom.
Existing Posted Speed	Mega Maps	The existing posted speed is sourced from Waka Kotahi centreline dataset that is maintained by CoreLogic.

3. Road Segmentation

The segmentation process aims to achieve homogeneous road segments i.e. road segments with consistent attributes. However, in practice, a balance is typically struck between consistent attributes and segment length to ensure that road segments are of a length that may be appropriate for a different speed limit to an adjacent segment.

The speed limit review and proposal process starts by using Mega Maps segments, which are derived using an automated geospatial process that is laid out in the IRR manual and reproduced as Figure 3.

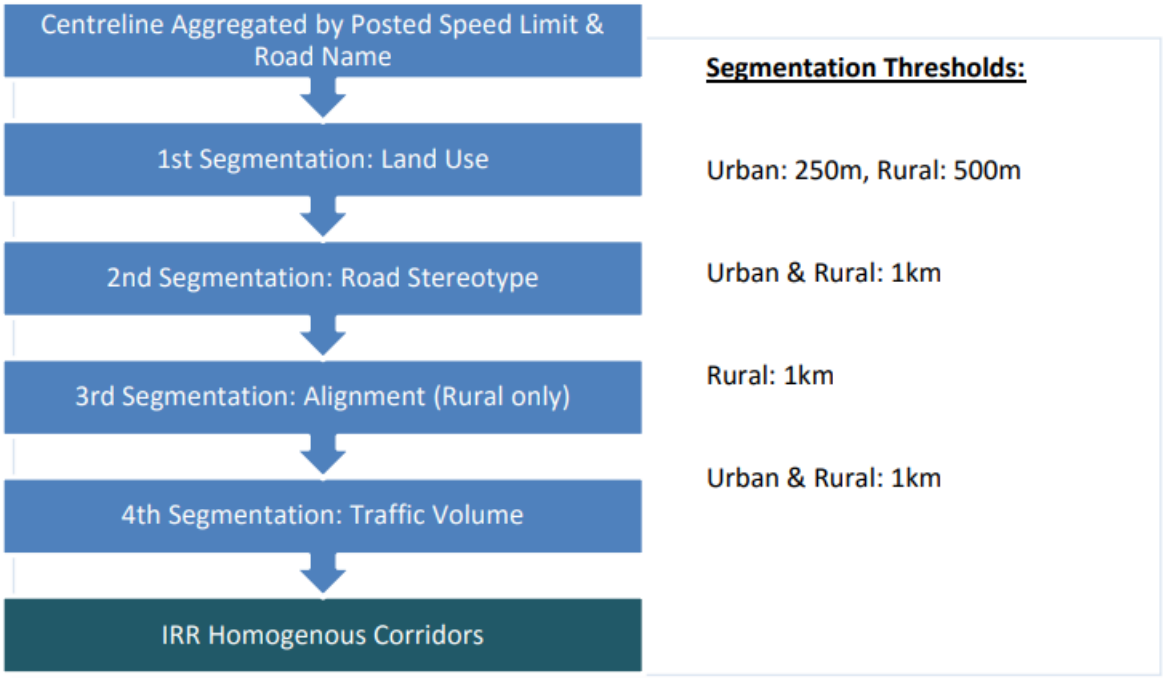

Figure 3 Road Segmentation Process

In some instances, particularly town centres and schools, there are circumstances where the extent further segmentation is completed to reflect local features that are not captured in the automated segmentation process. In these cases, consideration is given to whether the segment is sufficiently uniform to take the Mega Maps values for the entire segment and apply them to the partial segment.

4. Calculate the Collective and Personal Risk

Once the roads have been segmented, the Collective and Personal risk are determined for each road segment.

These road safety metrics are calculated using the estimated death and serious injuries (DSi) casualty equivalents approach, as used in the High-Risk Intersections Guide and Urban KiwiRAP analysis.

Estimated DSi casualty equivalents represent the likelihood of an injury crash resulting in a death or serious injury. Severity indices used in the calculation of estimated DSi casualty equivalents are based on the speed environment, crash movement type, midblock or intersection form and road user involved. Estimated DSi casualty equivalents are calculated by multiplying each injury crash (extracted from the Waka Kotahi Crash Analysis System (CAS)) on a road segment by the corresponding severity index. The estimated DSi casualty equivalents approach is the Waka Kotahi preferred approach to measuring risk based on historic crash data, as it reduces emphasis on locations with a high number of low severity crash types, such as rear-end) and also ensures sites where a fatality has occurred do not receive heightened bias.

- The **Collective Risk** is a measure of the total estimated DSi casualty equivalents per km for a road segment. It is effectively a measure of the number of deaths and serious injuries per km that can be expected on a road segment over the next five years if historic crash patterns continue.

- The **Personal Risk** is a measure of the risk of an individual dying or being seriously injured on a road corridor. It is calculated by dividing Collective Risk by traffic volume exposure.

Collective and Personal risks scores are converted to risk bands and the risk bands are used in the Speed Management Framework to determine the SaAS. Personal Risk plays an integral part in moderating the SaAS for a road segment, particularly where the observed crash history is worse than expected. Collective Risk plays a more significant role in determining the speed management intervention that is most likely to be appropriate.

The five risk bands are low risk, low-medium risk, medium risk, medium-high risk and high risk.

Rural Roads and Urban Roads

For Rural roads and Urban Roads, Collective and Personal risks are calculated manually using most recent 5-year crash data from CAS.

Residential, Town Centres and Schools

For Residential, Town Centres and Schools, Collective and Personal risks are extracted from Mega Maps, they use the 5-year crash data determined within Mega Maps rather than the 5-year crash data from CAS.

5. Calculate the IRR

Along with the collective and personal risk, the third road safety metric that is considered is the Infrastructure Risk Rating.

Infrastructure Risk Rating (IRR) is a road assessment methodology designed to assess road safety risk based on the road environment and infrastructure present. IRR is important in determining the SaAS for a road segment because, while the collective and personal risk focus on historic crashes, IRR doesn't consider historical crashes. IRR is a proactive measure of risk that aligns with personal risk and therefore is used to provide an approximation of underlying levels of risk for a road segment even when no crashes have been observed. This is especially useful for lower volume parts of the network.

For most workstreams, the IRR is extracted from Mega Maps, with any deviation from the IRR manual outlined in the Safer Journeys Risk Assessment Tool (Mega Maps) Edition II document.

IRR is constructed from a composition of the following Base information:

- Road stereotype
- Alignment
- Carriageway width
- Roadside hazards
- Land use
- Intersection density
- Access density
- Traffic volume

Where sufficient data is not available, Mega Maps approximates certain elements. While this can cause instances where a manually calculated IRR differs from the approximated Mega Maps IRR, the IRR manual recognises a geospatial approximation as a suitable alternative when calculating IRR in certain situations[3].

Rural Roads and Urban Roads

For the Rural Roads and Urban Roads workstreams, the IRR is determined in two different ways. Firstly, the IRR is extracted from Mega Maps as discussed above. Secondly, the base information that makes up the IRR, listed above, is verified and updated where necessary during the site drive over. The Mega Maps IRR score is then compared to the manually assessed IRR score. If there is a difference between the Mega Maps IRR and the assessed IRR, the assessed IRR will be used, provided that the manual assessment is deemed satisfactory. Table 2 shows how the manually assessed IRR elements are determined.

IRR banding categories are determined based on the IRR score. As with Collective and Personal Risk, the five risk bands are low risk, low-medium risk, medium risk, medium-high risk and high risk.

[3] https://www.nzta.govt.nz/assets/Safety/docs/speed-management-resources/irr-manual-201607.pdf

Table 2 Assessed IRR element source

IRR element	Source	How base information is determined within the source
Road Stereotype	Desktop study and drive over	Engineer's interpretation from site visit.
Alignment	Desktop study and drive over	Engineer's interpretation from site visit.
Carriageway Width	Desktop study and drive over	Derived from asset data base measured on site or measured from arial photo.
Roadside Hazards	Desktop study and drive over	Engineer's interpretation from site visit.
Land Use	Desktop study and drive over	Engineer's interpretation from site visit.
Intersection Density	Desktop study and drive over	Determined from site visit.
Access Density	Desktop study and drive over	Determined from site visit.
Traffic Volume	Desktop study and drive over	Derived from asset data base.

6. Determine Assessed SaAS

The Waka Kotahi Speed Management Guide provides a framework to assist Road Controlling Authorities (RCAs) such as AT, to determine the SaAS for individual road segments across their local network.

As indicated by the name, there are two aspects to SaAS: (1) safety and (2) appropriateness. The safety aspect ensures that the travel speed is such that, if a driver were to make a mistake, then the consequence should not result in death or serious injury. The appropriateness of the speed is to ensure readability, consistency and road efficiency, particularly around corridors of high economic importance.

Setting a SaAS is about aligning both the posted speed limit and travel speeds to reflect the road function, design, safety and use.

Figure 3 and Figure 4, taken from the speed management guide, represent the speed management framework for setting SaAS. This framework is used within the Mega Maps tool to determine the SaAS. In all workstreams other than schools, the Mega Maps suggested speed is used before additional considerations are made.

Table 2.1: Proposed Safe and Appropriate Speeds classification method – Urban Roads

Function / Feature	Road safety metric	Infrastructure Risk Rating	Safe and Appropriate Speed (km/h)
• **ONRC** is Class 1 or 2 • Identified as a Freight Priority Route in a Network Operating Framework • Limited Access Road controls • Median Divided	• Personal Risk ≤ Low–Medium;	• **'Low' or 'Low Medium'**	• **80**
• **ONRC** is Class 1 or 2 • Non–commercial[2] adjacent land use	• Personal Risk ≤ Medium;	• **'Low' or 'Low–Medium'**	• **60**
• **ONRC** is Class 1 or 2 • Non–commercial[2] adjacent land use	No road safety metric used in the assessment	• **Any IRR**	• **50**
• **ONRC** is Primary Collector • Residential adjacent land use	• Personal Risk ≤ Medium–High	• **Low to Medium**	• **50**
• **Any ONRC** • Non–commercial and non–residential adjacent land use	• Personal Risk ≤ Medium–High	• **'Low' to 'Medium'**	• **50**
• **Any ONRC** • CBD/town centre • Residential neighbourhoods	No road safety metric used in the assessment	• **'low' to 'Medium–High'**	• **40**
• **Any ONRC** • CBDs or town centres with high place function and concentration of active road users	No road safety metric used in the assessment	• **'High'**	• **30**
• **Parks**	No road safety metric used in the assessment	• **Any rating**	• **20**
• **Shared spaces** with high place function and concentration of active road users • **Car parks**	No road safety metric used in the assessment	• **Any rating**	• **10**

Note 1: HRIC – NZ Transport Agency High-Risk Intersection Guide, 2013
Note 2: Commercial land use excludes Industrial land use activities.
Note 3: No road safety metrics are used in the assessment of roads with a safe and appropriate speed of 40km/h or less, but the corridor's look and feel should be conducive to achieving the safe and appropriate speeds.

Figure 4: Table 2.1 – Proposed SaASs Classification Method for Urban Roads (as taken from the Speed Management Guide)

Table 2.2 Proposed Safe and Appropriate Speeds classification method – Rural Roads (incl rural towns)

Function / Feature	Road Safety Metric	Infrastructure Risk Rating	Safe and Appropriate Speed (km/h)
• **ONRC** is Class 1 • Median Divided and at least 2 lanes in each direction • No direct property access • Grade separated intersections	• Personal Risk ≤ Low–Medium; • Collective Risk ≤ Medium–High;	• 'Low'	• 110[7]
• **ONRC** is Class 1 – 3 • Sealed road	• Personal Risk ≤ Medium; • Collective Risk ≤ Medium–High;	• 'Low' or 'Low–Medium'	• 100
• Any ONRC	• Personal Risk ≤ Medium–High;	• 'Low' to 'Medium'	• 80
• Any ONRC • Not in a rural town[2] • Sealed road	No road safety metric used in the assessment	• 'Low' to 'High'	• <80
• Any ONRC • Not in a rural town[2] • Unsealed road	No road safety metric used in the assessment	• 'Low' to 'High'	• <80
• **ONRC** is Class 1 – 2 • Rural town[2]	• Personal Risk ≤ Low–Medium • Collective Risk ≤ Medium–High	• 'Low' or 'Low–Medium'	• 80
• **ONRC** is Class 1 – 3 • Rural town[2]	• Personal Risk ≤ Medium	• 'Low' to 'Medium'	• 60
• Any ONRC rural town[2]	• Personal Risk ≤ Medium–High,	• 'Low' to 'Medium'	• 50
• Rural town[2] • High place function and concentration of active road users	No road safety metric used in the assessment	• 'Low' to 'Medium–High' • Or 'High'	• <50

Note 1: HRIC – NZ Transport Agency High-Risk Intersection Guide, 2013
Note 2: Not classified as Urban according to Statistics New Zealand definition.

[7] Several sections of the Roads of National Significance would safely support travel speeds of up to 110km/h. Setting limits higher than 100km/h is currently not permitted, but a change to the law (Land Transport Rule: Setting of Speed Limits,2003) is under consideration.

Figure 5: Table 2.2 – Proposed SaASs Classification Method for Rural Roads (as taken from the Speed Management Guide)

When the SaAS is determined, any variation from the Speed Management Framework is documented for each road segment under consideration, along with an explanation of why this difference exists.

Town Centres, Schools and Residential

In the Town Centre, School and Residential workstreams, the Assessed SaAS is equal to the Mega Maps suggested speed. In these cases, the process above is carried out by Mega Maps.

Urban Roads

In the Urban Roads workstream, the assessed IRR is used alongside the Speed Management Guide to determine the Assessed SaAS.

Rural Roads

In the Rural Roads workstream, the assessed IRR is used alongside the Speed Management Guide to determine the Assessed SaAS.

Due to the function of the Speed Management Guide tables, there is some flexibility around the setting of SaASs for rural roads. For example, the table recommends a SaAS less than 80 km/h for both sealed and unsealed roads that do not fall into any of the other categories. Further analysis and interpretation is required to determine whether the SaAS is 40 km/h or 60 km/h. A speed of 50 km/h is not considered, apart from in urban areas and rural townships. The Speed Management Guide explains that this is because at higher operating speed, road users have difficulty differentiating speed limit differences of just 10 km/h[4]. The advantage of using 20 km/h speed increments is that fewer, more recognisable speed categories are easier for people to understand and recall.

When determining whether the appropriate speed is 40 km/h or 60 km/h, engineering experts review the land use, network connectivity and consistency, existing nature of the road and current travel speed to determine which speed is SaAS. This analysis is conducted on a case-by-case basis. Generally, the road stereotype (sealed versus unsealed) and existing travel speeds have the greatest impact on this decision. However, it is important to remember that this is not always the case, and a holistic assessment of the road and all related features is required before the SaAS can be determined.

7. Safe System Considerations

In some cases, to align with Auckland Transport's Vision Zero strategy and provide survival impact speeds in high pedestrian areas, Auckland Transport may progress with lower speed limits than the Assessed SaAS.

Town Centres and Residential

For the Town Centre and Residential workstreams, the available speed limits in the Speed Management Guide range from 10km/h to 50km/h. However, it is Auckland Transport's preference for speed limits in these areas to be no higher than 30km/h, as this considered to be a survivable collision speed for VRUs. Accordingly, where the Assessed SaAS is greater than 30km/h, a 30km/h speed is adopted. In many instances, physical speed calming measures and enforcement may be necessary to achieve compliance with this speed limit.

A workstream specific process is undertaken for Schools, which differs between schools in urban and rural settings.

For Urban Schools, a permanent 30km/h speed limit is adopted. In these instances, the extent of the speed limit reduction may expand from the school frontage to include a larger area beyond the school.

Currently, due to legislation and funding issues, only urban schools where the operating speed is already close to 30km/h, will be considered for a speed limit change to 30km/h.

[4] https://www.nzta.govt.nz/assets/Safety/docs/speed-management-resources/speed-management-guide-first-edition-201611.pdf

For Rural Schools, if the SaAS for the surrounding area is greater than 60km/h, generally, variable 60km/h SaAS are considered. A 40km/h variable SaAS may instead be considered where there is high Vulnerable Road User (VRU) demand around the school.

Rural Roads and Urban Roads

Mega Maps has been determined by Waka Kotahi to be suitable for informing speed management decisions at a network level. However, due to the assumptions made when conducting a network wide geospatial analysis, it cannot reach the same level of accuracy as assessment conducted with video data. Because of this, where the Mega Maps suggested speed and Assessed SaAS are not aligned, the Assessed SaAS is used in preference to the Mega Maps suggested speed in most instances. This comparison is mainly conducted as a sense check of the Assessed SaAS.

8. Engineering Judgement

After the intervention approach has been identified, engineering judgment is applied before choosing the final speed that will be taken forward as the proposed speed limit. Engineering judgement is important because, while the speed management framework goes a long way in determining a speed that is both safe and appropriate for the road environment, there are certain aspects that it is not able to consider.

An example of where engineering judgement is required is the consideration of proposed speed limits for each road in the context of the surrounding road network. This can be in terms of providing consistent speed limits along adjoining segments on a road that may have different Assessed SaAS from the technical assessment but may not appear to change sufficiently from a road user perspective to warrant a different speed limit. Equally, this can be in terms of having speed limits that reinforce the road hierarchy so traffic is not encouraged to re-route along lower order roads that may have a higher Assessed SaAS than a higher order road.

9. Intervention Categories

Once the SaAS is identified and the Safe System considerations have been made, the travel/operating speed for that section of road is compared to the SaAS. Along with this, future or planned modifications, additional local knowledge and network legibility are considered at this stage to determine an appropriate intervention.

There are four potential intervention options that can be undertaken to align the posted speed limit with the SaAS. These are:

1. Engineer up
2. Challenging conversations
3. Self-explaining
4. Engineering Down

Engineer Up

Engineer up interventions are typically only justifiable on economically important roads where the safety performance is poor and there is a strong case for investment to bring the corridor up to the required standard to support existing or higher travel speeds. On these roads, travel speeds tend to be close to or above the existing speed limit. Therefore, decreasing the posted speed limit to match

the SaAS may be inappropriate and possibly have poor levels of compliance and therefore not reducing risk on the road segment to desired levels.

As these roads tend to have a poor safety performance (i.e. high crash rate), leaving the existing speed limit as it stands with no changes is not acceptable nor consistent with Vision Zero for Tāmaki Makaurau. If the investment is justified for these roads, engineering design is required to improve the road safety performance. These are defined as 'engineering up' because substantial engineering design measures are required to bring the road safety performance of the road up to a standard that reflects the existing posted speed limit. Consequently, these changes would increase the SaAS to then be aligned with the current posted speed limit.

Challenging Conversations

These are corridors where current travel speeds and the speed limit are above the calculated SaAS. However, unlike roads that might be suitable for engineering up, these roads are typically lower order roads or do not have an established crash problem that justifies engineering intervention.

These are defined as 'challenging conversations' because discussions around lowering limits can often be challenging in areas where the travel speeds are not consistent with the SaAS. In these situations, traffic calming measures may be required to complement the reduced posted speed limit to increase compliance.

Self-Explaining

These are corridors where the posted speed limit is higher than the SaAS, but where road users are already travelling at (or even below) the SaAS. These are high benefit opportunities, because lowering the speed limit will tend to reflect how people are currently using the road and therefore be self-explanatory and credible

This helps to improve community understanding of SaAS and improves the credibility of speed limit setting and assists in explaining roads better to visiting drivers.

Engineering Down

These are roads where safety performance is poor, the SaAS is lower than both the 85th percentile speed and posted speed limit and there is a strong case for investment to modify the corridor into a formation which supports lower than existing speed limits.

On these roads, engineering measures are required to encourage users to travel at a lower posted speed limit.

Limitations

It is important to note that the current travel speeds are often determined from Mega Maps. In Mega Maps travel speeds are determined using Global Positioning System (GPS) information gathered from user devices. However, this information can have several limitations.

These operating speeds are often aggregated along corridors. As such, they are affected by the acceleration, deceleration and stopping of vehicles at intersections, loading zones and driveways. While this data is certainly beneficial at a network-wide level, there are instances where the travel speeds at specific locations along corridors will differ to that reported in the Mega Maps system.

10. Proposed Speed Limit Change

Once a SaAS has been determined, consultation with the public and local communities is undertaken to identify the views of interested persons or groups, consultation feedback is assessed and the proposed speed limit is adjusted, where necessary.

Speed Limit Review – Aicken Road (Hunua)

The speed limit on Aicken Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Aicken Road is classified as an access road under the one network road classification (ONRC). Aicken Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Aicken Road.
	Aicken Road connects to Ararimu Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Aicken Road is approximately 550m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Aicken Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Aicken Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 20 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Aicken Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Aicken Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Aicken Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.55
Annual Daily Traffic	20

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Aicken Road.

Aicken Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Aicken Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high roadside hazards, its access function and its existing mean operating speed (20 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Aicken Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the mean operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Aka Aka Road (Puni)

The speed limit on Aka Aka Road, between 165 m south of Waiuku Road and the boundary of Auckland and Waikato, Puni has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Aka Aka Road is classified as a secondary collector road under the one network road classification (ONRC). Aka Aka Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclists amenities along this road. There is no on-street parking along Aka Aka Road. Aka Aka Road connects Puni and Aka Aka. The road is primarily used as a through route, although there are a number of rural residential properties along its length. This section of Aka Aka Road is approximately 1.92 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records two crashes between 2016 and 2020: one minor injury crash, and one non injury crash. Aka Aka Road therefore has no Death and Serious Injuries (DSI's). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Aka Aka Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1177 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Aka Aka Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Aka Aka Road is 100 km/h between 165 m south of Waiuku Road and the boundary of Auckland and Waikato.
MegaMaps Mean Operating Speed (km/h)	Aka Aka Road has a mean operating speed in the range of 75-79 km/h
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Waiuku Road**: 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crash number	**0**

Corridor Length (km)	1.92
Annual Daily Traffic	1,177

The Collective Risk score is 0.00. The Personal Risk score is 0.00. Aka Aka road has a Collective Risk band of **Low**, and a Personal Risk band of **Medium**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.5
Intersection density (per km)	<1 per km	1.0
Access density (per km)	2 to <5 per km	1.03
Traffic volume	1000 to <6000	1.4

The Infrastructure Risk Rating Score is 1.42. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80km/h.

Aka Aka Road is a self-explaining road as the recorded operating speed (75-79 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit.

A proposed speed limit of 80 km/h was selected due to its existing low operating speed (75-79 km/h), and for consistency with the speed limit of its connected roads.

After considering all the above factors, the existing speed limit of 100 km/h on Aka Aka Road in Puni, is not considered to be a safe and appropriate speed limit for this section of road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Aldridge Road (Hunua)

The speed limit on Aldridge Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Aldridge Road is classified as an access road under the one network road classification (ONRC). Aldridge Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Aldridge Road.
	Aldridge Road connects to Gelling Road at the southern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Aldridge Road is approximately 480m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Aldridge Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Aldridge Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 62 vehicles per day (vpd), which is consistent with the rural, no exit, nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Aldridge Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Aldridge Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Aldridge Road has a mean operating speed of 39 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Gelling Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.48
Annual Daily Traffic	62

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Aldridge Road.

Aldridge Road is a self-explaining road as the mean operating speed (39 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Aldridge Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high roadside hazards, and its existing mean operating speed (39 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Aldridge Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (39 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Aley Road (Bombay)

The speed limit on Aley Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Aley Road is classified as an access road under the one network road classification (ONRC). Aley Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Aley Road.
	This section of Aley Road connects to Paparata Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Aley Road is approximately 1.47 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020, therefore Aley Road has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Aley Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Aley Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Aley Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Aley Road has a mean operating speed of 43 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.47
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Severe	2.80
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Aley Road.

Aley Road is a self-explaining road as the mean operating speed (43 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Aley Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and winding nature of the road, severe roadside hazards, its access function, and its existing low operating speed (43 km/h). These features also contribute to the roads "High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Aley Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Aley Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (43 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Alfriston-Ardmore Road (Alfriston)

The speed limit on Alfriston-Ardmore Road, Alfriston has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Alfriston-Ardmore Road is classified as an arterial road under the one network road classification (ONRC). Alfriston-Ardmore Road is a two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Alfriston-Ardmore Road.
	Alfriston-Ardmore Road connects to Alfriston Road, at the northern end and Clevedon-Takanini Road and Mullins Road at the southern end. The primary use of the road is to provide for through traffic but it also provides access to a number of rural residential properties. Alfriston-Ardmore Road is approximately 3.3 km long.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 9 injury crashes along Alfriston-Ardmore Road between 2016 and 2020 including 3 recorded Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Alfriston-Ardmore Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0m – 3.5 m) and narrow shoulders (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 3,763 vehicles per day (vpd). This level of traffic volume is consistent with the arterial nature of the road and also aligns with a 7-day traffic count of 3,825 vpd.
(i) any planned modification to the road; and	There are no known planned modifications to Alfriston-Ardmore Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Alfriston-Ardmore Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Alfriston-Ardmore Road has free flow speed of 73 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Alfriston Road**: 80 km/h • **Clevedon-Takanini Road:** 100 km/h (proposed SAAS 80 km/h) • **Airfield Road: 80 km/h** • **Mullins Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	9
DSI crashes during the period	3
Corridor Length (km)	3.30
Annual Daily Traffic	3,763

The Collective Risk score is 0.18, and the Personal Risk score is 13.2. For rural areas this corresponds to a Collective Risk band of **Medium-High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.8
Carriageway width	Medium lane, Narrow Shoulder	1.45
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.5
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	1000 to <6000	1.4

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the entire length Alfriston-Ardmore Road.

Alfriston-Ardmore Road is a self-explaining road as the mean operating speed (73 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Alfriston-Ardmore Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to adverse crash history and the operating speed (73 km/h) on the road. The collective and personal risk of this road are classified as **'Medium-High'** and '**High'** respectively due the number of Death and Serious Injury (DSI) crashes, making it a high risk road.[1]

A speed limit of 60km/h was considered; however, due to a mean operating speed of 73 km/h and the function of the road carrying a high volume of through traffic, motorists are unlikely to comply with a 60 km/h speed limit. A 60 km/h speed limit would also not be consistent with the speed limit on adjacent roads which have similar characteristics.

After considering all the above factors, the speed limit of 100 km/h on Alfriston-Ardmore Road in Alfriston, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Alfriston-Ardmore Road is considered suitable to ensure consistency of speed limits across the network and the operating speed (73 km/h) supports this as being an appropriate speed limit.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Ambush Road (Ramarama)

The speed limit on Ambush Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ambush Road is classified as an access road under the one network road classification (ONRC). Ambush Road is an undivided, unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Ambush Road.
	Ambush Road connects to Great South Road at its eastern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Ambush Road is approximately 0.65 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Ambush Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ambush Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1<2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 49 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Ambush Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Ambush Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Ambush Road has a mean operating speed of 24 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Great South Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.65
Annual Daily Traffic	49

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Severe	2.80
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.2. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Ambush Road

Ambush Road is a self-explaining road as the mean operating speed (24 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Ambush Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow, curved and unsealed nature of the road, severe roadside hazards, its access function and its existing low operating speed (24 km/h). These features contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Ambush Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Ambush Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (24 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Ararimu Road (Ararimu/Ramarama)

Ararimu Road, Ararimu/Ramarama, is divided into four sections and outlined as follows: [1]

1. Section 1: Ararimu Road between Great South Road and 275m east of Maxted Road
2. Section 2: Ararimu Road between 275m east of Maxted Road and 100m north of Dunn Road
3. Section 3: Ararimu Road between 100m north of Dunn Road and 120m south of Markham Road
4. Section 4: Ararimu Road between 120m south of Markham Road and Paparimu Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Ararimu Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table -1-1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="3">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th><th>Section 3 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="3">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="3">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Ararimu Road is classified an Arterial under the one network road classification (ONRC). This section is 2.46 km in length</td><td>This section of Ararimu Road is classified as a primary collector under the one network road classification (ONRC). This section is 5.67 km in length</td><td>This section of Ararimu Road is classified as a primary collector under the ONRC. This section is 820 m in length</td></tr>
<tr><td colspan="3">Ararimu Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there are generally no on-street parking along Ararimu Road.

Ararimu Road is primarily used as a through route connecting Ararimu and Ramarama and to provide access to residential properties along its length.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.		
	CAS records 16 crashes on this section of Ararimu Road, including 9 injury crashes. There were two Death and Serious Injuries (DSI) crashes on this section of road.	CAS records 18 crashes on this section of Ararimu Road, including 7 injury crashes. There were no Death and Serious Injuries (DSI) crashes on this section of road.	CAS records 18 crashes on this section of Ararimu Road, including 7 injury crashes. There were no Death and Serious Injuries (DSI) crashes on this section of road.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Ararimu Road were determined using a combination of site drive-over footage and geomaps information		
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 m to 1.0 m) • **Roadside hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 m to 1.0 m)) • **Roadside hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 3 to <5 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 3,721 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 1,302 vpd.	The traffic volume in ADT was determined from MegaMaps as: 1,168 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Ararimu Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

Table -1-2: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
	Section 4 *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.

Requirement	Comments
	Section 4 *(as applicable)*
(c) the function and use of the road; and	This section of Ararimu Road is classified as a secondary collector under the one network road classification (ONRC). This section is 820 m in length
	Ararimu Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Ararimu Road. Ararimu Road is primarily used as a through route connecting Ararimu and Ramarama and to provide access to residential properties along its length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered. CAS records 10 crashes on this section of Ararimu Road, including 6 injury crashes. There was 1 Death and Serious Injuries (DSI) crash on this section of road.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Ararimu Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,002 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Ararimu Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to

Requirement	Comments
	Section 4 *(as applicable)*
	the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1-1 and 1-2, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit(s) on Ararimu Road are as follows: • 60 km/h between Great South Road and 275m east of Maxted Road • 100 km/h between 275m east of Maxted Road and 100m north of Dunn Road (Section 2) • 80 km/h between 100m north of Dunn Road and 120m south of Markham Road (Section 3) • 100 km/h between 120m south of Markham Road and Paparimu Road (Section 4)
MegaMaps Mean Operating Speed (km/h)	Ararimu Road has a mean operating speed of: • 64 km/h between Great South Road and 275m east of Maxted Road • 70 km/h between 275m east of Maxted Road and 100m north of Dunn Road (Section 2) • 74 km/h between 100m north of Dunn Road and 120m south of Markham Road (Section 3) • 69 km/h between 120m south of Markham Road and Paparimu Road (Section 4)
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Great South Road**: 100 km/h (proposed SaAS 80 km/h) • **McEldownie Road:** 60 km/h • **Hillview Road**: 100 km/h (proposed SaAS 60 km/h) • **Ramarama Road**: 60 km/h • **Dale Road**: 60 km/h • **Davies Road**: 100 km/h (proposed SaAS 60 km/h) • **Maxted Road:** 100 km/h (proposed SaAS 60 km/h) • **Pratts Road:** 100 km/h (proposed SaAS 60 km/h) • **Otto Road:** 100 km/h (proposed SaAS 40 km/h) • **Maddaford Road:** 100 km/h (proposed SaAS 40 km/h) • **Fausett Road:** 100 km/h (proposed SaAS 60 km/h) • **Hiwinui Road:** 100 km/h (proposed SaAS 60 km/h) • **Turner Road:** 100 km/h (proposed SaAS 60 km/h) • **Dunn Road:** 100 km/h (proposed SaAS 80 km/h) • **Steel Road : 8**0 km/h • **Markham Road:** 100 km/h (proposed SaAS 60 km/h) • **Sinclair Road:** 100 km/h (proposed SaAS 60 km/h) • **Gelling Road:** 100 km/h (proposed SaAS 80 km/h) • **Keaney Road:** 100 km/h (proposed SaAS 60 km/h)

	• **Downs Road:** 100 km/h (proposed SaAS 60 km/h) • **Aicken Road:** 100 km/h (proposed SaAS 60 km/h) • **Paparimu Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	**Section 1**	**Section 2**	**Section 3**
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	9	7	7
DSI crashes during period	2	0	0
Corridor Length (km)	2.46	5.67	0.82
Annual Daily Traffic	3720	1302	1168

Required Information for safety metrics calculations	**Section 4**
Crash Analysis Period (years)	5
Total injury crashes during period	6
DSI crashes during period	1
Corridor Length (km)	8.49
Annual Daily Traffic	1002

- Section 1
    - The Collective Risk score is 0.16. For rural areas this corresponds to a Collective Risk band of **Medium-High**
    - The Personal Risk score is 12.0. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
    - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 3
    - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 4
    - The Collective Risk score is 0.02 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 6.4. For rural areas this corresponds to a Personal Risk band of **Medium**

Step 3: Calculate the IRR score

Feature	**Section 1**		**Section2**		**Section3**	
	Category	**Score**	**Category**	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Winding	3.50	Curved	1.80
Carriageway width	Medium lane, narrow shoulder	1.45	Medium lane, narrow shoulder	1.45	Medium lane, very narrow shoulder	1.45
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	3 to <5	1.50	1 to <2	1.15	3 to <5	1.50
Access density (per km)	5 to <10	1.06	5 to <10	1.06	2 to <5	1.03
Traffic volume	1000 to <6000	1.40	1000 to <6000	1.40	1000 to <6000	1.40

Feature	Section 4	
	Category	**Score**
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.50
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Severe	2.80
Adjacent land use	Rural residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	1000 to <6000	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High.**
- Section 3: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 4: The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h for the length of Ararimu Road (sections 1, 2, 3 and 4).

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *60 km/h between Great South Road and 275m east of Maxted Road (Section 1)*
- *80 km/h between 275m east of Maxted Road and Paparimu Road (Sections 2,3 and 4)*

All sections of Ararimu Road are self-explaining sections of road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing speed limit within each section. Engineering up of Ararimu Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

Section 1 is proposed to retain its existing speed limit of 60 km/h.

A proposed speed limit of 80 km/h was selected for the second section of road due to its medium lane widths, moderate roadside hazards and existing operating speed (70 km/h). A 60 km/h speed limit was considered; however, this is unlikely to be credible or supported by the public.

Section 3 is proposed to retain its existing speed limit of 80 km/h due to its medium lane widths, moderate roadside hazards, the existing operating speed (74 km/h) and to maintain a consistent speed limit along the road. This section contains a variable school speed zone of 60 km/h at certain times. A permanent 60 km/h speed limit was considered; however, this is unlikely to be credible or supported by the public.

A proposed speed limit of 80 km/h was selected for the fourth section of road due to its medium lane widths, moderate roadside hazards, existing operating speed (69 km/h) and to maintain a consistent speed limit along the road. A 60 km/h speed limit was considered; however, this is unlikely to be credible or supported by the public.

After considering all the above factors, the existing speed limit of 100 km/h on Ararimu Road (Sections 2 and 4), is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Ararimu Road (sections 2,3 and 4) and higher than the Speed Management Guide (< 80 km/h) recommendation, but are considered appropriate given the nature and function of the road and existing operating speeds (69 km/h to 74 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Ardmore Quarry Road (Ardmore)

Ardmore Quarry Road, Ardmore, is divided into two sections and outlined as follows: [1]

- Section 1: Ardmore Quarry Road between Papakura-Clevedon Road and 560m south of Creightons Road
- Section 2: Ardmore Quarry Road between 560m south of Creightons Road and southern end of Ardmore-Quarry Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Ardmore Quarry Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="3">(c) the function and use of the road; and</td><td>This section of Ardmore Quarry Road is classified as a secondary collector under the one network road classification (ONRC). This section is 4.4 km in length</td><td>This section of Ardmore Quarry Road is classified as an access under the one network road classification (ONRC). This section is 780 m in length</td></tr>
<tr><td>This section of Ardmore Quarry Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Ardmore Quarry Road.</td><td>This section of Ardmore Quarry Road is an unsealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Ardmore Quarry Road.</td></tr>
<tr><td colspan="2">Ardmore Quarry Road connects to Papakura-Clevedon Road at its northern end and is a no exit road at the southern end. Section 1 has a through traffic function and</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	section 2 of Ardmore Quarry Road is primarily used to access rural residential properties along the road.	
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records two non-injury crashes on this section of Ardmore Quarry Road. Therefore, there are no DSI crashes.	CAS records zero crashes on this section of Ardmore Quarry Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Ardmore Quarry Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Tortuous • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High	• **Road stereotype**: Unsealed • **Road Alignment**: Tortuous • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 171 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 19 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Ardmore Quarry Road.	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Ardmore Quarry Road has an existing speed limit of 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Ardmore Quarry Road has a mean operating speed of: • 40 km/h between Papakura-Clevedon Road and 560m south of Creightons Road • 45 km/h between 560m south of Creightons Road and the end of the road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Papakura-Clevedon Road**: 100 km/h (proposed SaAS 80 km/h) • **Creightons Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI crashes during the period	0	0
Corridor Length (km)	4.41	0.78
Annual Daily Traffic	171	19

- Section 1
    - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
    - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Unsealed	10.0
Road alignment	Tortuous	6.00	Tortuous	6.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	<1	1.00	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High.**
- Section 2: The Infrastructure Risk Rating Score is 2.4. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h for the entire length of the road.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *60 km/h on Ardmore Quarry Road between Papakura-Clevedon Road and 560m south of Creightons Road (Section 1)*
- *40 km/h on Ardmore Quarry Road between 560m south of Creightons Road and the southern end of Ardmore-Quarry Road* (*Section 2)*

Ardmore Quarry Road is a self-explaining road as the mean operating speeds (40 km/h to 45 km/h) are already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Ardmore Quarry Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the first section of road due to the narrow, tortuous nature of the road, high risk roadside hazards, and the low mean operating speed (40 km/h). These features contributes to the sections '**High**' IRR score, making it a high risk section of road.[2]

A proposed speed limit of 40 km/h was selected for the second section of road due to the unsealed, narrow and torturous nature of the road and the low mean operating speed (45 km/h). These features contribute to the sections '**High**' IRR score, making it a high risk section of road.

After considering all the above factors, the existing speed limit of 100 km/h on Ardmore Quarry Road in Ardmore, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limits align with the Speed Management Guide (<80 km/h) and the mean operating speed (45 and 40 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Aulyn Drive (Karaka)

The speed limit on Aulyn Drive, Karaka has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Aulyn Drive is classified as an Access road under the one network road classification (ONRC). Aulyn Drive is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Aulyn Drive connects to Urquhart Road to the west and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Aulyn Drive is approximately 0.77 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Aulyn Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Aulyn Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Aulyn Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Aulyn Drive has a mean operating speed of 46km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Urquhart Road:** 60 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.77
Annual Daily Traffic	104

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.23. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Aulyn Drive is a self-explaining road as the recorded operating speed (46 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Aulyn Drive was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected for Aulyn Drive to provide consistency with the existing speed limits on the adjacent road network, and its existing low operating speed (47 km/h).

After considering all the above factors, the existing speed limit of 100 km/h on Aulyn Drive in Karaka, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Axtens Road (Bombay)

The speed limit on Axtens Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Axtens Road is classified as an access road under the one network road classification (ONRC). Axtens Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Axtens Road.
	Axtens Road connects to Paparata Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Axtens Road is approximately 1.02 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020 and therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Axtens Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Axtens Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Axtens Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Axtens Road has a mean operating speed of 45 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road:** 100 km/h (proposed SaAS 80 km/h) • **Stuart Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.02
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **'Medium-High'**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Axten Road.

Axtens Road is a self-explaining road as the mean operating speed (45 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Axtens Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, high risk roadside hazards, its access function and its existing low operating speed (45 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Axtens Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Axtens Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (45 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Barber Road (Bombay)

Barber Road, Bombay, is divided into two sections and outlined as follows: [1]

1. Section 1: Barber Road, Between Portsmouth Road and 330m north of Paparata Road.
2. Section 2: Barber Road, Between 10m south of Paparata Road and the southern end of Barber Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Barber Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information.

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Barber Road is classified as a secondary collector under the one network road classification (ONRC). This section is 0.82 km in length</td><td>This section of Barber Road is classified as an access road under the one network road classification (ONRC). This section is 0.60 km in length</td></tr>
<tr><td colspan="2">Barber Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Barber Road.

Barber Road connects to Hillview Road and Portsmouth Road at the northern end and the southern end is a no exit road. Section 1 primarily serves through traffic and section 2 is primarily used for access to rural residential properties.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes between 2015 and 2019, Barber Road therefore has no Death and Serious Injury (DSI) crashes,	CAS records zero crashes between 2015 and 2019, Barber Road therefore has no Death and Serious Injury (DSI) crashes
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Barber Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: High	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 3 <5 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 <2 intersection per km • Access density: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 6 vehicles per day (vpd); however, it is expected the volume on this section is significantly more than this and is estimated to be around 200 vpd.	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 6 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Barber Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Barber Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Barber Road has a mean operating speed of: • 37 km/h between Portsmouth Road and 330m north of Paparata Road. • 20 km/h Between 10m south of Paparata Road and southern end of Barber Road.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Hillview Road**: 100 km/h (proposed SaAS 60 km/h) • **Portsmouth Road**: 100 km/h (proposed SaAS 60 km/h) • **Mile Road**: 100 km/h (proposed SaAS 60 km/h) • **Barber Road (between 330m north of Paparata Road and 10m south of Paparata Road):** 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	**0**	**0**
DSI equivalents	0	0
Corridor Length (km)	0.82	0.6
Annual Daily Traffic	Approx. 200	6

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00 For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section 2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Straight	1.00	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28	High	2.28
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50	1 to < 2	1.25
Access density (per km)	5 to <10	1.06	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00	< 1,000 vpd	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.60. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- 80 km/h between Portsmouth Road and 330m north of Paparata Road (Section 1)
- 80 km/h between 10m south of Paparata Road and southern end of Barber Road. (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *60 km/h* between Portsmouth Road and 330m north of Paparata Road *(Section 1)*
- *60 km/h* between 10m south of Paparata Road and southern end of Barber Road *(Section 2)*

Barber Road is a self-explaining road as the mean operating speeds are already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Barber Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for both sections of road due to the narrow lane widths, high roadside hazards and low mean operating speeds (37 and 20 km/h). These features contribute to the sections 'Medium' IRR score.

After considering all the above factors, the existing speed limit of 100 km/h on Barber Road in Bombay, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for both sections of Barber Road are lower than the Speed Management Guide recommendation (80 km/h), but are considered appropriate given the nature and function of the road and the low operating speeds (37 and 20 km/h) supports the reduction. The speed limit also matches the proposed speed limit on adjacent roads and so provides better speed limit consistency across the network.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Batkin Road (Hunua)

The speed limit on Batkin Road, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Batkin Road is classified as an Access road under the one network road classification (ONRC). Batkin Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Batkin Road.
	Batkin Road connects to Ponga Road at the northern end of Batkin Road and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Batkin Road is approximately 620 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Batkin Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Batkin Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 46 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Batkin Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Batkin Road is 100 km/h along the full length of Batkin Road.
MegaMaps Mean Operating Speed (km/h)	Batkin Road has a mean operating speed of 32 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 100 km/h (proposed SaAS 60 km/h) • **McMurray Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.62
Annual Daily Traffic	46

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.70. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Batkin Road

Batkin Road is a self-explaining road as the mean operating speed (32 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Batkin Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, high roadside hazards, its access function, and its existing low operating speed (32 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Batkin Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Batkin Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (32 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Beaver Road East (Bombay)

The speed limit on Beaver Road East, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Beaver Road East is classified as an Access Road under the one network road classification (ONRC); however, it connects to SH1 so would be expected to carry some through traffic. Beaver Road East is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Beaver Road East.
	Beaver Road East connects to Razorback Road, at the north-eastern end of the road and to State Highway 1, at the south-western end of the road. The primary use of the road is to provide for through traffic but it also provides access to rural residential properties. This section of Beaver Road East is approximately 730 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Beaver Road East therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Beaver Road East were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 93 vehicles per day (vpd).
(i) any planned modification to the road; and	There are no known planned modifications to Beaver Road East.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Beaver Road East is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Beaver Road East has a mean operating speed of 48 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Razorback Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.73
Annual Daily Traffic	93

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation 60 km/h for the full length of Beaver Road East.

Beaver Road East is a self-explaining road as the mean operating speed (48 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Beaver Road East was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, high roadside hazards and its existing low operating speed (48 km/h).

After considering all the above factors, the speed limit of 100 km/h on Beaver Road East in Bombay, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Beaver Road East is lower than the Speed Management Guide recommendation (80 km/h). The main reason a lower speed limit is being recommended is due to the narrow road, low operating speed (48 km/h) and to improve legibility of the road network by matching the adjacent road speed limits.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Bombay Road (Bombay)

The speed limit on Bombay Road, between 150m north of Lawrence Carter Drive and Great South Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Bombay Road is classified as a secondary collector road under the one network road classification (ONRC). Bombay Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Bombay Road.
	This section of Bombay Road connects to Great South Road at the northern end and joins a 50 km/h speed limit section of Bombay Road at the southern end. The primary use of the road is to provide access to rural residential properties although it also serves a through route function. This section of Bombay Road is approximately 0.92 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Bombay Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Bombay Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 650 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Bombay Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Bombay Road is 100 km/h between 150m north of Lawrence Carter Drive and Great South Road.
MegaMaps Mean Operating Speed (km/h)	Bombay Road has a mean operating speed of 60 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Portsmouth Road**: 100km/h (proposed SaAS 60 km/h) • **Bombay Road (south of a point 150m north of Lawrence Carter Drive):** 50 km/hr • **Great South Road** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.92
Annual Daily Traffic	650

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.25
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for Bombay Road between Great South Road and 150m north of Lawrence Carter Drive.

Bombay Road between 150m north of Lawrence Carter Drive and Great South Road is a self-explaining road as the mean operating speed (60 km/h) is equal to the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Bombay Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, curved alignment, high roadside hazards and its existing operating speed (60 km/h). These features contribute to the roads "Medium - High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Bombay Road between 150m north of Lawrence Carter Drive and Great South Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Bombay Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (60 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Brodie Road (Clevedon)

The speed limit on Brodie Road, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Brodie Road is classified as an access road under the one network road classification (ONRC). Brodie Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Brodie Road.
	Brodie Road connects to Creightons Road at the western end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Brodie Road is approximately 550m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Brodie Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Brodie Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both direction)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	No traffic volume data is available for this road but the ADT is estimated to be less than 50 vpd.
(i) any planned modification to the road; and	There are no known planned modifications to Brodie Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Brodie Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	The observed Operating Speed on the road was less than 30 km/h (no MegaMap speed data was available).
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Creightons Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.55
Annual Daily Traffic	< 50 vpd

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	5 to <10	1.06
Traffic volume	< 1000	1.00

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Brodie Road

Brodie Road is a self-explaining road as the operating speed on the road based on observations is currently below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Brodie Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow, unsealed nature of the road and its access function. These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Brodie Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Broken Bridge Road (Hunua)

The speed limit on Broken Bridge Road, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Broken Bridge Road is classified as an Access road under the one network road classification (ONRC). Broken Bridge Road is a two-way, two-lane, undivided and partially unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Broken Bridge Road.
	Broken Bridge Road connects to Cowan Road at the eastern end of Broken Bridge Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Broken Bridge Road is approximately 740 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Broken Bridge Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Broken Bridge Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 20 vehicles per day (vpd), which is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Broken Bridge Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Broken Bridge Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Broken Bridge Road has a mean operating speed of 37 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Cowan Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.74
Annual Daily Traffic	20

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Severe	2.80
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.80. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Broken Bridge Road

Broken Bridge Road is a self-explaining road as the mean operating speed (37 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Broken Bridge Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, its severe roadside hazards, access function and its existing low operating speed (37 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Broken Bridge Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Broken Bridge Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (37 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Brookfield Road, Drury

The speed limit on Brookfield Road, Drury, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Brookfield Road is classified as an access road under the one network road classification (ONRC). Brookfield Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Brookfield Road.
	Brookfield Road connects to Fitzgerald Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Brookfield Road is approximately 540m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Brookfield Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Brookfield Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 166 vehicles per day (vpd). No AT traffic data is available for this road, however this level of traffic volume is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Brookfield Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Brookfield Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Brookfield Road has a mean operating speed of 21 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Fitzgerald Road: 8**0 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.54
Annual Daily Traffic	166

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Brookfield Road.

Brookfield Road is a self-explaining road as the mean operating speed (21 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Brookfield Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road, its access function, and its existing low operating speed (21 km/h).

After considering all the above factors, the speed limit of 80 km/h on Brookfield Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommended speed (80 km/h), but this is considered appropriate based on the road environment, nature and function of the road. It also aligns with the current mean operating speeds (21 km/h) on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Buckland Road (Buckland)

Buckland Road, Buckland, is divided into two sections and outlined as follows: [1]

1. Section 1: Buckland Road between 300m south of George Crescent (south end) and Tuakau Road (Waikato District boundary)
2. Section 2: Buckland Road between 100m south of Kitchener Road and 500m north of George crescent (north end)

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Buckland Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Buckland Road is classified as an Arterial under the one network road classification (ONRC). This section is 980 m in length</td><td>This section of Buckland Road is classified as an Arterial under the one network road classification (ONRC). This section is 1.27 km in length</td></tr>
<tr><td colspan="2">Buckland Road is a two-way, two-lane, undivided, and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Buckland Road.
Buckland Road is primarily used as a through route between Buckland and Tuakau.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records nine crashes on this section of Buckland Road including seven non-injury crashes, one serious injury crash and one fatal crash Therefore, there are two Death or Serious Injury (DSI) crashes.	CAS records six crashes on this section of Buckland Road including five non-injury crashes and one minor injury crash. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Buckland Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0m to <3.5m) and narrow shoulder (0.5m to < 1.0m) • **Roadside Hazards (in both directions):** Moderate	• **Road stereotype**: Two-lane undivided • **Road Alignment**: Curved • **Carriageway Width:** Medium lane (3.0m to <3.5m) and wide shoulder (1.0 m to < 2.0m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 1 to < 2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 1 to < 2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 6,050 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 7,300 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Buckland Road.	

(j) the views of interested persons and groups	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Buckland Road is: • 100 km/h between 300m south of George Crescent (south end) and Tuakau Road (Waikato District Boundary) • 80 km/h between 100m south of Kitchener Road and 500m north of George Crescent (north end)
MegaMaps Mean Operating Speed (km/h)	Buckland Road has a mean operating speed of: • 78 km/h between 300m south of George Crescent (south end) and Tuakau Road (Waikato District Boundary) • 69 km/h between 100m south of Kitchener Road and 500m north of George Crescent (north end)
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Buckland Road (south of Tuakau Road)**: 100 km/h (Waikato District controlled) • **Tuakau Road**: 80 km/h • **Buckland Road (between 300m south of George Crescent (south) and 500m north of George Crescent (north)**: 50 km/h • **Buckland Road (north of 100m south of Kitchener Road)**: 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	1	1
DSI crashes during the period	2	0

Corridor Length (km)	0.98	1.27
Annual Daily Traffic	6,050	7,300

- Section 1
  - The Collective Risk score is 0.41. For rural areas this corresponds to a Collective Risk band of **High**
  - The Personal Risk score is 18.5. For rural areas this corresponds to a Personal Risk band of **High**

- Section 2
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	**Section 1**		**Section2**	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Curved	1.80
Carriageway width	Medium lane, Narrow shoulders	1.45	Medium lane, Wide shoulders	1.00
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	1 to <2	1.15
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume	6000 to <12000	2.20	6000 to <12000	2.20

- Section 1: The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High.**
- Section 2: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between 300m south of George Crescent (south end) and Tuakau Road (Waikato District Boundary (Section 1)
- Less than 80 km/h between 100m south of Kitchener Road and 500m north of George Crescent (north end) (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation on Buckland Road is:

- *80 km/h between 300m south of George Crescent (south end) and Tuakau Road (Waikato District Boundary), (Section 1)*
- *80 km/h* between 100m south of Kitchener Road and 500m north of George Crescent (north end), (Section 2)--No change on the current speed limit

Buckland Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit on Section 1. Engineering up of Buckland Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the first section of road, due to the medium lane widths, moderate roadside hazards, road function and operating speed (78 km/h) of the road. This section of road has a collective risk of '**High**' and a personal risk of **'High'**, making it a high-risk road[2], therefore a reduction in speed limit is desirable, but a 60 km/h speed limit is unlikely to be credible to motorists.

A speed limit of 80 km/h is proposed to be retained for the second section of Buckland Road, as it also has similar characteristics to section 1 and a speed limit of 60 km/h is unlikely to be credible to motorists.

After considering all the above factors, the speed limit of 100 km/h on Section 1 of Buckland Road in Buckland, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Section 1 of Buckland Road is higher than the Speed Management Guide (<80 km/h) but consistent with the road environment and the current operating speeds on the road (78 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Buckville Road (Buckland)

The speed limit on Buckville Road, Buckland between Logan Road and a point 260m east of Logan Road has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Buckville Road is classified as a primary collector road under the one network road classification (ONRC). Buckville Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Buckville Road.
	Buckville Road connects to Logan Road on the western end of the road and Harrisville Road at the eastern end of the road. The primary use of the road is to serve through traffic but it also provides access to rural residential properties. The section of Buckland Road within the Auckland District is approximately 260 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Buckville Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Buckville Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and wide shoulder (>1.0 m to <2.0 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1,986 vehicles per day (vpd). This level of traffic volume is consistent with the rural, primary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Buckville Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Buckville Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Buckville Road has a mean operating speed of 60 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Logan Road**: 50 km/h • **Buckville Road** (east of a point 260m east of Logan Road): 100 km/h (within Waikato District)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.26
Annual Daily Traffic	1,986

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, wide shoulder	1.00
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 50 km/h for Buckville Road between Logan Road and a point 260m east of Logan Road.

This is a very short section of Buckville Road within the Auckland District. This section of road is within the Urban Traffic Area and joins to a 50 km/h speed zone at the western end (Logan Road). The majority of Buckville Road is within the Waikato District and has a 100 km/h speed limit.

It is not appropriate to have a 260m section of road with a different permanent speed limit to the adjoining sections of road, so consideration was given to matching the 50 km/h speed limit on Logan Road or maintaining the existing 100 km/h speed limit.

A proposed speed limit of 50 km/h was selected due to the fact the road is within the Urban Traffic Area and it is on the approach to a give-way intersection where vehicles are required to slow down anyway.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Bullens Road (Ardmore)

The speed limit on Bullens Road, Ardmore has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Bullens Road is classified as an access road under the one network road classification (ONRC). Bullens Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Bullens Road.
	Bullens Road connects to Papakura-Clevedon Road at the southern end of Bullens Road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Bullens Road is approximately 610m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Bullens Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Bullens Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 83 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Bullens Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Bullens Road is 80 km/h
MegaMaps Mean Operating Speed (km/h)	Bullens Road has a mean operating speed of 25 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Papakura-Clevedon Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.61
Annual Daily Traffic	83

The Collective Risk score is 0.0, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Bullens Road

Bullens Road is a self-explaining road as the mean operating speed (25 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Bullens Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road, moderate roadside hazards, access function and its existing low operating speed (25 km/h). These features also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 80 km/h on Bullens Road in Ardmore is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Bullens Road is 60 km/h along the full length of Bullens Road.

A speed limit lower than the Speed Management Guide recommendation is justified based on the nature and function of the road and the low operating speed (25 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Burnside Road (Ardmore)

Burnside Road, Ardmore, is divided into two sections and outlined as follows: [1]

- Section 1: Burnside Road between Papakura-Clevedon Road and 1100m north of Papakura-Clevedon Road
- Section 2: Burnside Road between 1100m north of Papakura-Clevedon Road and Clevedon-Takanini Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Burnside Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	This section of Burnside Road is classified as a secondary collector under the one network road classification (ONRC). This section is 1.1 km in length	This section of Burnside Road is classified as a secondary collector under the one network road classification (ONRC). This section is 910 m in length

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

	This section of Burnside Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is some on-street parking provide at the southern end of this section of road in the vicinity of Ardmore Hall, but apart from this there is no on-street parking along Burnside Road.	This section of Burnside Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Burnside Road.
	Burnside Road connects to Papakura-Clevedon Road at the southern end and Clevedon-Takanini Road at the northern end. Burnside Road is primarily used to access rural residential properties along the road.	
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes on this section of Burnside Road. Therefore, there are no DSI crashes.	CAS records zero crashes on this section of Burnside Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Burnside Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width:** Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 238 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 238 vehicles per day (vpd).

(i) any planned modification to the road; and	There are currently no known planned modifications to Burnside Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Burnside Road has an existing speed limit of: • 80 km/h between Papakura-Clevedon Road and 1100m north of Papakura-Clevedon Road (with a variable 40 km/h school zone between Papakura-Clevedon Road and 120m northwest of Papakura-Clevedon Road) • 100 km/h between 1100m north of Papakura-Clevedon Road and Clevedon-Takanini Road
MegaMaps Mean Operating Speed (km/h)	Burnside Road has a mean operating speed of 57 km/h
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Papakura-Clevedon Road**: 80 km/h • **Clevedon-Takanini Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI equivalents	0	0
Corridor Length (km)	1.100	0.910
Annual Daily Traffic	238	238

- Section 1
    - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
    - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Straight	1.00	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	1 to <2	1.15
Access density (per km)	5 to <10	1.06	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**
- Section 2: The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h (Section 1 and 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is

- *60 km/h on Burnside Road between Clevedon-Takanini Road and 320m northwest of Papakura-Clevedon Road*
- *80km/h on Burnside Road between 320m northwest of Papakura-Clevedon Road and Papakura-Clevedon Road (with a variable 40 km/h school zone between Papakura-Clevedon Road and 120m northwest of Papakura-Clevedon Road)*

Burnside Road is a self-explaining road as the mean operating speeds (57 km/h) are already below the proposed safe and appropriate speeds, despite the existing 80 km/h and 100 km/h speed limit for Section 1 and 2 respectively. Engineering up of Burnside Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for both sections of road due to the narrow road width, moderate risk roadside hazards and the low mean operating speed (57 km/h). These factors contribute to the sections '**Medium**' IRR score.

It is proposed to maintain the 80 km/h speed limit for a short section (which matches the speed limit on the adjacent Papakura-Clevedon Road) given this has a variable school speed limit, which reduces to 60 km/h during school peak times. If this section is not maintained as an 80 km/h speed limit to match Papakura-Clevedon road it would create issues signing the variable school zone which extends onto Papakura-Clevedon Road.

After considering all the above factors, the existing speed limits of 80 km/h and 100 km/h on Burnside Road in Ardmore, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Burnside Road is lower than the speed limit recommended by the Speed Management Guide (80 km/h); however, this is considered appropriate based on the function of the road and the mean operating speed (57 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Burtt Road, Karaka

Burtt Road, Clevedon, is divided into two sections and outlined as follows: [1]

1. Section 1: Burtt Road between Tuhimata Road and 2.81km south of Pitt Road.
2. Section 2: Burtt Road between 2.81km south of Pitt Road and Pitt Road (section within the Urban Traffic Area).

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Burtt Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Burtt Road is classified as a Primary Collector road under the one network road classification (ONRC). This section is 3,930 m in length</td><td>This section of Burtt Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 2,810 m in length</td></tr>
<tr><td colspan="2">Burtt Road is a two-lane undivided road. Burtt Road connects to Pitt Road and McPherson Road at its northern end and Tuhimata Road at its southern end. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Burtt Road.

Burtt Road is part of a secondary route connecting Drury to Pukekohe but is primarily used to access rural residential properties along its length.</td></tr>
</table>

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records 13 crashes on this section of Burtt Road, including 4 minor injury crashes. There were no Death and Serious Injury (DSI) crashes.	CAS records 9 crashes on this section of Burtt Road, including 1 minor injury crash. There were no Death and Serious Injury (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Burtt Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width**: Medium lane (3.0m – 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two-lane undivided • **Road Alignment**: Winding • **Carriageway Width:** Medium lane (3.0m – 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,517 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,517 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Burtt Road.	
(j) the views of interested persons and groups	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Burtt Road is 100 km/h for the full length of the road.
MegaMaps Mean Operating Speed (km/h)	Burtt Road has a mean operating speed of: • Section 1 - 78 km/h • Section 2 - 78 km/h
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **McPherson Road:** 100 km/h (proposed SaAS 80 km/h) • **Pitt Road:** 100 km/h (proposed SaAS 80 km/h) • **Cheriton Lane:** 100 km/h (proposed SaAS 40 km/h) • **Solitaire Lane:** 100 km/h (proposed SaAS 60 km/h) • **Needham Road:** 100 km/h (proposed SaAS 60 km/h) • **Tuhimata Road: 100 km/h** (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	4	1
DSI crashes during the period	0	0
Corridor Length (km)	3.93	2.81
Annual Daily Traffic	1,517	1,517

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Winding	3.5	Winding	3.5
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	<1	1.00	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume	1,000 to < 6,000	1.4	1,000 to < 6,000	1.4

- Section 1: The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h for the entire length of Burtt Road.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Burtt Road.

Burtt Road is a self-explaining road as the mean operating speeds are below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Burtt Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the full length of Burtt Road due to the winding nature of the road, medium lane widths, moderate roadside hazards and the mean operating speed (78 km/h).

After considering all the above factors, the existing speed limit of 100 km/h on Burtt Road in Karaka, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limit is higher than the Speed Management Guide recommended speed (<80 km/h), but is considered appropriate based on the road environment, nature, and function of the road. Given the current operating speeds (78 km/h) it is considered unlikely a speed limit of lower than 80 km/h would be credible to the public.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Bush Road (Paerata)

The speed limit on Bush Road, Paerata has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Bush Road is classified as an access road under the one network road classification (ONRC). Bush Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Bush Road
	Bush Road connects to Tuhimata Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Bush Road is approximately 0.58 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one serious injury crash between 2016 and 2020, therefore Bush Road has one Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Bush Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 41 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Bush Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Bush Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Bush Road has a mean operating speed of 34 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Tuhimata Road 10**0 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	1
DSI crashes during the period	1
Corridor Length (km)	0.58
Annual Daily Traffic	41

The Collective Risk score is 0.345, and the Personal Risk score is 2304.2 . For rural areas this corresponds to a Collective Risk band of **High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Bush Road.

Bush Road is a self-explaining road as the mean operating speed (34 km/h) is already equal to the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Bush Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved alignment of the road, its access function and its existing low operating speed (34 km/h). These features also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Bush Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Bush Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (34 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Bushmere Drive (Hunua)

The speed limit on Bushmere Drive, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Bushmere Drive is classified as an access road under the one network road classification (ONRC). Bushmere Drive is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Bushmere Drive.
	Bushmere Drive connects to Paparimu Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Bushmere Drive is approximately 250m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Bushmere Drive therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Bushmere Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium (3.0m-3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 20 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Bushmere Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Bushmere Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Bushmere Drive has a mean operating speed of 42 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparimu Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.25
Annual Daily Traffic	20

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.2
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Bushmere Drive.

Bushmere Drive is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Bushmere Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road, the high roadside hazards, its access function and its existing mean operating speed (42 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Bushmere Drive in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the mean operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Caitcheon Road (Hunua)

The speed limit on Caitcheon Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Caitcheon Road is classified as an access road under the one network road classification (ONRC). Caitcheon Road is an unsealed road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Caitcheon Road.
	Caitcheon Road connects to Hunua Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Caitcheon Road is approximately 330m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Caitcheon Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Caitcheon Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 18 vehicles per day (vpd), which is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Caitcheon Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Caitcheon Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Caitcheon Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.33
Annual Daily Traffic	18

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Caitcheon Road.

Caitcheon Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Caitcheon Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow, unsealed and curved nature of the road, the high roadside hazards, and its existing mean operating speed (20 km/h). These features also contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Caitcheon Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (25 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Cascade Road (Bombay)

The speed limit on Cascade Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cascade Road is classified as an access road under the one network road classification (ONRC). Cascade Road is a two-way, two-lane undivided. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Cascade Road.
	Cascade Road connects to Fahey Road at its southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Cascade Road is approximately 0.32 km long.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Cascade Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cascade Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 20 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Cascade Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Cascade Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Cascade Road has a mean operating speed of 39 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Fahey Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.32
Annual Daily Traffic	20

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/hr for the full length of Cascade Road.

Cascade Road is a self-explaining road as the mean operating speed (39 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Cascade Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, moderate roadside hazards, access function and its existing low operating speed (39 km/h). These features contribute to the roads "Medium" IRR score.

After considering all the above factors, the speed limit of 100 km/h on Cascade Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Cascade Road is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate given the road is a short no exit road so it makes sense to match the speed limit on the road it joins. The low operating speed (39 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Chamberlain Road (Bombay)

The speed limit on Chamberlain Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Chamberlain Road is classified as a secondary collector road under the one network road classification (ONRC), but functions as an access road. Chamberlain Road is a two-way, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Chamberlain Road.
	Chamberlain Road connects to Portsmouth Road at its southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Chamberlain Road is approximately 1.92 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Chamberlain Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Chamberlain Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 192 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Chamberlain Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Chamberlain Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Chamberlain Road has a mean operating speed of 49 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Portsmouth Road**: 100 km/h (proposed SaAS 60 km/h) • **Niccone Place** 100km/h (proposed SaAS 60 km/h) • **Wootten Road** 100km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.92
Annual Daily Traffic	192

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Winding	3.5
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of '**Medium-High'**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Chamberlain Road.

Chamberlain Road is a self-explaining road as the mean operating speed (49 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Chamberlain Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, winding layout, high risk roadside hazards, and its existing low operating speed (49 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Chamberlain Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Chamberlain Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (49 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Cheriton Lane (Runciman)

The speed limit on Cheriton Lane, Runciman has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cheriton Lane is classified as an access under the one network road classification (ONRC). Cheriton Lane is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Cheriton Lane.
	Cheriton Lane connects to Burtt Road on the eastern end of Cheriton Lane respectively. The primary use of the road is to provide access to rural residential properties. Cheriton Lane is approximately 140 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Cheriton Lane therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cheriton Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 39 vehicles per day (vpd). This level of traffic volume is consistent with the rural, access nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Cheriton Lane.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Cheriton Lane is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Cheriton Lane has a mean operating speed of 42 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burtt Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.14
Annual Daily Traffic	39

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	< 1000 vpd	1.00

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Cheriton Lane

Cheriton Lane has a mean operating speed of 42 km/h despite the existing 100 km/h speed limit. Engineering up of Cheriton Lane was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow and unsealed nature of the road, the high roadside hazards, its access function and the existing operating speed (42 km/h). These factors contribute to the roads "**Medium-High**" IRR score making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Cheriton Lane in Runciman, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Cherrington Road (Clevedon)

The speed limit on Cherrington Road, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cherrington Road is classified as an access road under the one network road classification (ONRC). Cherrington Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Cherrington Road.
	Cherrington Road connects to Creightons Road at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Cherrington Road is approximately 1,000m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Cherrington Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cherrington Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the access function of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Cherrington Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Cherrington Road is 80 km/h
MegaMaps Mean Operating Speed (km/h)	Cherrington Road has a mean operating speed of 20 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Creightons Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.00
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Cherrington Road

Cherrington Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Cherrington Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, high roadside hazards, access function and its existing low operating speed (20 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Cherrington Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Chesham Lane (Clevedon)

The speed limit on Chesham Lane, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Chesham Lane is classified as a secondary collector road under the one network road classification (ONRC) but functions as an access road. Chesham Lane is a very narrow two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Chesham Lane.
	Chesham Lane connects to Quinns Road, at the northern end of Chesham Lane and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Chesham Lane is approximately 540 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Chesham Lane therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Chesham Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 634 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Chesham Lane.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Chesham Lane is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Chesham Lane has a free flow speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Quinns Road:** 100km/h (proposed SSAS 60km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.54
Annual Daily Traffic	634

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of Medium.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Chesham Lane.

Chesham Lane is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Chesham Lane was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification, access road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the extremely narrow width of the road and its existing low operating speed (20 km/h). The proposed speed limit also matches the proposed speed limit on the adjacent Quinns Road, which improves the legibility of speed limits on the network by improving consistency and avoiding unnecessary speed limit changes.

After considering all the above factors, the speed limit of 100 km/h on Chesham Lane in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Chesham Lane is lower than the Speed Management Guide recommendation (80 km/h). A lower speed limit is being proposed to provide consistency with the speed limit on the adjacent road and the low operating speed on the road (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Church Road (Ardmore)

The speed limit on Church Road, Ardmore has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Church Road is classified as an access road under the one network road classification (ONRC). Church Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Church Road.
	Church Road connects to Papakura-Clevedon Road, at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Church Road is approximately 440m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Church Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Church Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 62 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Church Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Church Road is 80 km/h
MegaMaps Mean Operating Speed (km/h)	Church Road has a mean operating speed of 21 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Papakura-Clevedon Road**: 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.44
Annual Daily Traffic	62

The Collective Risk score is 0.0, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Church Road

Church Road is a self-explaining road as the mean operating speed (21 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Church Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road, moderate roadside hazards and its existing low operating speed (21 km/h). These factors also contribute to the roads "Medium" IRR score.

After considering all the above factors, the speed limit of 80 km/h on Church Road in Ardmore is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Church Road is 60 km/h along the full length of Church Road.

A speed limit lower than the Speed Management Guide recommendation is justified based on the nature and function of the road and the low operating speed (21 km/h) which supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

<u>Speed Limit Assessment</u> - Clevedon-Kawakawa Road (Clevedon)

Clevedon-Kawakawa Road, Clevedon, is divided into three sections and outlined as follows: [1]

1. Section 1: Clevedon-Kawakawa Road between 90m west of McNicol Road and 100m east of McNicol Road
2. Section 2: Clevedon-Kawakawa Road between 100m east of McNicol Road and 2.3km west of Townson Road
3. Section 3: Clevedon-Kawakawa Road between 2.3km west of Townson Road and 900m west of Turei Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Clevedon-Kawakawa Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table -1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of Clevedon-Kawakawa Road is classified an Arterial under the one network road classification (ONRC). This section is 190 m in length	This section of Clevedon-Kawakawa Road is classified as an Arterial under the one network road classification (ONRC). This section is 8.1 km in length	This section of Clevedon-Kawakawa Road is classified as a Arterial under the ONRC. This section is 4.73 km in length

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

<table>
<tr><td></td><td colspan="3">Clevedon-Kawakawa Road is a two-way, two-lane, undivided and sealed road. There is a short section of footpath on the northern side of the road in Section 1 but apart from this there are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Clevedon-Kawakawa Road.

Clevedon-Kawakawa Road is primarily used as a through route connecting Clevedon and Kawakawa Bay, though there are many rural residential properties along its length.</td></tr>
<tr><td>(d) crash risk for all road users; and</td><td colspan="3">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td></td><td>CAS records one non-injury crash on this section of Clevedon-Kawakawa Road. Therefore, this section of road has no Death and Serious Injuries (DSI) crashes.</td><td>CAS records fifty-five crashes on this section of Clevedon-Kawakawa Road: thirty-three non-injury crashes, nineteen minor injury crashes, two serious injury crash and one fatal crash Therefore, this section of road has three Death and Serious Injuries (DSI) crashes.</td><td>CAS records twenty crashes on this section of Clevedon-Kawakawa Road: eight non-injury crashes, seven minor injury crashes, four serious injury crashes and one fatal crash. Therefore, this section of road has five Death and Serious Injuries (DSI) crashes.</td></tr>
<tr><td>(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of Clevedon-Kawakawa Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td></td><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m)
Roadside Hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): Moderate</td><td>Road stereotype: Unsealed
Road Alignment: Winding
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): Moderate</td></tr>
</table>

<table>
<tr><td>(f) adjacent land use; and</td><td>The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as “Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”</td><td>The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as “Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”</td><td>The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as “Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”</td></tr>
<tr><td rowspan="2">(g) the number of intersections and property accessways; and</td><td colspan="3">The following were determined using a combination of site drive over footage and geomaps information:</td></tr>
<tr><td>Intersection density: 1 to <2 intersection per km
Access density: 2 to <5 access per km</td><td>Intersection density: < 1 intersection per km
Access density: 2 to <5 access per km</td><td>Intersection density: < 1 intersection per km
Access density: 2 to <5 access per km</td></tr>
<tr><td>(h) traffic volume; and</td><td>The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 3,426 vehicles per day (vpd).</td><td>The traffic volume in ADT was determined from MegaMaps as 3,426 vpd.</td><td>The traffic volume in ADT was determined from MegaMaps as: 1,990 vpd.</td></tr>
<tr><td>(i) any planned modification to the road; and</td><td colspan="3">There are currently no known planned modifications to Clevedon-Kawakawa Road.</td></tr>
<tr><td>(j) the views of interested persons and groups.</td><td colspan="3">The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.</td></tr>
</table>

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit(s) on Clevedon-Kawakawa Road are as follows: • 100 km/h between 90m west of McNicol Road and 100m east of McNicol Road (Section 1) • 100 km/h between 100m east of McNicol Road and 2.3km west of Townson Road (Section 2) • 100 km/h between 2.3km west of Townson Road and 900m west of Turei Road (Section 3)
MegaMaps Mean Operating Speed (km/h)	Clevedon-Kawakawa Road has a mean operating speed of: • 76 km/h between 90m west of McNicol Road and 100m east of McNicol Road • 76 km/h between 100m east of McNicol Road and 2.3km west of Townson Road (Section 2) • 72 km/h between 2.3km west of Townson Road and 900m west of Turei Road (Section 3) •
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Clevedon-Kawakawa Road (west of a point 90m west of McNicol Road)**: 50 km/h • **Holdens Road:** 100 km/h (proposed SaAS 60 km/h) • **Eyres Road:** 100 km/h (proposed SaAS 60 km/h) • **Ness Valley Road**: 100 km/h (proposed SaAS 80 km/h) • **Townson Road**: 100 km/h (proposed SaAS 60 km/h) • **Clevedon-Kawakawa Road (east of a point 900m west of Turei Road)**: 60 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	0	22	12
DSI crashes during period	0	3	5
Corridor Length (km)	0.19	8.10	4.73
Annual Daily Traffic	3,426	3,426	1,990

- Section 1
  - The Collective Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**[2]
  - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
  - The Collective Risk score is 0.07 For rural areas this corresponds to a Collective Risk band of **Medium**
  - The Personal Risk score is 5.9. For rural areas this corresponds to a Personal Risk band of **Medium.**
- Section 3
  - The Collective Risk score is 0.21 For rural areas this corresponds to a Collective Risk band of **High.**
  - The Personal Risk score is 29.1. For rural areas this corresponds to a Personal Risk band of **High**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	Score	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Curved	1.80	Winding	3.50
Carriageway width	Medium lane, very wide shoulder	0.78	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79

[2] The Collective Risk score for rural roads generally does not exceed 0.50 and the risk banding reflects this. For further information please refer to the "High safety risk – corridors" section of the NZTA's Safety risk definitions for results alignment webpage.

Roadside hazards in both directions	Moderate	1.43	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	<1	1.00	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03	2 to <5	1.03
Traffic volume	1000 to <6000	1.40	1000 to <6000	1.40	1000 to <6000	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.60. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 1.60. For rural areas this corresponds to an IRR band of **Medium.**
- Section 3: The Infrastructure Risk Rating Score is 1.90. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between 90m west of McNicol Road and 100m east of McNicol Road (Section 1)
- 80 km/h between 100m east of McNicol Road and 2.3km west of Townson Road (Section 2)
- Less than 80 km/h between 2.3km west of Townson Road and 900m west of Turei Road (Section 3)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *50 km/h between 90m west of McNicol Road and 100m east of McNicol Road (Section 1)*
- *80 km/h between 100m east of McNicol Road and 900m west of Turei Road (Sections 2 and 3)*

Section 1 is a relatively short (190m) proposed extension of the 50 km/h speed zone at Clevedon so the zone covers the major intersection of Clevedon-Kawakawa Road and McNicol Road.

Sections 2 and 3 of Clevedon-Kawakawa Road are self-explaining sections of road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Clevedon-Kawakawa Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for Sections 2 and 3 due to the medium lane width, narrow shoulders, moderate roadside hazards and Medium to High Collective and Personal risk scores and the existing operating speed (76 km/h). A 60 km/h speed limit was considered for the highest risk section; however, this is unlikely to be adhered to or supported by the public and would result in unnecessary speed limit changes along the road.

After considering all the above factors, the existing speed limit of 100 km/h on Clevedon-Kawakawa Road in Clevedon, is not considered to be a safe and appropriate speed limit for this section of road.

The recommended safe and appropriate speed limits for Clevedon-Kawakawa Road, Clevedon are:

- 50 km/h between 90m west of McNicol Road and 100m east of McNicol Road (Section 1)
- 80 km/h between 100m east of McNicol Road and 2.3km and 900m west of Turei Road (Section 2 and 3)

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Clevedon-Takanini Road (Clevedon)

The speed limit on Clevedon-Takanini Road, Ardmore / Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Clevedon-Takanini Road is classified as a primary collector road under the one network road classification (ONRC). Clevedon-Takanini Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Clevedon-Takanini Road.
	Clevedon-Takanini Road connects to Papakura-Clevedon Road at the eastern end of the road and Alfriston-Ardmore Road at the western end of the road. The primary use of the road is to provide a route for through traffic. Clevedon-Takanini Road is approximately 4550m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 14 crashes between 2016 and 2020, including two Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Clevedon-Takanini Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5m) and Narrow shoulder (0.5m to <1.0 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2,508 vehicles per day (vpd). This is similar to the ADT recorded traffic count of 2,236 vpd. This level of traffic volume is consistent with the rural, primary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Clevedon-Takanini Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Clevedon-Takanini Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Clevedon-Takanini Road has a mean operating speed of 81 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Alfriston-Ardmore Road**: 100 km/h (Proposed SAAS 80 km/h) • **Burnside Road**: 100 km/h (Proposed SAASto 60 km/h) • **Parish Line Road (north of Clevedon- Takanini Road)**: 100 km/h (Proposed SAAS 40 km/h) • **Parish Line Road (south of Clevedon- Takanini Road)**: 100 km/h (Proposed SAAS 60 km/h) • **Papakura-Clevedon Road**: 100km/h (Proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	4
DSI crashes during the period	2
Corridor Length (km)	4.55
Annual Daily Traffic	2508

The Collective Risk score is 0.088, and the Personal Risk score is 9.6. For rural areas this corresponds to a Collective Risk band of **Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, narrow shoulder	1.45
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Clevedon-Takanini Road

Clevedon-Takanini Road is a self-explaining road as the mean operating speed (81 km/h) aligns with the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Clevedon-Takanini Road should be investigated to help reduce speeds along this section of road.

The Speed Management Guide recommends a speed limit of less than 80 km/h; however, the road environment does not support this recommended speed limit and it is unlikely to be credible to the public.

A proposed speed limit of 80 km/h was selected due to the curved nature of the road, moderate roadside hazards, collector function and its existing operating speed (81 km/h). These factors also contribute to the roads “Medium” IRR score. The proposed speed limit is also considered appropriate when considered in the wider context to provide more consistent speed limits across the network .

After considering all the above factors, the speed limit of 100 km/h on Clevedon-Takanini Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Clevedon-Takanini Road is 80 km/h along the full length of Clevedon-Takanini Road.

A recommended speed limit higher than the Speed Management Guide recommendation is considered justified in this instance given the nature and function of the road and to provide a consistent and credible speed limit given the current operating speed (81 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Coal Mine Road (Opaheke)

The speed limit on Coal Mine Road, Opaheke has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Coal Mine Road is classified as an Access road under the one network road classification (ONRC). Coal Mine Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Coal Mine Road.
	Coal Mine Road connects to Ponga Road at the southern end of Coal Mine Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Coal Mine Road is approximately 740 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Coal Mine Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Coal Mine Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 182 vehicles per day (vpd). This level of traffic volume is consistent with the nature and function of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Coal Mine Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Coal Mine Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Coal Mine Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 80 km/h (proposed SaAS 60 km/h) • **Kauri View Road: 8**0 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.74
Annual Daily Traffic	182

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.70. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Coal Mine Road

Coal Mine Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Coal Mine Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to narrow and curved nature of the road, high roadside hazards, its access function and its existing low operating speed (20 km/h). These features contribute to the roads "Medium-High" IRR score, making it a High risk road.[1]

After considering all the above factors, the speed limit of 80 km/h on Coal Mine Road in Opaheke, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Coal Mine Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Cooper Road (Ramarama)

The speed limit on Cooper Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cooper Road is classified as an access road under the one network road classification (ONRC). Cooper Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Cooper Road.
	Cooper Road connects to Kern Road at its southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Cooper Road is approximately 0.52 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Cooper Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cooper Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) Power poles • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Cooper Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Cooper Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Cooper Road has a mean operating speed of 27 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kern Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.52
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Cooper Road.

Cooper Road is a self-explaining road as the mean operating speed (27 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Cooper Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, moderate roadside hazards, its access function and its existing low operating speed (27 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Cooper Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Cooper Road is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate given the nature and function of the road and to match the speed limit on the adjacent road. The low operating speed (27 km/h) also supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Cosgrave Road (Papakura)

The speed limit on Cosgrave Road (between 200m north of Old Wairoa Road and Walters Road), Papakura has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cosgrave Road is classified as an arterial road under the one network road classification (ONRC). Cosgrave Road is a two lane, undivided road. There is a shared use path on the western side of this section of Cosgrave Road. There is no on-street parking along Cosgrave Road.
	This section of Cosgrave Road connects with Mill Road and Hamlin Road, at the northern end. Cosgrave Road continues south (with a 50 km/h speed limit) and connects to Clevedon Road. The primary use of the road is to for provide for through traffic travelling between Papakura and Alfriston. This section of Cosgrave Road is approximately 1.2 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 29 crashes along this section of Cosgrave Road between 2016 and 2020 including 4 recorded Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cosgrave Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0m – 3.5 m) and a wide shoulders (1.0m to 2.0 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 14,311 vehicles per day (vpd). This level of traffic volume is consistent with the arterial nature of the road. This is consistent with AT traffic count data which recorded a 7-day ADT of 16,600 vpd.
(i) any planned modification to the road; and	There are no known planned modifications to Cosgrave Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on this section of Cosgrave Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Cosgrave Road has a free flow speed of 67 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Mill Road**: 80 km/h • **Cosgrave Road (south of a point 200m north of Old Wairoa Road)**: 50 km/h • **Walters Road**: 50 km/h • **Hamlin Road**: 100 km/h (proposed SAAS 80 km/h) • **Parahau Road**: 50 km/h • **Minhas Road**: 50 km/h • **Tumu Road**: 50 km/h • **Bellbird Street**: 50 km/h • **Farmland Road**: 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	12
DSI crashes during the period	4
Corridor Length (km)	1.20
Annual Daily Traffic	14,311

The Collective Risk score is 0.67, and the Personal Risk score is 12.8. For rural areas this corresponds to a Collective Risk band of **High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane Undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Medium lane, Wide shoulder	1.00
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50
Access density (per km)	2 to < 5	1.03
Traffic volume	>12,000	3.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band '**Medium-High'**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for Cosgrave Road between 200m north of Old Wairoa Road and Walters Road.

While the mean operating speed (67 km/h) on Cosgrave Road is slightly higher than the proposed speed limit, it is noted that land-use on western side of the road is changing from rural to high density residential housing. The large-scale residential developments have created several new intersections along this section of road where there will be high turning movements and a shared path has been formed on the western side of the road which will increase the number of vulnerable road users on this section. Given these features a proposed speed limit above 60 km/h is not considered safe or appropriate.

A proposed speed limit of 60 km/h was selected due to adverse crash history and the changing nature of the road to a more urban appearance with a higher presence of vulnerable road users. The collective and personal risk of this section are both classified as **'High'** due to the number of Death and Serious Injury (DS) crashes, making it a high risk road.[1]

After considering all the above factors, the speed limit of 80 km/h on Cosgrave Road in Papakura, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Cosgrave Road is considered appropriate for a section of road that is on the edge of the urban traffic area, joins several roads where the speed limit is 50 km/h and already has a relatively low operating speed (67 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Cossey Road, Drury

The speed limit on Cossey Road, Drury, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cossey Road is classified as an access road under the one network road classification (ONRC). Cossey Road is a two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Cossey Road.
	Cossey Road connects to Appleby Road at the northern end of the road and Fitzgerald Road at the southern end of the road. However, there is an unformed section of road between Waihoehoe Road and Appleby Road creating two no exit sections on Cossey Road. The primary use of the road is to provide access to rural residential properties. The length of Cossey Road (including the unformed section) is approximately 2.00 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Cossey Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cossey Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 31 vehicles per day (vpd), which is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Cossey Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Cossey Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Cossey Road has a mean operating speed of between 42 and 50 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Appleby Road: 8**0 km/h • **Fitzgerald Road: 8**0 km/h • **Waihoehoe Road: 8**0 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.14
Annual Daily Traffic	31

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Cossey Road

Cossey Road is a self-explaining road as the mean operating speed (42 to 50 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Cossey Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road moderate roadside hazards, its access function and the existing low mean operating speed (42 to 50 km/h).

After considering all the above factors, the speed limit of 80 km/h on Cossey Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit of 60 km/h is lower than the Speed Management Guide recommendation (80 km/h); however, it is considered appropriate considering the nature and function of the road and the mean operating speed (42 to 50 km/h km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Coulston Road (Ramarama)

The speed limit on Coulston Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Coulston Road is classified as an access road under the one network road classification (ONRC). Coulston Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Coulston Road.
	Coulston Road connects to Kern Road at its western end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Coulston Road is approximately 0.93 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Coulston Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Coulston Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1<2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 62 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Coulston Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Coulston Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Coulston Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kern Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.93
Annual Daily Traffic	62

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Coulston Road.

Coulston Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Coulston Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, curved alignment, high roadside hazards, its access function, and its existing low operating speed (20 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Coulston Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Coulston Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Cowan Road, Hunua

The speed limit on Cowan Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cowan Road is classified as an access road under the one network road classification (ONRC). Cowan Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Cowan Road.
	Cowan Road connects to Hunua Road at the northern end of the road and the southern section is a no exit road. The primary use of the road is to provide access to rural residential properties. Cowan Road is approximately 3,100m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Cowan Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cowan Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 219 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Cowan Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Cowan Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Cowan Road has a mean operating speed of 55 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	3.10
Annual Daily Traffic	219

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	219 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Cowan Road.

Cowan Road is a self-explaining road as the mean operating speed (55 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Cowan Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high roadside hazards and its existing mean operating speed (55 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Cowan Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (55 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Creightons Road, Clevedon

Creightons Road, Clevedon, is divided into two sections and outlined as follows: [1]

1. Section 1: Creightons Road between Papakura – Clevedon Road and Jones Road.
2. Section 2: Creightons Road between Jones Road and Ardmore Quarry Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Creightons Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Creightons Road is classified as a Secondary Collector road under the one network road classification (ONRC). This section is 4940 m in length.</td><td>This section of Creightons Road is classified as an Access road under the one network road classification (ONRC). This section is 1010 m in length.</td></tr>
<tr><td colspan="2">Creightons Road is also a two-lane undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Creightons Road.
Creightons Road is primarily used to access rural residential properties along its length.</td></tr>
<tr><td>(d) crash risk for all road users; and</td><td colspan="2">NZTA’s Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	CAS records three crashes on this section of Creightons Road, none of which were DSI crashes.	CAS records zero crashes on this section of Creightons Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Creightons Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0m – 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate	• **Road stereotype**: Two-lane undivided • **Road Alignment**: Curved • **Carriageway Width:** Medium lane (3.0m – 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 777 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 93 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Creightons Road.	
(j) the views of interested persons and groups	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Creightons Road is 100 km/h for the full length of the road.
MegaMaps Mean Operating Speed (km/h)	Creightons Road has a mean operating speed of: • Section 1 - 62 km/h • Section 2 - 61 km/h
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Ardmore Quarry Road**: 100 km/h (proposed SaAS 60 km/h) • **Jones Road:** 100 km/h (proposed SaAS 60 km/h) • **Papakura-Clevedon Road**: 100 km/h (proposed SaAS 80 km/h) • **Tourist Road**: 100 km/h (proposed SaAS 80 km/h) • **Cherrington Road**: 80 km/h (proposed SaAS 60 km/h) • **Brodie Road**: 100 km/h (proposed SaAS 40 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI equivalents	0	0
Corridor Length (km)	4.94	1.01
Annual Daily Traffic	777	93

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section 2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	Severe	2.80
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	<1	1.00	1 to <2	1.2
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- 80 km/h (Section 1)
- Less than 80 km/h (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *80 km/h between Papakura – Clevedon Road and Jones Road (Section 1)*
- *60 km/h between Jones Road and Ardmore Quarry Road (Section 2)*

Creightons Road is a self-explaining road as the mean operating speeds are near, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Creightons Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the first section of road due to the curved nature of the road, moderate roadside hazards and the mean operating speed (62 km/h).

A proposed speed limit of 60 km/h was selected for the second section of road due to the curved nature of the road, the severe roadside hazards and the mean operating speed (61 km/h). These features contribute to the sections 'Medium-High' IRR score, making it a high risk section of road.

After considering all the above factors, the existing speed limit of 100 km/h on Creightons Road in Clevedon, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Creightons Road, Clevedon are:

- 80 km/h between Clevedon Road and Jones Road (Section 1)
- 60 km/h between Jones Road and Ardmore Quarry Road (Section 2)

These proposed speed limits aligns with the Speed Management Guide and the low operating speeds supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Dale South Road (Ramarama)

The speed limit on Dale South Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Dale South Road is classified as an Access Road under the one network road classification (ONRC). Dale South Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Dale South Road. Dale South Road connects to Hillview Road at the southern end of Dale South Road and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Dale South Road is approximately 400 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Dale South Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Dale South Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 114 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Dale South Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Dale South Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Dale South Road has a mean operating speed of 50 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hillview Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.40
Annual Daily Traffic	114

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Dale South Road.

Dale South Road is a self-explaining road as the mean operating speed (50 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Dale South Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow road, its high roadside hazards, access function and its existing low operating speed (50 km/h).

After considering all the above factors, the speed limit of 100 km/h on Dale South Road in Ramarama, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Dale South Road is lower than the Speed Management Guide recommendation (80 km/h), however, this is considered acceptable given the short, no exit nature of the road so it is desirable for the speed limit to match the adjacent road. The low operating speed on the (50 km/h) also supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Davies Road (Ramarama)

The speed limit on Davies Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Davies Road is classified as a Primary Collector under the one network road classification (ONRC). Davies Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Davies Road.
	Davies Road connects to Ararimu Road at the southern end of Davies Road and to Willow Road at the northern end of Davies Road. The primary use of the road is to provide access to rural residential properties. This section of Davies Road is approximately 840 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Davies Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Davies Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 62 vehicles per day (vpd). This level of traffic volume is considered low for the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Davies Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Davies Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Davies Road has a mean operating speed of 47 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 60 km/h • **Maxted Road:** 100 km/h (proposed SaAS 60 km/h) • **Willow Road:** 100 km/h (proposed SaAS 60 km/h) • **Peach Hill Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.84
Annual Daily Traffic	62

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Davies Road

Davies Road is a self-explaining road as the mean operating speed (47 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Davies Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow road, its high roadside hazards and its existing low operating speed (47 km/h). This speed limit also matches the proposed limits on all the adjacent roads so provides better consistency across the network.

After considering all the above factors, the speed limit of 100 km/h on Davies Road in Ramarama, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h). The main reason a lower speed limit is being recommended is to match the speed limit on adjacent roads and the roads low operating speed (47 km/h) supports this reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Deerys Road (Orere Point)

The speed limit on Deerys Road, Orere Point has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Deerys Road is classified as a secondary collector road under the one network road classification (ONRC). Deerys Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Deerys Road
	Deerys Road connects to Orere-Matingarahi Road at the southern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. There is also a Regional Park that is accessed at the end of the road. Deerys Road is approximately 1.32km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Deerys Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Deerys Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Remote Rural using the drive over footage. The IRR defines Remote Rural as *"Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 48 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road. It is also consistent with 7-day traffic count data which also indicated an ADT of 48 vpd.
(i) any planned modification to the road; and	There are no known planned modifications to Deerys Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Deerys Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Deerys Road has a mean operating speed of 34 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Orere-Matingarahi Road**: 100km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.32
Annual Daily Traffic	48

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Severe	2.80
Adjacent land use	Remote Rural	1.00
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Deerys Road.

Deerys Road is a self-explaining road as the mean operating speed (34 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Deerys Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow unsealed nature of the road, severe roadside hazards and its existing low operating speed (34 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Deerys Road in Orere Point, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Deerys Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (34 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Downs Road (Hunua)

The speed limit on Downs Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Downs Road is classified as an access road under the one network road classification (ONRC). Downs Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Downs Road.
	Downs Road connects to Ararimu Road at the southern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Downs Road is approximately 570m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Downs Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Downs Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 41 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Downs Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Downs Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Downs Road has a mean operating speed of 42 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.57
Annual Daily Traffic	41

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Downs Road.

Downs Road is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Downs Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road, the high roadside hazards, its access function and its existing mean operating speed (42 km/h).

After considering all the above factors, the speed limit of 100 km/h on Downs Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide (80 km/h) recommendation, but this is considered appropriate based on the road environment and access function of the road. It also aligns with the mean operating speed (42 km/h) on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Dunn Road (Ararimu)

Dunn Road, Ararimu, is divided into two sections and outlined as follows: [1]

- Section 1: Dunn Road between Ararimu Road and Totara Road
- Section 2: Dunn Road between Totara Road and the southern end of the road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Dunn Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="3">(c) the function and use of the road; and</td><td>This section of Dunn Road is classified as a secondary collector under the one network road classification (ONRC). This section is 300 m in length</td><td>This section of Dunn Road is classified as a secondary collector under the one network road classification (ONRC). This section is 1.69 km in length</td></tr>
<tr><td>This section of Dunn Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Dunn Road.</td><td>This section of Dunn Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Dunn Road.</td></tr>
<tr><td colspan="2">Dunn Road connects to Ararimu Road at the western end and is a no exit road at the eastern end of the road. It is primarily used to access rural residential properties along the road; however, the short section of Dunn Road between Ararimu Road and Totara Road is part of a though route that is primarily used by through traffic.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes on this section of Dunn Road. Therefore, there are no DSI crashes.	CAS records zero crashes on this section of Dunn Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Dunn Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 956 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 956 vehicles per day (vpd); however, this as this section is the no exit section it is likely the traffic volume is significantly lower (< 50 vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Dunn Road.	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Dunn Road has an existing speed limit of 100 km/h
MegaMaps Mean Operating Speed (km/h)	Dunn Road has a mean operating speed of: • 30 km/h between Ararimu Road and Totara Road. • 30 km/h between Totara Road and the end of the road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Ararimu Road**: 80 km/h • **Totara Road**: 100 km/h (proposed SaAS 80 km/h) • **Turner Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI equivalents	0	0
Corridor Length (km)	0.300	1.69
Annual Daily Traffic	956	Approx. 50 vpd

- Section 1
    - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
    - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Straight	1.00	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28	High	2.28
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	2 to <3	1.25	1 to <2	1.15
Access density (per km)	5 to <10	1.06	5 to <10	1.06
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium.**
- Section 2: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- 80 km/h between Ararimu Road and Totara Road (Section 1)
- Less than 80 km/h between Totara Road and the end of the road (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *80 km/h on Dunn Road between Ararimu Road and Totara Road (Section 1)*
- *60 km/h on Dunn Road between Totara Road and the southern end of the road* (*Section 2)*

Dunn Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Dunn Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the first section of road to provide better legibility across the network as this short section of Dunn Road provides a link between Ararimu Road and Totara Road which both have 80 km/h speed limits.

A proposed speed limit of 60 km/h was selected for the second section of road due to the curved and narrow nature of the road, high risk roadside hazards, and the low mean operating speed (30 km/h). These features contributes to the sections '**Medium-High**' IRR score, making it a high risk section of road[2].

After considering all the above factors, the existing speed limit of 100 km/h on Dunn Road, in Ararimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Dunn Road aligns with the Speed Management Guide (80 km/h and less than 80 km/h for section 1 and 2 respectively) and the mean operating speed (30 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Dunrobin Lane (Ararimu)

The speed limit on Dunrobin Lane, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Dunrobin Lane is classified as an access road under the one network road classification (ONRC). Dunrobin Lane is a two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Dunrobin Lane.
	Dunrobin Lane connects to Markham Road at the southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Dunrobin Lane is approximately 220m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Dunrobin Lane therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Dunrobin Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to < 2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 10 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Dunrobin Lane.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Dunrobin Lane is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Dunrobin Lane has a free flow speed of 20 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Markham Road**: 100km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.22
Annual Daily Traffic	10

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	2.28
Adjacent land use	Rural residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Dunrobin Lane.

Dunrobin Lane is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Dunrobin Lane was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification, access road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the extremely narrow width of the road and its existing low operating speed (20 km/h). The proposed speed limit also matches the proposed speed limit on the adjacent Markham Road, which improves the legibility of speed limits on the network by improving consistency and avoiding unnecessary speed limit changes. Dunrobin Lane has a 'Medium' IRR score and a low Collective Risk and Personal Risk[1].

After considering all the above factors, the speed limit of 100 km/h on Dunrobin Lane in Aramimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Dunrobin Lane is lower than the Speed Management Guide recommendation (80 km/h). The main reason a lower speed limit is being recommended is to provide consistency with the speed limit on the adjacent road given its short length. The low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Dyke Road (Karaka)

The speed limit on Dyke Road, Karaka has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Dyke Road is classified as a Secondary Collector road under the one network road classification (ONRC), however, functions more as an Access Road. Dyke Road is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Dyke Road connects to Linwood Road and Blackbridge Road to the south and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Dyke Road is approximately 1.46 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one crash between 2016 and 2020: one minor injury crash in 2018. Dyke Road therefore has no Death and Serious Injuries (DSI's) CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Dyke Road were determined using a combination of Megamaps and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 364 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Dyke Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Dyke Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Dyke Road has a mean operating speed of 39 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Linwood Road:** 80 km/h • **Blackbridge Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crash number	**0**
Corridor Length (km)	1.46
Annual Daily Traffic	364

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.33. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Dyke Road is a self-explaining road as the recorded operating speed (39 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Dyke Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the moderate roadside hazards, and its existing low operating speed (39 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the existing speed limit of 100 km/h on Dyke Road in Karaka, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – East Coast Road (Orere Point)

The speed limit on East Coast Road (Up to the Hauraki District Boundary), Orere Point has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	East Coast Road is classified as an arterial road under the one network road classification (ONRC). East Coast Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along East Coast Road.
	East Coast Road connects to Orere-Matingarahi Road, at the northern end and continues to the Auckland / Hauraki District Boundary in the south. The road is primarily used as a through route, although there are a number of rural residential properties along its length. The section of East Coast Road within the Auckland regional boundary is approximately 3.34 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 5 crashes between 2016 and 2020. One of these crashes was recorded as a Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for East Coast Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Remote Rural using the drive over footage. The IRR defines Remote Rural as *"Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: < 1 intersection per km • **Access density**: 1 to <2 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 447 vehicles per day (vpd).
(i) any planned modification to the road; and	There are no known planned modifications to East Coast Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on East Coast Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	East Coast Road has a mean operating speed of 57 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Orere-Matingarahi Road**: 100km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	3
DSI crashes during the period	1
Corridor Length (km)	3.34
Annual Daily Traffic	447

The Collective Risk score is 0.06, and the Personal Risk score is 36.7. For rural areas this corresponds to a Collective Risk band of **Low-Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane Undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Severe	2.80
Adjacent land use	Rural Remote	1.50
Intersection density (per km)	< 1	1.00
Access density (per km)	1 to <2	1.01
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the section of East Coast Road between Orere-Matingarahi Road and the Hauraki District Boundary.

East Coast Road is a self-explaining road as the mean operating speed (57 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of East Coast Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the winding nature of the road and the presence of severe roadside hazards in some sections. These factors contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on East Coast Road in Orere Point, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for East Coast Road aligns with the Speed Management Guide (<80 km/h) and the operating speed (57 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Elizabeth Place (Drury)

The speed limit on Elizabeth Place, Drury, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Elizabeth Place is classified as an access road under the one network road classification (ONRC). Elizabeth Place is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Elizabeth Place.
	Elizabeth Place connects to Drury Hills Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Elizabeth Place is approximately 250m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Elizabeth Place therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Elizabeth Place were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 41 vehicles per day (vpd). No AT traffic data is available for this road, however this level of traffic volume is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Elizabeth Place.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Elizabeth Place is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Elizabeth Place has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Drury Hills Road: 8**0km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.25
Annual Daily Traffic	41

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of the road.

Elizabeth Place is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Elizabeth Place was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high roadside hazards, its access function and its existing mean operating speed (20 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering the above factors, the existing speed limit of 80 km/h on Elizabeth Place is not considered to be a safe and appropriate speed limit for the road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide recommendation (<80 km/h) and the mean operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

<u>Speed Limit Assessment</u> – Ernest George Drive (Karaka)

The speed limit on Ernest George Drive, Karaka has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ernest George Drive is classified as an Access road under the one network road classification (ONRC). Ernest George Drive is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Ernest George Drive connects to Charles Road to the east and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Ernest George Drive is approximately 0.66 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ernest George Drive were determined using a combination of Megamaps data and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 41 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Ernest George Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Ernest George Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Ernest George Drive has a mean operating speed of 21km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Charles Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.66
Annual Daily Traffic	41

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.28. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Ernest George Drive is a self-explaining road as the recorded operating speed (21 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Ernest George Drive was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the moderate roadside hazards, its function as an access road and its existing low operating speed (21 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the existing speed limit of 100 km/h on Ernest George Drive in Karaka, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Eyres Road (Clevedon)

The speed limit on Eyres Road, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Eyres Road is classified as a secondary collector under the one network road classification (ONRC) but functions as an access road. Eyres Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Eyres Road.
	Eyres Road connects to Clevedon-Kawakawa Road, at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Eyres Road is approximately 50m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Eyres Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Eyres Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both direction)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 291 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Eyres Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Eyres Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Eyres Road has a mean operating speed of 28 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Clevedon-Kawakawa Road**: 100km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.35
Annual Daily Traffic	291

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of Medium-High.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Eyres Road.

Eyres Road is a self-explaining road as the mean operating speed (28 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Eyres Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and unsealed nature of the road, the high number of roadside hazards, its access function and its existing low operating speed (28 km/h). The narrow, unsealed nature of Eyres Road also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Eyres Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Eyres Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (28 km/h) supports the reduction. Furthermore, it is a short, unsealed road which is mainly used as an access to residential properties.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Fahey Road (Bombay)

The speed limit on Fahey Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Fahey Road is classified as an access road under the one network road classification (ONRC). Fahey Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Fahey Road.
	This section of Fahey Road connects to Wootten Road and Mile Road at its eastern end and Paparata Road and Main Road at the southern end. The primary use of the road is to provide access to rural residential properties. Fahey Road is approximately 1.48 km long.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Fahey Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Fahey Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (0 <3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 114 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Fahey Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Fahey Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Fahey Road has a mean operating speed of 56 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wootten Road:** 100 km/h (proposed SaAS 60 km/h) • **Mile Road:** 100 km/h (proposed SaAS 60 km/h) • **Cascade Road:** 100 km/h (proposed SaAS 60 km/h) • **Main Road:** 100 km/h (proposed SaAS 60 km/h) • **Paparata Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.48
Annual Daily Traffic	114

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Fahey Road.

Fahey Road is a self-explaining road as the mean operating speed (56 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Fahey Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow road width, high roadside hazards, and its existing low operating speed (56 km/h). These factors also contribute to the roads "Medium" IRR score.

After considering all the above factors, the speed limit of 100 km/h on Fahey Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Fahey Road is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate given the nature and function of the road. The low operating speed (<40 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Falls Road, Hunua

The speed limit on Falls Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Falls Road is classified as a secondary collector road under the one network road classification (ONRC), but functions as an access road. Falls Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Falls Road.
	Falls Road connects to White Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Falls Road is approximately 2,350m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 2 crashes between 2016 and 2020, one of which was a minor injury crash. Falls Road had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Falls Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Tortuous • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 187 vehicles per day (vpd) which is consistent with the rural cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Falls Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Falls Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Falls Road has a mean operating speed of 45 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **White Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	2
DSI crashes during the period	0
Corridor Length (km)	2.35
Annual Daily Traffic	187

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Tortuous	6.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.0
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Falls Road.

Falls Road is a self-explaining road as the mean operating speed (45 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Falls Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and tortuous nature of the road, the high roadside hazards, and its existing mean operating speed (45 km/h). These features also contribute to the roads "High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Falls Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the mean operating speed (45 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Farquharson Road (Hunua)

The speed limit on Farquharson Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Farquharson Road is classified as an access road under the one network road classification (ONRC). Farquharson Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Farquharson Road.
	Farquharson Road connects to Aldridge Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Farquharson Road is approximately 390m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Farquharson Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Farquharson Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 41 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Farquharson Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Farquharson Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Farquharson Road has a mean operating speed of 27 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Aldridge Road: 100** km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.39
Annual Daily Traffic	41

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Farquharson Road.

Farquharson Road is a self-explaining road as the mean operating speed (27 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Farquharson Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high roadside hazards, its access function and its existing mean operating speed (27 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Farquharson Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (27 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Farr Road (Bombay)

The speed limit on Farr Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Farr Road is classified as an access road under the one network road classification (ONRC). Farr Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Farr Road.
	Farr Road connects to Pinnacle Hill Road at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Farr Road is approximately 0.27 km length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Farr Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Farr Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 25 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Farr Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Farr Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Farr Road has a mean operating speed of 25 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Pinnacle Hill Road**: 100km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.27
Annual Daily Traffic	25

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of '**Medium-High'**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/hr for the entire length of Farr Road.

Farr Road is a self-explaining road as the mean operating speed (25 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Farr Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the unsealed road, narrow road, high roadside hazards and its existing low operating speed (25 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Farr Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Farr Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (25 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Fausett Road (Ararimu)

The speed limit on Fausett Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Fausett Road is classified as an access road under the one network road classification (ONRC). Fausett Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Fausett Road.
	Fausett Road connects to Ararimu Road at the northern end of Fausett Road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Fausett Road is approximately 1050m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Fausett Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Fausett Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Fausett Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Fausett Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Fausett Road has a mean operating speed of 45 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.05
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Fausett Road

Fausett Road is a self-explaining road as the mean operating speed (45 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Fausett Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road, the moderate roadside hazards, its function as an access road and its existing low operating speed (45 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Fausett Road in Ararimu, is not considered to be a safe and appropriate speed limit for this road.

The low operating speed (45 km/h) supports the proposed speed limit being lower than the speed limit recommended by the Speed Management Guide.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Fielding Road (Drury)

The speed limit on Fielding Road, Drury, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Fielding Road is classified as an access road under the one network road classification (ONRC). Fielding Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Fielding Road.
	Fielding Road connects to Fitzgerald Road at the southern end and connects to Waihoehoe Road at the northern end of the road. The primary use of the road is to provide access to rural residential properties. Fielding Road is approximately 940m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Fielding Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Fielding Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 114 vehicles per day (vpd). No AT traffic count is available for this road, however this level of traffic volume is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Fielding Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Fielding Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Fielding Road has a mean operating speed of 59 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Fitzgerald Road: 8**0km/h • **Waihoehoe Road:** 80 km/h • **Appleby Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.94
Annual Daily Traffic	114

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.3. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Fielding Road.

Fielding Road is a self-explaining road as the mean operating speed (59 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Fielding Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road, its existing mean operating speed (59 km/h) and its access function.

After considering all the above factors, the speed limit of 80 km/h on Fielding Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommended speed (80 km/h), but this is considered appropriate based on the road environment, nature, and function of the road. It also aligns with the current mean operating speeds (59 km/h) on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Flay Road (Ramarama)

The speed limit on Flay Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Flay Road is classified as an access road under the one network road classification (ONRC). Flay Road is a two-way, two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no formal on-street parking along Flay Road.
	Flay Road connects Great South Road at both ends and its primary use is to provide access to rural residential properties. Flay Road is approximately 960 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non-injury crash between 2016 and 2020. Flay Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Flay Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 62 vehicles per day (vpd). This level of traffic volume is consistent with the rural, nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Flay Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Flay Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Flay Road has a mean operating speed of 43 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Great South Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.96
Annual Daily Traffic	62

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, Very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural residential	1.50
Intersection density (per km)	2 to <3	1.25
Access density (per km)	2 to <5	1.03
Traffic volume	< 1000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Flay Road.

Flay Road is a self-explaining road as the mean operating speed (43 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Flay Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, high roadside hazards, its access function and its existing low operating speed (42 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Flay Road in Ramarama, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low mean operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Garvie Road, Hunua

The speed limit on Garvie Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Garvie Road is classified as an access road under the one network road classification (ONRC). Garvie Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Garvie Road.
	Garvie Road connects to Jones Road at the western end and John Hill Road at the eastern end of the road. The primary use of the road is to provide access to rural residential properties. Garvie Road is approximately 1,730m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Garvie Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Garvie Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). No AT traffic data was available for this road; however, this level of traffic volume is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Garvie Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Garvie Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Garvie Road has a mean operating speed of 55 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Jones Road: 100** km/h (proposed SaAS 60 km/h) • **John Hill Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.73
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Garvie Road.

Garvie Road is a self-explaining road as the mean operating speed (55 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Garvie Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, its access function, the high roadside hazards and its existing mean operating speed (55 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a medium-high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Garvie Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the mean operating speed (55 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Gearon Road (Mauku)

The speed limit on Gearon Road, Mauku has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Gearon Road is classified as a secondary collector road under the one network road classification (ONRC). Gearon Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road.
	Gearon Road connects to Glenbrook Road at its northern end and to Glenbrook Station Road at its southern end. The road is primarily used as a through route, although there are a number of rural residential properties along its length. Gearon Road is approximately 2.27 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one crash between 2016 and 2020: one minor injury crash in 2018. Gearon Road therefore has no Death and Serious Injuries (DSI's). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Gearon Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards**: Moderate and includes frequent roll-over slopes and vegetation.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 520 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Gearon Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Gearon Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Gearon Road has a mean operating speed of 61km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Glenbrook Road**: 80 km/h • **Glenbrook Station Road**: 60km/h • **Quinn Road**: 60km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crash number	**0**

Corridor Length (km)	2.27
Annual Daily Traffic	520

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2 per km	1.20
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.43. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Gearon Road is a self-explaining road as the recorded operating speed (61 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Gearon Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected for Gearon Road to provide consistency with the existing speed limits on the adjacent road network, the curved nature of the road, and its existing low operating speed (61 km/h).

After considering all the above factors, the existing speed limit of 100 km/h on Gearon Road in Mauku, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Gelling Road, Hunua

The speed limit on Gelling Road, Hunua/Drury has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Gelling Road is classified as a Secondary Collector under the one network road classification (ONRC). Gelling Road is a two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Gelling Road.
	Gelling Road connects to Hunua Road at the north-eastern end and to Ararimu Road at the south-western end. The primary use of the road is to provide for through traffic but it also provides access to rural residential properties,. Gelling Road is approximately 4,110m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records seven crashes between 2016 and 2020: one serious crash, 3 minor injury crashes, and 3 non-injury crashes. Gelling Road had 1 Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Gelling Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Medium lane (3.0m-3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 669 vehicles per day (vpd). This level of traffic volume is consistent with the rural nature of this road. This is consistent with the 7-day ADT count data of 710 vpd.
(i) any planned modification to the road; and	There are no known planned modifications to Gelling Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Gelling Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Gelling Road has a mean operating speed of 73 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 100 km/h (proposed SaAS 80 km/h) • **Aldridge Road**: 100 km/h (proposed SaAS 60 km/h) • **Nairn Road**: 100 km/h (proposed SaAS 60 km/h) • **Hunua Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	4
DSI crashes during the period	1
Corridor Length (km)	4.11

Annual Daily Traffic	669

The Collective Risk score is 0.04, and the Personal Risk score is 19.9. For rural areas this corresponds to a Collective Risk band of **Low-Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	5 to <10	2.60
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Gelling Road

Gelling Road has a mean operating speed (73 km/h) which is below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Gelling Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected as the road has an operating speed of 73 km/h, and hence the Speed Management Guide recommendation of 60 km/h is unlikely to be credible to the public. An 80 km/h speed limit also matches the speed limits on the roads at either end of Gelling Road so it provides better consistency across the network.

After considering all the above factors, the speed limit of 100 km/h on Gelling Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is higher than the Speed Management Guide recommendation (<80 km/h) but this is considered acceptable based on the nature of the road and to provide consistency with the speed limit on the adjacent roads. The proposed speed is also supported by the existing operating speed (73 km/h) on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Gillespie Road (Hunua)

The speed limit on Gillespie Road, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Gillespie Road is classified as an Access road under the one network road classification (ONRC). Gillespie Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Gillespie Road.
	Gillespie Road connects to Hunua Road at the northern end of Gillespie Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Gillespie Road is approximately 1.67 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Gillespie Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Gillespie Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Tortuous • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 166 vehicles per day (vpd). This level of traffic volume is consistent with the nature and function of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Gillespie Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Gillespie Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Gillespie Road has a mean operating speed of 36 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.67
Annual Daily Traffic	166

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Tortuous	6.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.10. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Gillespie Road.

Gillespie Road is a self-explaining road as the mean operating speed (36 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Gillespie Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, tortuous nature of the road, high roadside hazards, its access function and its existing low operating speed (36 km/h). These features contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Gillespie Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Gillespie Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (36 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Golding Road (Pukekohe)

Golding Road, Pukekohe, is divided into two sections and outlined as follows: [1]

1. Section 1: Golding Road, between Pukekohe East Road and 100m south of Pukekohe East Road
2. Section 2: Golding Road, between 100m south of Pukekohe East Road and Logan Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Golding Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information.

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Golding Road is classified as a secondary collector under the one network road classification (ONRC). This section is 0.1 km in length</td><td>This section of Golding Road is classified as a secondary collector under the one network road classification (ONRC). This section is 2.25 km in length</td></tr>
<tr><td colspan="2">Golding Road is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Barber Road.

Golding Road connects to Pukekohe Road East at its northern end and Logan Road the southern end. The road is primarily used for through traffic but there is also access for a number of rural residential properties along its length.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes between 2016 and 2020. This section of Golding Road therefore has no Death and Serious Injury (DSI) crashes	CAS records eight crashes between 2016 and 2020 including 1 minor injury and 1 serious injury crash. This section of Golding Road therefore has one Death and Serious Injury (DSI) crash.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Barber Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 1 <2 intersection per km • **Access density**: 1 to <2 access per km	• **Intersection density**: 1 <2 intersection per km • Access density: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,374 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,374 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Golding Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were	

	presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Golding Road is: • 60 km/h between Pukekohe East Road and 100m south of Pukekohe East Road • 100 km/h between 100m south of Pukekohe East Road and Logan Road
MegaMaps Mean Operating Speed (km/h)	Golding Road has a mean operating speed of 68 km/h along its length
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Pukekohe East Road**: 60 km/h • **Royal Doulton Drive**: 100 km/h (proposed SaAS 60 km/h) • **Logan Road**: 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	**0**	**2**
DSI equivalents	0	**1**
Corridor Length (km)	0.1	2.25
Annual Daily Traffic	1,374	1,374

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.09. For rural areas this corresponds to a Collective Risk band of **Medium**

- The Personal Risk score is 17.7 For rural areas this corresponds to a Personal Risk band of **High**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Straight	1.00	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	1 <2	1.15	1 <2	1.15
Access density (per km)	1 <2	1.01	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.40	< 1,000 vpd	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 60 km/h for the full length of Golding Road (sections 1 and 2).

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Golding Road (sections 1 and 2).

The operating speeds on Golding Road (68 km/h) are well below the existing 100 km/h speed limit (on section 2). Engineering up of Golding Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

The existing speed limit of 60 km/h is proposed to be maintained on Section 1 of Golding Road. A proposed speed limit of 60 km/h was selected for Section 2 to match Section 1 and due to the narrow lanes, moderate roadside hazards and adverse crash history. These factors contribute to the sections 'Medium' IRR score, 'Medium' Collective risk and 'High' Personal risk making it a high risk road.[2]

After considering all the above factors, the existing speed limit of 100 km/h on Section 2 of Golding Road in Pukekohe, is not considered to be a safe and appropriate speed limit for the road.

The proposed safe and appropriate speed limit for Golding Road aligns with the Speed Management Guide (< 80 km/h) and is considered appropriate given the adverse crash history on the road, despite the operating speed being slightly above the proposed speed limit.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Gordon Francis Drive (Paerata)

The speed limit on Gordon Francis Drive, Paerata, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Gordon Francis Drive is classified as an access road under the one network road classification (ONRC). Gordon Francis Drive is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Gordon Francis Drive.
	Gordon Francis Drive connects to Runciman Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Gordon Francis Drive is approximately 920m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Gordon Francis Drive therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Gordon Francis Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium (3.0-3.5m) and narrow shoulder (0.5 to 1.0m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 150 vehicles per day (vpd), which is consistent with the rural, no exit, nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Gordon Francis Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Gordon Francis Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Gordon Francis Drive has a recorded operating speed of 50 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Runciman Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.92
Annual Daily Traffic	150

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Medium lane, narrow shoulder	1.45
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.5
Intersection density (per km)	2 to <3	1.30
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Gordon Francis Drive.

Gordon Francis Drive is a self-explaining road as the recorded operating speed (50 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Gordon Francis Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road the moderate roadside hazards, its access function and its existing recorded operating speed (50 km/h).

After considering all the above factors, the speed limit of 100 km/h on Gordon Francis Drive in Paerata, is not considered to be a safe and appropriate speed limit for this road.

Although the proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h), the road environment, nature and function of the road support the reduction as does the existing recorded operating speed (50 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

<u>Speed Limit Assessment</u> - Great South Road (Drury/Bombay)

Great South Road, Drury/Bombay, is divided into four sections and outlined as follows: [1]

- Section 1: Great South Road between SH22 and 500m south of Runciman Road
- Section 2: Great South Road between 500m south of Runciman Road and 230m north of Mill Road
- Section 3: Great South Road between 230m north of Mill Road and 230m south of Mill Road
- Section 4: Great South Road between 230m south of Mill Road and the southern end of Great South Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Great South Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**			
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*	**Section 4** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.			
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.			

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(c) the function and use of the road; and	This section of Great South Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 2.18 km in length	This section of Great South Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 7.85 km in length	This section of Great South Road is classified as an Arterial under the one network road classification (ONRC). This section is 0.46 km in length	This section of Great South Road is classified as an Arterial under the one network road classification (ONRC). This section is 0.23 km in length
	Great South Road is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Great South Road.			
	Great South Road connects SH22 at its northern end to State Highway 1 at its southern end. The road is primarily used as a through route, although there are a number of rural residential, industrial and rural lifestyle properties along its length.			
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.			
	CAS records eleven crashes on this section of Great South Road including 1 fatal crash, 1 serious crash, 5 minor injury crashes and 4 non-injury crashes. Therefore, there have been 2 Death and Serious Injury (DSI) crashes.	CAS records nineteen crashes on this section of Great South Road including 3 serious crash, 7 minor injury crashes and 9 non-injury crashes. Therefore, there have been 3 Death and Serious Injury (DSI) crashes.	CAS records one crash on this section of Great South Road including 1 non-injury crash. Therefore, there have been no Death and Serious Injury (DSI) crashes.	CAS records one crash on this section of Great South Road including 1 non-injury crash. Therefore, there have been no Death and Serious Injury (DSI) crashes.
(e) the characteristics	The following characteristics for each section of Great South Road were determined using a combination of site drive-over footage and geomaps information			

of the road and roadsides; and	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 m to 1.0m) • **Roadside Hazards (in both directions)**: High	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and wide shoulder (>1.0 m to 2.0m) • **Roadside Hazards (in both directions)**: High	• **Road stereotype:** Two lane undivided • **Road Alignment:** Curved • **Carriage way Width:** Medium lane (3.0 to 3.5 m) and very wide shoulder>2.0m) • **Roadside Hazards (in both directions):** Severe	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and wide shoulder (>1.0 m to 2.0m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:			
	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density:** 2 to <5 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density:** 1 to <2 access per km	• **Intersection density**: 2 to <3 intersection per km • **Access density:** 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 2,020 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,392 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,481 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,481 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Great South Road.			
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.			

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Great South Road is: • 100 km/h between SH22 and and 230m north of Mill Road (section 1 and 2) • 60 km/h between 230m north of Mill Road and 230m south of Mill Road (section 3) • 100 km/h between 230m south of Mill Road and the southern end of Great South Road (section 4)
MegaMaps Mean Operating Speed (km/h)	Great South Road has a mean operating speed of: • 73 km/h between SH22 and 500m south of Runciman Road (section 1) • 81 km/h between 500m south of Runciman Road and 230m north of Mill Road (section 2)

	• 60 km/h between 230m north of Mill Road and 230m south of Mill Road (section 3) • 60 km/h between 230m south of Mill Road and the southern end of Great South Road (section 4)
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **SH22: 6**0 km/h • **Pitt Road**: 100 km/h (proposed SaAS 80 km/h) • **Quarry Road**: 100 km/h (proposed SaAS 80 km/h) • **Runciman Road**: 100 km/h (proposed SaAS 80 km/h) • **Waimanu Awa Road**: 100 km/h (proposed SaAS 60 km/h) • **Ararimu Road**: 60 km/h • **Kern Road**: 100 km/h (proposed SaAS 60 km/h) • **Ambush Road**: 100 km/h (proposed SaAS 40 km/h) • **Flay Road**: 100 km/h (proposed SaAS 60 km/h) • **Helland Drive**: 100 km/h (proposed SaAS 60 km/h) • **Ingram Road**: 100 km/h (proposed SaAS 60 km/h) • **Bombay Road**: 100 km/h (proposed SaAS 60 km/h) • **Mill Road**: 60 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	**Section 1**	**Section 2**	**Section 3**	**Section 4**
Crash Analysis Period (years)	5	5	5	5
Total injury crashes during period	7	10	0	0
DSI crashes during period	2	3	0	**0**
Corridor Length (km)	2.18	7.85	0.46	0.23
Annual Daily Traffic	2,020	1,392	1,481	1,481

- Section 1
  - The Collective Risk score is 0.18. For rural areas this corresponds to a Collective Risk band of **Medium-High**
  - The Personal Risk score is 24.9. For rural areas this corresponds to a Personal Risk band of **High**
- Section 2
  - The Collective Risk score is 0.08. For rural areas this corresponds to a Collective Risk band of **Medium**
  - The Personal Risk score is 15.0. For rural areas this corresponds to a Personal Risk band of **High**
- Section 3
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 4

- The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
- The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3		Section4	
	Category	**Score**	**Category**	**Score**	**Category**	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Curved	1.80	Curved	1.80	Curved	1.80	Straight	1.00
Carriageway width	Medium lane, narrow shoulder	1.45	Medium lane, wide shoulder	1.00	Medium lane, very wide shoulder	0.78	Medium lane, wide shoulder	1.00
Roadside hazards (in both directions)	High	2.28	High	2.28	Severe	2.80	Moderate	1.43
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	2 to < 3	1.25	1 to <2	1.15	1 to <2	1.15	2 to < 3	1.25
Access density (per km)	2 to <5	1.03	2 to <5	1.03	1 to <2	1.01	2 to <5	1.03
Traffic volume	1,000 to < 6,000 vpd	1.4	1,000 to < 6,000 vpd	1.4	1,000 to < 6,000 vpd	1.4	1,000 to < 6,000 vpd	1.4

- Section 1: The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 3: The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 4: The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between SH22 and 500m south of Runciman Road (section 1)

- Less than 80 km/h between 500m south of Runciman Road and 230m north of Mill Road (section 2)
- Less than 80 km/h between 230m north of Mill Road and 230m south of Mill Road (section 3)
- 80 km/h between 230m south of Mill Road and southern end of Great South Road (section 4)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *80 km/h between SH22 and 230m north of Mill Road (section 1 and 2)*
- *60 km/h between 230m north of Mill Road and the southern end of Great South Road (section 3 and 4)*

Great South Road is a self-explaining road as the mean operating speeds (60 km/h to 81 km/h) are already similar to, or below, the proposed safe and appropriate speeds. Engineering up of Great South Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the section 1 and 2 due to the medium width and curved nature of the road, and the existing low operating speeds (73 to 81 km/h). These factors contribute to the sections 'Medium-High' IRR score, making it a high risk section of road.[2]

It is proposed to maintain the existing 60 km/h speed limit for the third section of Great South Road.

A proposed speed limit of 60 km/h was selected for the fourth section of Great South Road due to its very short length (230m) so it was considered appropriate to match the 60 km/h speed limit on the adjacent section of road (section 3).

After considering all the above factors, the existing speed limit of 100 km/h on sections 1, 2 and 4 of Great South Road, is not considered to be a safe and appropriate speed limit for these sections of road.

The proposed safe and appropriate speed limits for Great South Road are higher than the Speed Management Guide (<80 km/h) for sections 1 and 2; however, this is considered acceptable due to the nature and function of the road as it is a former state highway with a good geometry. A lower speed limit is unlikely to be credible to motorists and the existing operating speeds (73 to 81 km/h) supports the reduction.

The proposed safe and appropriate speed for Section 4 is lower than the Speed Management Guide (80 km/h), however this is considered acceptable due to it being a very short section of road so it is desirable to match the speed limit on the adjacent section of Great South Road to provide a consistent speed limit on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Hamlin Road (Ardmore)

The speed limit on Hamlin Road, Ardmore has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hamlin Road is classified as a primary collector road under the one network road classification (ONRC). Hamlin Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Hamlin Road.
	Hamlin Road connects to Mill Road at the western end and Papakura-Clevedon Road at the eastern end. The primary use of the road is to provide for through traffic, but it also provides access to a number of rural residential properties and businesses. An access to Ardmore Airport is located on Hamlin Road. Hamlin Road is approximately 2920m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 12 crashes between 2016 and 2020 on Hamlin Road including one Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hamlin Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1608 vehicles per day (vpd). This level of traffic volume is consistent with the rural, primary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Hamlin Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Hamlin Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Hamlin Road has a mean operating speed of 65 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Mill Road**: 80 km/h • **Papakura-Clevedon Road**: 100 km/h (proposed SAAS 80 km/h) • **Village Way**: 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	6
DSI crashes during the period	1
Corridor Length (km)	2.92
Annual Daily Traffic	1608

The Collective Risk score is 0.068, and the Personal Risk score is 11.7. For rural areas this corresponds to a Collective Risk band of **Low-Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Hamlin Road

Hamlin Road is a self-explaining road as the mean operating speed (65 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Hamlin Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to the curved nature of the road, moderate roadside hazards, primary collector function and its existing operating speed (65 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Hamlin Road in Ardmore, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Hamlin Road is 80 km/h along the full length of Hamlin Road.

This is higher than the Speed Management Guide recommended speed (<80 km/h), but is considered appropriate based on the road environment and function of the road within the wider road network. It will also provide a more consistent speed limit across the network and a lower speed limit is considered unlikely to be credible to motorists given the existing operating speeds (65 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

<u>Speed Limit Assessment</u> – Harkness Road (Papakura)

The speed limit on Harkness Road, Papakura has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Harkness Road is classified as an Access road under the one network road classification (ONRC). Harkness Road is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Harkness Road connects to Bryant Road to the east and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Harkness Road is approximately 0.29 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Harkness Road were determined using a combination of Megamaps data and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards**: Moderate with frequent roadside vegetation.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 13 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Harkness Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Harkness Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Harkness Road has a mean operating speed of 30 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Bryant Road:** 60 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.29
Annual Daily Traffic	41

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.33. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 60km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Harkness Road is a self-explaining road as the recorded operating speed (30 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Harkness Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The speed limit on Bryant Road was reduced from 100 km/h to 60 km/h as part of the 2019 bylaw.

A proposed speed limit of 60 km/h was selected for Harkness Road due to the narrow nature of the road, its existing low operating speed (21 km/h), and to provide a consistent speed limit with its connecting road.

After considering all the above factors, the existing speed limit of 100 km/h on Harkness Road in Pukekohe, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Harrison Road, Drury

The speed limit on Harrison Road, Drury has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Harrison Road is classified as an access road under the one network road classification (ONRC). Harrison Road is two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Harrison Road.
	Harrison Road connects to Quarry Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Harrison Road is approximately 600m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Harrison Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Harrison Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 83 vehicles per day (vpd). No AT traffic count data is available for this road. This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Harrison Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Harrison Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Harrison Road has a mean operating speed of 26 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Quarry Road**: 100km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.60
Annual Daily Traffic	83

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside Hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Harrison Road

Harrison Road is a self-explaining road as the mean operating speed (26 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Harrison Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, its access function and its existing low operating speed (26 km/h).

After considering all the above factors, the speed limit of 80 km/h on Harrison Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommended speed (80 km/h) but this is considered appropriate based on the road environment, nature and function of the road. It also aligns with the current mean operating speeds (26 km/h) on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Harry Dodd Road (Drury)

The speed limit on Harry Dodd Road, Drury, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Harry Dodd Road is classified as an access road under the one network road classification (ONRC). Harry Dodd Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Harry Dodd Road.
	Harry Dodd Road connects to Appleby Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Harry Dodd Road is approximately 510m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Harry Dodd Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Harry Dodd Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 83 vehicles per day (vpd). No AT Traffic data is available for this road, however this level of traffic volume is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Harry Dodd Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Harry Dodd Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Harry Dodd Road has a mean operating speed of 34 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Appleby Road: 8**0 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.51
Annual Daily Traffic	83

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Harry Dodd Road.

Harry Dodd Road is a self-explaining road as the mean operating speed (34 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Harry Dodd Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high roadside hazards, its access function and its existing low operating speed (34 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 80 km/h on Harry Dodd Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the low operating speed (34 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Harry Dreadon Road (Opaheke)

The speed limit on Harry Dreadon Road, Opaheke has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Harry Dreadon Road is classified as an Access road under the one network road classification (ONRC). Harry Dreadon Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Harry Dreadon Road.
	Harry Dreadon Road connects to Ponga Road, at the northern end of Harry Dreadon Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Harry Dreadon Road is approximately 770 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Harry Dreadon Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Harry Dreadon Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 197 vehicles per day (vpd). This level of traffic volume is consistent with the nature and function of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Harry Dreadon Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Harry Dreadon Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Harry Dreadon Road has a mean operating speed of 38 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 80 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.77
Annual Daily Traffic	197

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.70. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Harry Dreadon Road

Harry Dreadon Road is a self-explaining road as the mean operating speed (38 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Harry Dreadon Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to narrow and curved nature of the road, high roadside hazards, its access function and its existing low operating speed (38 km/h). These features contribute to the roads "Medium-High" IRR score, making it a High risk road.[1]

After considering all the above factors, the speed limit of 80 km/h on Harry Dreadon Road in Opaheke, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Harry Dreadon Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (38 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Hawthorne Lane (Kingseat)

The speed limit on Hawthorne Lane, Kingseat has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hawthorne Lane is classified as an Access road under the one network road classification (ONRC). Hawthorne Lane is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Hawthorne Lane connects to Batty Road to the west and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Hawthorne Lane is approximately 0.82 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hawthorne Lane were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 114 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Hawthorne Lane.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Hawthorne Lane is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Hawthorne Lane has a mean operating speed of 33 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Batty Road:** 60 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.82
Annual Daily Traffic	114

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.28. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Hawthorne Lane is a self-explaining road as the recorded operating speed (33 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Hawthorne Lane was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The speed limit on Batty Road was reduced from 100 km/h to 60 km/h as part of the 2019 bylaw.

A proposed speed limit of 60 km/h was selected for Hawthorne Lane due to the narrow nature of the road, its existing low operating speed (34 km/h), and for consistency with the road it connects to.

After considering all the above factors, the existing speed limit of 100 km/h on Hawthorne Lane in Kingseat, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Hays Creek Road (Hunua)

The speed limit on Hays Creek Road, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hays Creek Road is classified as an Access road under the one network road classification (ONRC). Hays Creek Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Hays Creek Road.
	Hays Creek Road connects to Hunua Road, at the southern end of Hays Creek Road. The primary use of the road is to provide access to rural residential properties. This section of Hays Creek Road is approximately 160 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Hays Creek Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hays Creek Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: <1 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was not available in MegaMaps but is estimated to be less than 10 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Hays Creek Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Hays Creek Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	No mean speed data is available for Hays Creek Road but it is expected the mean operating speed is < 20 km/h based on the nature of the road.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road**: 80 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.16
Annual Daily Traffic	10

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	< 1	1.00
Access density (per km)	< 1	1.00
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Hays Creek Road.

Hays Creek Road is a self-explaining road as the mean operating speed is estimated to be below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Hays Creek Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved, unsealed nature of the road. These features contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Hays Creek Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The recommended safe and appropriate speed limit for Hays Creek Road aligns with the Speed Management Guide (<80 km/h) and matches the proposed limit on the adjacent road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Head Road (Hunua)

The speed limit on Head Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Head Road is classified as an access road under the one network road classification (ONRC). Head Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Head Road.
	Head Road connects to Hunua Road at the southern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Head Road is approximately 280m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Head Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Head Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Head Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Head Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Head Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.28
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Head Road.

Head Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Head Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high roadside hazards, and its existing mean operating speed (20 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Head Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Heald Road (Hunua)

The speed limit on Heald Road, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Heald Road is classified as a Secondary Collector under the one network road classification (ONRC). Heald Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Heald Road.
	Heald Road connects to Hunua Road at the northern end of Heald Road and to Cowan Road at the southern end of the road. The primary use of the road is to provide access to rural residential properties. This section of Heald Road is approximately 2.6 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Heald Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Heald Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 156 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Heald Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Heald Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Heald Road has a mean operating speed of 70 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Cowan Road**: 100 km/h (proposed SaAS 60 km/h) • **Hunua Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	2.60
Annual Daily Traffic	156

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.58. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Heald Road

Heald Road has a mean operating speed of 70 km/h, which is below the existing 100 km/h speed limit on the road. Engineering up of Heald Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, moderate roadside hazards and to match the adjacent road speed limit proposed on Cowan Road.

After considering all the above factors, the speed limit of 100 km/h on Heald Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h). The main reason a lower speed limit is being recommended is to provide consistency with the speed limit on the adjacent road and because it is a narrow road with no centreline so a higher speed limit is not considered appropriate.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Helland Drive (Bombay)

The speed limit on Helland Drive, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Helland Drive is classified as a secondary collector road under the one network road classification (ONRC), but functions as an access road. Helland Drive is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Helland Drive.
	Helland Drive connects to Great South Road at the eastern end of Helland Drive. The primary use of the road is to provide access to rural residential properties and along the road. Helland Drive is approximately 180 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Helland Drive therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Helland Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 1 to <2 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 228 vehicles per day (vpd). This level of traffic volume is consistent with the rural, secondary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Helland Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Helland Drive is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Helland Drive has a mean operating speed of 20 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Great South Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.18
Annual Daily Traffic	228

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	1 to <2	1.01
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Helland Drive

Helland Drive is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Helland Drive was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the medium width and curved alignment of the road, the high risk roadside hazards and its existing mean operating speed (20 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Helland Drive in Bombay, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Highridge Road Extension (Clevedon)

The speed limit on Highridge Road Extension, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Highridge Road Extension is classified as an access road under the one network road classification (ONRC). Highridge Road Extension is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Highridge Road Extension.
	Highridge Road Extension connects to Highridge Road at the southern end and is a no exit street. The primary use of the road is to provide access to rural residential properties. Highridge Road Extension is approximately 770m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Highridge Road Extension therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Highridge Road Extension were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 20 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Highridge Road Extension.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Highridge Road Extension is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Highridge Road Extension has a mean operating speed of 50 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Highridge Road**: 100 km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.769
Annual Daily Traffic	20

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Highridge Road Extension

Highridge Road Extension is a self-explaining road as the mean operating speed (50 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Highridge Road Extension was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, unsealed and curved nature of the road, and its existing low operating speed (50 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Highridge Road Extension in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low operating speed (50 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Highridge Road (Clevedon)

The speed limit on Highridge Road, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Highridge Road is classified as an access road under the one network road classification (ONRC). Highridge Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Highridge Road.
	Highridge Road connects to Monument Road, Sky High Road and McGregor Road at the south western end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Highridge Road is approximately 1130m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Highridge Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Highridge Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Tortuous • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Highridge Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Highridge Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Highridge Road has a mean operating speed of 48 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Monument Road**: 100 km/h (proposed SAAS 60 km/h) • **McGregor Road**: 100 km/h (proposed SAAS 60 km/h) • **Skyhigh Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.13
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Tortuous	6.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.2. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Highridge Road

Highridge Road is a self-explaining road as the mean operating speed (48 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Highridge Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, tortuous nature of the road, high roadside hazards, its access function and its existing low operating speed (48 km/h). These factors also contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Highridge Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low operating speed (48 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Hilltop Road (Pukekohe)

The speed limit on Hilltop Road, Pukekohe has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hilltop Road is classified as a secondary collector road under the one network road classification (ONRC). Hilltop Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclists amenities along this road. There is no on-street parking along Hilltop Road.
	Hilltop Road connects to Waiuku Road and Douglas Road at its northern end and to Bayly Road at its southern end. The road is primarily used as a through route, although there are a number of rural residential properties along its length. Hilltop Road is approximately 1.91 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one crash between 2016 and 2020: one non injury crash. Hilltop Road therefore has no Death and Serious Injuries (DSI's). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hilltop Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersections per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 218 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Hilltop Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Hilltop Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Hilltop Road has a mean operating speed of 50km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Bayly Road**: 80 km/h • **Middleton Road**: 60km/h • **Blake Road:** 60km/h • **Waiuku Road:** 80km/h • **Douglas Road:** 60km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**

DSI crash number	**0**
Corridor Length (km)	1.91
Annual Daily Traffic	218

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to < 2 per km	1.20
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.39. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Hilltop Road is a self-explaining road as the recorded operating speed (50 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected for Hilltop road due to its existing low operating speeds and for consistency with speed limits in the surrounding area.

After considering all the above factors, the existing speed limit of 100 km/h on Hilltop Road in Pukekohe, is not considered to be a safe and appropriate speed limit for this section of road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Hillview Road (Bombay)

The speed limit on Hillview Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hillview Road is classified as a secondary collector road under the one network road classification (ONRC). Hillview Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Hillview Road.
	Hillview Road connects to Portsmouth Road and Barber Road at its southern end and Ararimu Road at the northern end. The primary use of the road is to provide access to rural residential properties along the road, but it also carries some through traffic. Hillview Road is approximately 4.47km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records four crashes between 2016 and 2020, including 1 serious and 3 minor injury crashes. Hillview Road therefore has one Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hillview Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 480 vehicles per day (vpd). This level of traffic volume is consistent with the rural, secondary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Hillview Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Hillview Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Hillview Road has a mean operating speed of 65 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 60 km/h • **Portsmouth Road**: 100 km/h (proposed SaAS 60 km/h) • **Barber Road**: 100 km/h (proposed SaAS 60 km/h) • **Dale South Road**: 100 km/h (proposed SaAS 60 km/h) • **Stone Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	4
DSI crashes during the period	1
Corridor Length (km)	4.47
Annual Daily Traffic	480

The Collective Risk score is 0.04, and the Personal Risk score is 25.5. For rural areas this corresponds to a Collective Risk band of **Low-Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to 5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Hillview Road

The existing operating speed on Hillview Road (65 km/h) is already significantly below the existing 100 km/h speed limit. Engineering up of Hillview Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved alignment of the road, moderate roadside hazards and its existing operating speed (65 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Hillview Road in Bombay, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h). The mean operating speed (65 km/h) is slightly above the proposed speed limit, but this is not considered a significant issue.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Hiwinui Road (Ararimu)

The speed limit on Hiwinui Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hiwinui Road is classified as a secondary collector road under the one network road classification (ONRC) but functions as an access road. Hiwinui Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Hiwinui Road.
	Hiwinui Road connects to Ararimu Road, at the southern end of Hiwinui Road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Hiwinui Road is approximately 510m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Hiwinui Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hiwinui Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both diections)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 228 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Hiwinui Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Hiwinui Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Hiwinui Road has a mean operating speed of 42 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.51
Annual Daily Traffic	228

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Hiwinui Road

Hiwinui Road is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Hiwinui Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80km/h however the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road, the high number of roadside hazards, its function as an access road and its existing low operating speed (42 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Hiwinui Road in Ararimu, is not considered to be a safe and appropriate speed limit for this road.

The low operating speed (42 km/h) supports the proposed speed limit being lower that that recommended by the Speed Management Guidelines.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Holdens Road (Clevedon)

The speed limit on Holdens Road, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Holdens Road is classified as a secondary collector road under the one network road classification (ONRC) but functions as an access road. Holdens Road is a two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Holdens Road.
	Holdens Road connects to Clevedon-Kawakawa Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Holdens Road is approximately 1.03 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Holdens Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Holdens Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 228 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Holdens Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Holdens Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Holdens Road has a mean operating speed of 22 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Clevedon-Kawakawa Road**: 100km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.03
Annual Daily Traffic	228

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane Undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.2
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Holdens Road.

Holdens Road is a self-explaining road as the mean operating speed (22 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Holdens Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high number of roadside hazards, its access function and its existing low operating speed (22 km/h). The narrow, two-lane undivided and curved nature of Holdens Road also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Holdens Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Holdens Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (22 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Hunua Road (Hunua)

Hunua Road, Hunua, is divided into four sections and outlined as follows: [1]

- Section 1: Hunua Road between 90m east of Dominion Road and 2,090m east of Dominion Road
- Section 2: Hunua Road between 2,090m east of Dominion Road and 700m west of Middleton Road
- Section 3: Hunua Road between 700m west of Middleton Road and 130m west of the western end of Lockwood Road
- Section 4: Hunua Road between 120m east of the eastern end of Lockwood Road and Moumoukai Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Hunua Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table – 1-1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of Hunua Road is classified as an Arterial under the one network road classification (ONRC). This section is 2.00 km in length	This section of Hunua Road is classified as an Arterial under the one network road classification (ONRC). This section is 2.79 km in length	This section of Hunua Road is classified as an Arterial under the ONRC. This section is 5.55 km in length

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

<table>
<tr><td></td><td colspan="3">Hunua Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Hunua Road.

Hunua Road is primarily used as a through route, though there are a number of residential properties that it also provides access to and there is a large Quarry located on the road.</td></tr>
<tr><td rowspan="2">(d) crash risk for all road users; and</td><td colspan="3">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td>CAS records 11 crashes on this section of Hunua Road: 1 serious injury, 3 minor injuries and 7 non-injury crashes. Therefore, this section of road has one Death and Serious Injury (DSI) crashes.</td><td>CAS records 15 crashes on this section of Hunua Road: 1 serious injury, 7 minor and 7 non-injury crashes. Therefore, this section of road has 1 Death and Serious Injury (DSI) crashes.</td><td>CAS records 9 crashes on this section of Hunua Road: 5 minor injury and 4 non-injury. Therefore, this section of road has no Death and Serious Injury (DSI) crashes.</td></tr>
<tr><td rowspan="2">(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of Hunua Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td>Road stereotype: Two lane undivided
Road Alignment: Torturous
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): Severe</td><td>Road stereotype: Two lane undivided
Road Alignment: Torturous
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): Severe</td><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): High</td></tr>
</table>

(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *“Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *“Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *“Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:		
	• **Intersection density**: < 1 intersection per km • **Access density**: 2 to <5 accesses per km	• **Intersection density**: < 1 intersection per km • **Access density**: 2 to <5 accesses per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,694 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,694 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,522 vehicles per day (vpd).
(i) any planned modification to the road; and	There are no known planned modifications to Hunua Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

Table 1-2: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**
	Section 4 *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	This section of Hunua Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 5.96km in length
	Hunua Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Hunua Road. Hunua Road is primarily used as a through route, though there are a number of residential properties that it also provides access to.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered. CAS records 11 crashes on this section of Hunua Road: 2 serious injury, 2 minor injury and 7 non-injury crashes. Therefore, this section of road has two Death and Serious Injury (DSI) crash.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Hunua Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (< 0.5m) • **Roadside Hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,017 vehicles per day (vpd).
(i) any planned modification to the road; and	There are no known planned modifications to Hunua Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1-1 and 1-2, further relevant information has been assessed and is summarised in Table 2 below.

Table 2-1 Additional Relevant Factors to Consider

Factor	**Comment**
Existing Speed Limit	The existing speed limit on Hunua Road is: • 80 km/h between 90m east of Dominion Road and 2,090m east of Dominion Road (section 1). • 100 km/h between 2,090m east of Dominion Road and 130m west of the western end of Lockwood Road (section 2 and 3). • 100 km/h between 120m east of the eastern end of Lockwood Road and Moumoukai Road (section 4).
MegaMaps Mean Operating Speed (km/h)	Hunua Road has a mean operating speed of: • 60 km/h (section 1 and 2) • 75 km/h (section 3) • 77 km/h (section 4)

Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Hays Creek Road**: 100 km/h (proposed SaAS 60 km/h) • **Middleton Road**: 100 km/h (proposed SaAS 60 km/h) • **Gillespie Road**: 100 km/h (proposed SaAS 60 km/h) • **Jones Road**: 100 km/h (proposed SaAS 60 km/h) • **Ponga Road**: 100 km/h (proposed SaAS 60 km/h) • **Heald Road**: 100 km/h (proposed SaAS 60 km/h) • **John Hill Road**: 100 km/h (proposed SaAS 80 km/h) • **Hunua Road (between 130m west of the western end of Lockwood Road and 120m east of the eastern end of Lockwood Road)**: 50 km/h • **Wattie Road**: 100 km/h (proposed SaAS 40 km/h) • **Caitcheon Road**: 100 km/h (proposed SaAS 40 km/h) • **Trail Road**: 100 km/h (proposed SaAS 40 km/h) • **Head Road**: 100 km/h (proposed SaAS 60 km/h) • **Sowerby Heights**: 100 km/h (proposed SaAS 60 km/h) • **Moumoukai Road**: 100 km/h (proposed SaAS 60 km/h) • **Paparimu Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	**Section 1**	**Section 2**	**Section 3**
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	4	8	5
DSI crashes during the period	1	1	0
Corridor Length (km)	2.00	2.79	5.50
Annual Daily Traffic	1,694	1,694	1,522

Required Information for safety metrics calculations	**Section 4**
Crash Analysis Period (years)	5
Total injury crashes during period	4
DSI crashes during the period	2
Corridor Length (km)	5.96
Annual Daily Traffic	1,017

- Section 1
    - The Collective Risk score is 0.1. For rural areas this corresponds to a Collective Risk band of **Medium.**
    - The Personal Risk score is 16.2. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
    - The Collective Risk score is 0.07 For rural areas this corresponds to a Collective Risk band of **Medium.**
    - The Personal Risk score is 11.6. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 3
    - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low.**
    - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low.**
- Section 4
    - The Collective Risk score is 0.07 For rural areas this corresponds to a Collective Risk band of **Low-Medium**
    - The Personal Risk score is 18.1. For rural areas this corresponds to a Personal Risk band of **High**

Step 3: Calculate the IRR score

Feature	**Section 1**		**Section2**		**Section3**	
	Category	**Score**	**Category**	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Tortuous	6.00	Tortuous	6.00	Curved	1.8
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside Hazards (in both directions)	Severe	2.8	Severe	2.8	High	2.28
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	< 1	1.00	< 1	1.00	1 to <2	1.15
Access density (per km)	2 to <5	1.03	2 to <5	1.03	2 to <5	1.03
Traffic volume	1,000 to < 6,000 vpd	1.40	1,000 to < 6,000 vpd	1.40	1,000 to < 6,000 vpd	1.40

Feature	Section 4	
	Category	**Score**
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside Hazards (in both directions)	Severe	2.8
Adjacent land use	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	1,000 to < 6,000 vpd	1.40

- Section 1: The Infrastructure Risk Rating Score is 2.4. For rural areas this corresponds to an IRR band of **High.**
- Section 2: The Infrastructure Risk Rating Score is 2.4. For rural areas this corresponds to an IRR band of **High**
- Section 3: The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High.**
- Section 4: The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between 90m east of Dominion Road and 130m west of the western end of Lockwood Road (sections 1,2 and 3)
- Less than 80 km/h between 120m east of the eastern end of Lockwood Road and Moumoukai Road (section 4)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation for Hunua Road is:

- *60 km/h between Hunua Road between 90m east of Dominion Road and 2,090m east of Dominion Road (section 1)*
- *60 km/h between 2,090m east of Dominion Road and 700m west of Middleton Road (section 2)*
- *80 km/h between 700m west of Middleton Road and 130m west of the western end of Lockwood Road (section 3)*
- *80 km/h between 120m east of the eastern end of Lockwood Road and Moumoukai Road (section 4)*

Hunua Road is a self-explaining road as the mean operating speeds for each section are already at or below the proposed safe and appropriate speeds, despite the existing higher speed limits. Engineering up of Hunua Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the first and second sections of road due to the tortuous alignment, severe roadside hazards and the poor crash history. These features contribute to the sections **'High'** IRR score, making them high-risk section of road.[2] Furthermore, these sections have a **'Medium'** and '**High'** collective and personal risk respectively. The operating speed on these sections of road (60 km/h) supports the proposed speed limit.

A proposed speed limit of 80 km/h was selected for the third and fourth sections of road due to the medium width and curved alignment of the road. These features contribute to the sections **'Medium-High'** IRR score, also making them high-risk sections of road. The operating speed on these section of road (75 to 77 km/h) supports a proposed 80 km/h speed limit as a lower speed limit is unlikely to be credible to motorists or supported by the public.

After considering all the above factors, the existing speed limit of 80 km/h and 100 km/h on Hunua Road in Hunua is not considered to be a safe and appropriate speed limit.

The proposed safe and appropriate speed limits for Hunua Road aligns with the Speed Management Guide (< 80 km/h) recommendation (for sections 1 and 2) but is higher than the recommendation (< 80 km/h) for sections 3 and 4. However, these proposed speed limits are considered reasonable given the nature of the road and the existing operating speeds support this.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Ingram Road (Bombay)

The speed limit on Ingram Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ingram Road is classified as a secondary collector road under the one network road classification (ONRC). Ingram Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Ingram Road.
	Ingram Road connects to Great South Road at the eastern end of Ingram Road and is a no exit road. The primary use of the road is to provide access to rural residential properties and various businesses along the road. Ingram Road is approximately 2.06km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Ingram Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ingram Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 166 vehicles per day (vpd). This level of traffic volume is consistent with the rural, secondary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Ingram Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Ingram Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Ingram Road has a mean operating speed of 52 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Great South Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	2.06
Annual Daily Traffic	166

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Ingram Road

Ingram Road is a self-explaining road as the mean operating speed (52 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Ingram Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved alignment of the road, the high risk roadside hazards, and its existing mean operating speed (52 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Ingram Road in Bombay, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (52 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Jack Paterson Road (Opaheke)

The speed limit on Jack Paterson Road, Opaheke has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Jack Paterson Road is classified as an Access road under the one network road classification (ONRC). Jack Paterson Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Jack Paterson Road.
	Jack Paterson Road connects to Ponga Road, at the northern end of Jack Paterson Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Jack Paterson Road is approximately 550 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Jack Paterson Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Jack Paterson Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 93 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Jack Paterson Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Jack Paterson Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Jack Paterson Road has a mean operating speed of 30 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 80 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.55
Annual Daily Traffic	93

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.33. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Jack Paterson Road

Jack Paterson Road is a self-explaining road as the mean operating speed (30 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Jack Paterson Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to narrow and curved nature of the road, its access function and its existing low operating speed (30 km/h).

After considering all the above factors, the speed limit of 80 km/h on Jack Paterson Road in Opaheke, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h), but is considered appropriate given the nature and function of the road. The main reasons a lower speed limit is being recommended is to provide consistency with the speed limit on the adjacent road and the low operating speed (30 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – John Hill Road, Hunua

The speed limit on John Hill Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	John Hill Road is classified as a secondary collector road under the one network road classification (ONRC). John Hill Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along John Hill Road.
	John Hill Road connects to Hunua Road at the southern end and Skyhigh Road at the northern end of the road. The primary use of the road is to provide access to rural residential properties. John Hill Road is approximately 1,540m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records five crashes between 2016 and 2020, of which 2 were injury crashes. John Hill Road has one Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for John Hill Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 286 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to John Hill Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on John Hill Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	John Hill Road has a mean operating speed of 68 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h) • **Skyhigh Road:** 100 km/h (proposed SaAS 80 km/h) • **White Road:** 100 km/h (proposed SaAS 80 km/h) • **Redman Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	2
DSI crashes during the period	1
Corridor Length (km)	1.54
Annual Daily Traffic	286

The Collective Risk score is 0.13, and the Personal Risk score is 124.4. For rural areas this corresponds to a Collective Risk band of **Medium-High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of John Hill Road.

John Hill Road is a self-explaining road as the mean operating speed (68 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of John Hill Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected to match the speed limit on adjoining road and provide a more consistent and logical speed limit across the network. Additionally, the current operating speed (68 km/h) suggests a lower speed limit is unlikely to be credible to motorists.

The proposed safe and appropriate speed limit is higher than the Speed Management Guide (<80 km/h) but this is considered acceptable for the reasons outlined above including the existing operating speed (68 km/h) on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Jollie Road, Hunua

The speed limit on Jollie Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Jollie Road is classified as an access road under the one network road classification (ONRC). Jollie Road is an unsealed road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Jollie Road.
	Jollie Road connects to White Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Jollie Road is approximately 550m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Jollie Road had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Jollie Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was unavailable for Jollie Road; however, it only provides access to 3 rural properties so is likely to have a traffic volume less than 50 vpd.
(i) any planned modification to the road; and	There are no known planned modifications to Jollie Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Jollie Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	MegaMaps Free Flow Speed data was unavailable but based on the nature of het road operating speeds are expected to be less than 30 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **White Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.55
Annual Daily Traffic	Approx. 50

The Collective Risk score is N/A, and the Personal Risk score is N/A. For rural areas this corresponds to a Collective Risk band of **High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.2
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Jollie Road.

Jollie Road is a self-explaining road as the mean operating speed is likely to be below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Jollie Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow and unsealed nature of the road and its access function. These features also contribute to the roads "Medium-High" IRR score, making it a medium risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Jollie Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the low operating speeds supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Jones Road, Hunua

The speed limit on Jones Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Jones Road is classified as an access road under the one network road classification (ONRC). Jones Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Jones Road.
	Jones Road connects to Hunua Road at the southern end and Creightons Road at the northern end of the road. The primary use of the road is to provide access to rural residential properties. Jones Road is approximately 4,210m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non-injury crash between 2016 and 2020. Jones Road had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Jones Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Tortuous • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 156 vehicles per day (vpd). 7-day traffic count data recorded a higher count of 376 vpd, but both counts are consistent with a low volume rural road.
(i) any planned modification to the road; and	There are no known planned modifications to Jones Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Jones Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Jones Road has a mean operating speed of 53 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h) • **Creightons Road (west of Jones Road):** 100 km/h (proposed SaAS 60 km/h) • **Creightons Road (east of Jones Road):** 100 km/h (proposed SaAS 80 km/h) • **Garvie Road:** 100km/h (proposed SaAS 60km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	4.21
Annual Daily Traffic	156

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Tortuous	6.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.0
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Jones Road.

Jones Road is a self-explaining road as the mean operating speed (53 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Jones Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and tortuous nature of the road, its access function, the high roadside hazards and its existing mean operating speed (53 km/h). These features also contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Jones Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the mean operating speed (53 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Judge Richardson Drive (Opaheke)

The speed limit on Judge Richardson Drive, Opaheke has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Judge Richardson Drive is classified as an Access road under the one network road classification (ONRC). Judge Richardson Drive is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is some on-street parking along Judge Richardson Drive.
	Judge Richardson Drive connects to Ponga Road, at the southern end of Judge Richardson Drive and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Judge Richardson Drive is approximately 420 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Judge Richardson Drive therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Judge Richardson Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 114 vehicles per day (vpd). This level of traffic volume is consistent with the nature and function of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Judge Richardson Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Judge Richardson Drive is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Judge Richardson Drive has a mean operating speed of 32 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 80 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.42
Annual Daily Traffic	114

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Judge Richardson Drive

Judge Richardson Drive is a self-explaining road as the mean operating speed (32 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Judge Richardson Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to curved nature of the road, its access function and its existing low operating speed (32 km/h). This speed limit also matches the proposed speed limit on the adjacent road, which improves legibility of road the network.

After considering all the above factors, the speed limit of 80 km/h on Judge Richardson Drive in Opaheke, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h). The main reason a lower speed limit is being proposed is to provide consistency with the speed limit on the adjacent road and the low operating speed (32 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Kanuka Road (Bombay)

The speed limit on Kanuka Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kanuka Road is classified as an access road under the one network road classification (ONRC). Kanuka Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Kanuka Road.
	This section of Kanuka Road connects to Paparata Road the the southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Kanuka Road is approximately 0.93 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Kanuka Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Kanuka Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Kanuka Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Kanuka Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Kanuka Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road:** 100km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.93
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to < 2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/hr for the full length of Kanuka Road.

Kanuka Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Kanuka Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, curved alignment, high risk roadside hazards, its access function and its existing low operating speed (20 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Kanuka Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Kanuka Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Kauri View Road (Opaheke)

The speed limit on Kauri View Road, Opaheke has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kauri View Road is classified as an Access road under the one network road classification (ONRC). Kauri View Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Kauri View Road.
	Kauri View Road connects to Coal Mine Road at the southern end of Kauri View Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Kauri View Road is approximately 370 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Kauri View Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Kauri View Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 93 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Kauri View Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Kauri View Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Kauri View Road has a mean operating speed of 32 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Coal Mine Road: 8**0 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.37
Annual Daily Traffic	93

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Kauri View Road.

Kauri View Road is a self-explaining road as the mean operating speed (32 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Kauri View Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to curved nature of the road, its access function, and its existing low operating speed (32 km/h).

After considering all the above factors, the speed limit of 80 km/h on Kauri View Road in Opaheke, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h). The main reason a lower speed limit is being recommended is to provide consistency with the speed limit on the adjacent road and the low operating speed (32 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Kawakawa Bay Coast Road (Whakatiwai)

Kawakawa Bay Coast Road, Whakatiwai, is divided into two sections and outlined as follows: [1]

1. Section 1: Kawakawa Bay Coast Road between 80m east of Karaka Road and Te Papa Road
2. Section 2: Kawakawa Bay Coast Road between Te Papa Road and eastern end of Kawakawa Bay Coast Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Kawakawa Bay Coast Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Kawakawa Bay Coast Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 1.16 km in length</td><td>This section of Kawakawa Bay Coast Road is classified as an Secondary Collector under the one network road classification (ONRC). This section is 2.08 km in length</td></tr>
<tr><td colspan="2">There are no pedestrian or cyclist amenities along this road. There are section of parking provided, particularly for boat trailer parking near boat ramps on the road. Kawakawa Bay Coast Road connects to Clevedon-Kawakawa Road and Kawakawa-Orere Road at its eastern end and is a no exit road.

Kawakawa Bay Coast Road is primarily used to access rural residential properties and the nearby beach for recreational activities.</td></tr>
<tr><td>(d) crash risk for all road users; and</td><td colspan="2">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	CAS records one crash on this section of Kawakawa Bay Coast Road. The crash was classified as a minor injury crash Therefore, there are no Death or Serious Injuries (DSI) crashes.	CAS records zero crashes on this section of Kawakawa Bay Coast Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Kawakawa Bay Coast Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Tortuous • **Carriageway Width**: Medium lane (3.0 to 3.5m) and narrow shoulder (0.5 to <1.0 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Tortuous • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: < 1 intersection per km • **Access density**: 2 to < 5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 463 vehicles per day (vpd). AT traffic counts on the road determined the ADT was 562 vpd.	The traffic volume in ADT was determined from MegaMaps as 361 vpd. AT traffic counts on the road determined the ADT was 562 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Kawakawa Bay Coast Road.	
(j) the views of interested persons and groups	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Kawakawa Bay Coast Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Kawakawa Bay Coast Road has a mean operating speed of: • 50 km/h between 100m east of Karaka Road and Te Papa Road. • 24km/h between Te Papa Road and the eastern end of Kawakawa Bay Coast Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Te Papa Road**: 100 km/h (proposed SAAS 60 km/h) • **Kawakawa Bay Coast Road (west of a point 80m east of Karaka Road)**: 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	1	0
DSI crashes during the period	0	0
Corridor Length (km)	1.16	2.08
Annual Daily Traffic	463	361

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**

    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
    - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Tortuous	6.00	Tortuous	6.00
Carriageway width	Medium lane, narrow shoulder	1.45	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43	Severe	2.80
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **High.**
- Section 2: The Infrastructure Risk Rating Score is 2.2. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between 100m east of Karaka Road and Te Papa Road (Section 1)
- Less than 80 km/h between Te Papa Road and the end of Kawakawa Bay Coast Road (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *60 km/h between 80m east of Karaka Road and Te Papa Road (Section 1)*
- *60 km/h between Te Papa Road and eastern end of Kawakawa Bay Coast Road (Section 2)*

Kawakawa Bay Coast Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Kawakawa Bay Coast Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the first section of road due to the tortuous alignment of the road and the low mean operating speed (50 km/h). These factors contribute to the sections '**High'** IRR score, making it a high-risk section of road.[2]

A proposed speed limit of 60 km/h was selected for the second section of road due to the tortuous alignment, severe risk roadside hazards, and the low mean operating speed (24 km/h). These factors contribute to the sections 'High' IRR score also making it a high risk section of road.

After considering all the above factors, the existing speed limit of 100 km/h on Kawakawa Bay Coast Road in Matakana, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Kawakawa Bay Coast Road aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Kawakawa-Orere Road (Kawakawa Bay)

Kawakawa-Orere Road, Kawakawa Bay, is divided into three section and outlined as follows: [1]

1. Section 1: Kawakawa-Orere Road between 500m south of Kawakawa Bay Coast Road and 1500m south of Kawakawa Bay Coast Road.
2. Section 2: Kawakawa-Orere between 1500m south of Kawakawa Bay Coast Road and 4340m south of Bertram Road
3. Section 3: Kawakawa-Orere Road between 4340m south of Bertram Road and the end of Kawakawa-Orere Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Kawakawa-Orere Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of Kawakawa-Orere Road is classified as an Arterial under the one network road classification (ONRC). This section is 1 km in length	This section of Kawakawa-Orere Road is classified as an Arterial under the one network road classification (ONRC). This section is 2.84 km in length	This section of Kawakawa-Orere Road is classified as an Arterial under the ONRC. This section is 5.06 km in length

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

<table>
<tr><td></td><td colspan="3">Kawakawa-Orere Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Kawakawa-Orere Road.

Kawakawa-Orere Road connects Kawakawa Bay and Ōrere Point. The road is primarily used as a through route, although there are a number of rural residential properties along its length.</td></tr>
<tr><td>(d) crash risk for all road users; and</td><td colspan="3">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td></td><td>CAS records five crashes on this section of Kawakawa-Orere Road: two non-injury crashes, two minor-injury crashes and one serious injury crash. Therefore this section of road has one Death and Serious Injuries (DSI) crash.</td><td>CAS records seven crashes on this section of Kawakawa-Orere Road: three non-injury crash, three minor-injury crashes and one serious injury crash. Therefore this section of road has one Death and Serious Injuries (DSI) crash.</td><td>CAS records five crashes on this section of Kawakawa-Orere Road: two non-injury crash, one minor-injury crashes and two serious injury crashes. Therefore this section of road has two Death and Serious Injuries (DSI) crashes.</td></tr>
<tr><td>(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of Kawakawa-Orere Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td></td><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m)
Roadside Hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Tortuous
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): Severe</td><td>Road stereotype: Unsealed
Road Alignment: Winding
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): High</td></tr>
</table>

(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Remote Rural using drive-over footage and geomaps. The IRR defines Remote Rural as "*Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry.*" It should be noted that the end of the road terminates into a private access road that serves eight properties.
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 1 to <2 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1022 vehicles per day (vpd). This is similar to the 7-day traffic counts of 976 vpd.	The traffic volume in ADT was determined from MegaMaps as 1022 vpd.	The traffic volume in ADT was determined from MegaMaps as: 1022 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Kawakawa-Orere Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit(s) on Kawakawa-Orere Road are as follows: • 80 km/h between 500m south of Kawakawa Bay Coast Road and 1500m south of Kawakawa Bay Coast Road (Section 1) • 100 km/h between 1500m south of Kawakawa Bay Coast Road and 4340m south of Bertram Road (Section 2) • 100 km/h between 4340m south of Bertram Road and the end of Kawakawa-Orere Road. (Section 3)
MegaMaps Mean Operating Speed (km/h)	Kawakawa-Orere Road has a mean operating speed of: • 66 km/h between 500m south of Kawakawa Bay Coast Road and 1500m south of Kawakawa Bay Coast Road. • 54 km/h between 1500m south of Kawakawa Bay Coast Road and 4340m south of Bertram Road • 66 km/h between 4340m south of Bertram Road and the end of Kawakawa-Orere Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Kawakawa-Orere Road (north of a point 500m south of Kakakawa Bay Coast Road):** 50 km/h • **Orere Point Road**: 100 km/h (proposed SaAS 60 km/h) • **Orere-Matingarahi Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	3	4	3
DSI crashes during the period	1	1	2
Corridor Length (km)	1.00	2.84	5.06
Annual Daily Traffic	1022	1022	1022

- Section 1
    - The Collective Risk score is 0.20. For rural areas this corresponds to a Collective Risk band of **High**
    - The Personal Risk score is 53.6. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
    - The Collective Risk score is 0.07 For rural areas this corresponds to a Collective Risk band of **Medium**
    - The Personal Risk score is 18.9. For rural areas this corresponds to a Personal Risk band of **High**
- Section 3
    - The Collective Risk score is 0.08. For rural areas this corresponds to a Collective Risk band of **Medium**
    - The Personal Risk score is 21.2. For rural areas this corresponds to a Personal Risk band of **High.**

Step 3: Calculate the IRR score

Feature	**Section 1**		**Section2**		**Section3**	
	Category	**Score**	**Category**	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Tortuous	6.00	Winding	3.50
Carriageway width	Medium lane, wide shoulder	1.00	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	Severe	2.80	High	2.28
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Remote rural	1.00
Intersection density (per km)	<1	1.00	<1	1.00	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03	1 to <2	1.01
Traffic volume	1000 to <6000	1.40	1000 to <6000	1.40	1000 to <6000	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 2.40. For rural areas this corresponds to an IRR band of **High.**

- Section3: The Infrastructure Risk Rating Score is 1.90. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between 500m south of Kawakawa Bay Coast Road and 1500m south of Kawakawa Bay Coast Road (Section 1)
- Less than 80 km/h between 1500m south of Kawakawa Bay Coast Road and 4340m south of Bertram Road (Section 2)
- Less than 80 km/h between 4340m south of Bertram Road and the end of Kawakawa-Orere Road. (Section 3)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the section of Kawakawa-Orere Road between 500m south of Kawakawa Bay Coast Road and the eastern end of Kawakawa-Orere Road (Sections 1, 2 and 3)

Kawakawa-Orere Road is a self-explaining road as the mean operating speeds (between 54 km/h and 66 km/h) are close to the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Kawakawa-Orere Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the full length of the road due to the winding nature of the road, high roadside hazard risk, adverse crash history and relatively low operating speeds. These factors contribute to an IRR score ranging between **'Medium'** and '**High'**, making sections of the road a high risk road.[2]

After considering all the above factors, the existing speed limit of 100 km/h on Kawakawa-Orere Road in Kawakawa Bay, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limit for Kawakawa-Orere Road aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Keaney Road (Aramimu)

The speed limit on Keaney Road, Aramimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Keaney Road is classified as an access road under the one network road classification (ONRC). Keaney Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Keaney Road.
	Keaney Road connects to Aramimu Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Keaney Road is approximately 520m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Keaney Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Keaney Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Keaney Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Keaney Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Keaney Road has a free flow speed of 25 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Aramimu Road**: 100km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.52
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of Medium.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Keaney Road.

Keaney Road is a self-explaining road as the mean operating speed (25 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Keaney Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, its access function and its existing low operating speed (25 km/h). These factors contribute to the roads "Medium" IRR score.

After considering all the above factors, the speed limit of 100 km/h on Keaney Road in Aramimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Keaney Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (25 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Kern Road (Ramarama)

The speed limit on Kern Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kern Road is classified as a secondary collector road under the one network road classification (ONRC). Kern Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Kern Road.
	Kern Road connects to Great South Road at its northern end and Runciman Road at its southern end. The primary use of the road is to provide access to rural residential properties, but it also serves as a route for some through traffic. Kern Road is approximately 3.03 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non-injury crash between 2016 and 2020. Kern Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Kern Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 570 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Kern Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Kern Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Kern Road has a mean operating speed of 58 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Great South Road:** 100 km/h (proposed SaAS 80 km/h) • **Cooper Road:** 100 km/h (proposed SaAS 60 km/h) • **Old Coach Way:** 100 km/h (proposed SaAS 60 km/h) • **Patrick Lane:** 100 km/h (proposed SaAS 60 km/h) • **Coulston Road:** 100 km/h (proposed SaAS 60 km/h) • **Runciman Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	3.03
Annual Daily Traffic	570

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Winding	3.50
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium -High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the length of Kern Road

Kern Road is a self-explaining road as the mean operating speed (58 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Kern Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, relatively low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and winding nature of the road, the moderate roadside hazards, and its existing low operating speed (58 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Kern Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Kern Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (58 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Kimber Road (Bombay)

The speed limit on Kimber Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kimber Road is classified as an access road under the one network road classification (ONRC). Kimber Road is a two-lane undivided partially unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Kimber Road.
	This section of Kimber Road connects to Pinnacle Hill Road it the eastern end. The primary use of the road is to provide access to rural residential properties. This section of Kimber Road is approximately 0.42 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2015 and 2019: Kimber Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Kimber Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 10 to <20 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 25 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Kimber Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Kimber Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Kimber Road has a mean operating speed of 27 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Pinnacle Hill Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.42
Annual Daily Traffic	25

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	10 to <20	1.10
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of '**Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/hr for the full length of Kimber Road.

Kimber Road is a self-explaining road as the mean operating speed (27 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Kimber Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and partly unsealed nature of the road, high risk roadside hazards and its existing low operating speed (27 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Kimber Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Kimber Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (27 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Laurie Drive (Hunua)

The speed limit on Laurie Drive, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Laurie Drive is classified as an Access road under the one network road classification (ONRC). Laurie Drive is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Laurie Drive.
	Laurie Drive connects to Ponga Road at the eastern end of the road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Laurie Drive is approximately 410 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Laurie Drive therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Laurie Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 15 vehicles per day (vpd), which is consistent with the nature and function of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Laurie Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Laurie Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Laurie Drive has a free flow speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sonja Drive**: 100 km/h (proposed SaAS 40 km/h) • **Ponga Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.41
Annual Daily Traffic	15

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.00
Road alignment	Winding	6.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.40. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Laurie Drive

Laurie Drive is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Laurie Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow, unsealed and winding nature of the road, high roadside hazards, its access function and its existing low operating speed (20 km/h). These features contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Laurie Drive in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Laurie Drive aligns with the Speed Management Guide (<80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Lowry Road West (Bombay)

The speed limit on Lowry Road West, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Lowry Road West is classified as an access road under the one network road classification (ONRC). Lowry Road West is a two-way, two-lane, unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Lowry Road West. Lowry Road West connects to Lowry Road at the eastern end and is a no exit road.
	The primary use of the road is to provide access to rural residential properties. Lowry Road West is approximately 0.28 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Lowry Road West therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Lowry Road West were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 36 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Lowry Road West
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Lowry Road West is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Lowry Road West has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Lowry Road** 100km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.28
Annual Daily Traffic	36

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/hr for the entire length of Lowry Road West

Lowry Road West is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Lowry Road West was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and unsealed characteristics of the road, and its existing low operating speed (20 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Lowry Road West, is not considered to be a safe and appropriate speed limit for this road.

The recommended safe and appropriate speed limit for Lowry Road West aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Lowry Road (Bombay)

The speed limit on Lowry Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Lowry Road is classified as a secondary collector road under the one network road classification (ONRC). Lowry Road is a two-way undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Lowry Road. Lowry Road connects to Wootten Road and Paparata Road at the northern end and is a no exit road at the southern end. The primary use of the road is to provide access to rural residential properties. This section of Lowry Road is approximately 1.62 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Lowry Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Lowry Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 21 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Lowry Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Lowry Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Lowry Road has a mean operating speed of 51 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road (east of Lowry Road)**: 100 km/h (proposed SaAS 80 km/h) • **Paparata Road (west of Lowry Road)**: 60 km/h • **Wootten Road** 100 km/h (proposed to be lowered to 60 km/h, discussed separately) • **Main Road** 100 km/h (proposed SaAS 60 km/h) • **Lowry Road West** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.62
Annual Daily Traffic	21

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation= 60 km/hr

Lowry Road is a self-explaining road as the mean operating speed (51 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Lowry Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, curved layout, moderate roadside hazards and its existing low operating speed (51 km/h). These features also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Lowry Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Lowry Road is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate based on the nature and function of the road and the low operating speed (51 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Loxton Lane (Paerata)

The speed limit on Loxton Lane, Paerata, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Loxton Lane is classified as an access road under the one network road classification (ONRC). Loxton Lane is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Loxton Lane.
	Loxton Lane connects to Gordon Francis Drive at the southern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Loxton Lane is approximately 200m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Loxton Lane therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Loxton Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Minor
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 30 vehicles per day (vpd), which is consistent with the rural, no exit, nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Loxton Lane.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Loxton Lane is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Operating speed data is not available for Loxton Lane, but it is estimated to be around 30 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Gordon Francis Drive: 100** km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.2
Annual Daily Traffic	30

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Minor	0.67
Adjacent land use	Rural Residential	1.5
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 0.9. For rural areas this corresponds to an IRR band of **Low-Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Loxton Lane.

Loxton Lane is considered a self-explaining road as the operating speed (estimated at 30 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Loxton Lane was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road, its access function and to match the speed limit on the adjacent road given its short length.

After considering all the above factors, the speed limit of 100 km/h on Loxton Lane in Paerata, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Loxton Lane is lower than the Speed Management Guide recommendation (80 km/h); however, the road environment and function of the road support the lower limit.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Lynd Road (Ararimu)

The speed limit on Lynd Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Lynd Road is classified as an access road under the one network road classification (ONRC). Lynd Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Lynd Road.
	Lynd Road connects to Paparata Road at its southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Lynd Road is approximately 0.69 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Lynd Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Lynd Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m – 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 20 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Lynd Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Lynd Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Lynd Road has a mean operating speed of 38 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.69
Annual Daily Traffic	20

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Severe	2.80
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Lynd Road.

Lynd Road is a self-explaining road as the mean operating speed (38 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Lynd Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved alignment, severe roadside hazards, its access function and its existing low operating speed (38 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Lynd Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Lynd Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (38 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – MacWhinney Drive (Drury)

The speed limit on MacWhinney Drive, Drury, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	MacWhinney Drive is classified as an access road under the one network road classification (ONRC). MacWhinney Drive is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along MacWhinney Drive.
	MacWhinney Drive connects to Drury Hills Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. MacWhinney Drive is approximately 1580m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. MacWhinney Drive therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for MacWhinney Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Medium lane (3.0m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 156 vehicles per day (vpd). No AT traffic count data is available for this road. This level of traffic volume is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to MacWhinney Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on MacWhinney Drive is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	MacWhinney Drive has a mean operating speed of 48 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Drury Hills Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.58
Annual Daily Traffic	156

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.0
Access density (per km)	5 to <10	1.06
Traffic volume	156 vpd	1.0

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of MacWhinney Drive.

MacWhinney Drive is a self-explaining road as the mean operating speed (48 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of MacWhinney Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the winding nature of the road, its access function, the high roadside hazards and its existing mean operating speed (48 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 80 km/h on MacWhinney Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide recommendation (<80 km/h) and the mean operating speed (48 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Maddaford Road (Ararimu)

The speed limit on Maddaford Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Maddaford Road is classified as an access road under the one network road classification (ONRC). Maddaford Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Maddaford Road.
	Maddaford Road connects to Ararimu Road at the southern end of Maddaford Road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Maddaford Road is approximately 460m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Maddaford Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Maddaford Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 22 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Maddaford Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Maddaford Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Maddaford Road has a mean operating speed of 25 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 100 km/h (proposed SASS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.46
Annual Daily Traffic	22

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.10. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Maddaford Road

Maddaford Road is a self-explaining road as the mean operating speed (25 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Maddaford Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the road being unsealed, the narrow width and curved nature of the road, the high number of roadside hazards, its function as an access road and its existing low operating speed (25 km/h). These factors also contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Maddaford Road in Ararimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low operating speed (25 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Main Road (Bombay)

The speed limit on Main Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Main Road is classified as an access road under the one network road classification (ONRC). Main Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Main Road.
	Main Road connects to Paparata Road at the northern end and Lowry Road at the southern end. The primary use of the road is to provide access to rural residential properties. Main Road is approximately 1.31 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Main Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Main Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m – 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 83 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Main Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Main Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Main Road has a mean operating speed of 45 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road** 100 km/h (proposed SaAS 80 km/h) • **Fahey Road** 100 km/h (proposed SaAS 60 km/h) • **Lowry Road** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.31
Annual Daily Traffic	83

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Main Road

Main Road is a self-explaining road as the mean operating speed (45 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Main Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow road and curved alignment of the road, high risk roadside hazards, its access function, and its existing low operating speed (45 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Main Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Main Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (45 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Maketu Road (Drury)

The speed limit on Maketu Road, Drury has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Maketu Road is classified as an Access Road under the one network road classification (ONRC). Maketu Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Maketu Road. Maketu Road connects to Quarry Road at the northern end of the road and Ramarama Road at the eastern end. The primary use of the road is to provide access to adjacent properties. This section of Maketu Road is approximately 1.16km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Maketu Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Maketu Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate It is noted that Maketu Road is being upgraded as part of the Drury South Redevelopment which is likely to change the characteristics of the road significantly.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume would be expected to increase significantly with the Drury South Redevelopment.
(i) any planned modification to the road; and	As noted above, Maketu Road is in the process of being upgraded as part of the Drury South Redevelopment.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Maketu Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Maketu Road has a mean operating speed of 45 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Quarry Road:** 100 km/h (proposed SaAS 60 km/h) • **Ramarama Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.16
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.25
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.30. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Maketu Road

Maketu Road is a self-explaining road as the mean operating speed (50 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Maketu Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected to match other adjacent roads within the Drury South Redevelopment.

After considering all the above factors, the speed limit of 80 km/h on Maketu Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Maketu Road is lower than the Speed Management Guide recommendation (80 km/h) but considered appropriate given the changing nature of the road due to the Drury South Redevelopment and also to match the speed limit on adjacent roads.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Markham Road (Ararimu)

The speed limit on Markham Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Markham Road is classified as an access road under the one network road classification (ONRC). Markham Road is a two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Markham Road.
	Markham Road connects to Ararimu Road at the southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Markham Road is approximately 2.34 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Markham Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Markham Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: < 1 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 192 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Markham Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Markham Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Markham Road has a free flow speed of 46 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 100 km/h (proposed SAAS 80 km/h) • **Dunrobin Lane**: 100 km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	2.34
Annual Daily Traffic	192

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	5 to <10	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Markham Road.

Markham Road is a self-explaining road as the mean operating speed (46 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Markham Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the extremely narrow and curved nature of the road, the high number of roadside hazards, its access function and its existing low operating speed (46 km/h). These factors contribute to the roads "**Medium-High**" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Markham Road in Aramimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Markham Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (46 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review –Matheson Road (Bombay)

The speed limit on Matheson Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Matheson Road is classified as an access road under the one network road classification (ONRC). Matheson Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Matheson Road.
	Matheson Road connects to Paparimu Road at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Paparimu School is located at the northern end of the road. Matheson Road is approximately 1.7 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020 on Matheson Road. It therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Matheson Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 83 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Matheson Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Matheson Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Matheson Road has a mean operating speed of 55 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Paparimu Road 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.7
Annual Daily Traffic	83

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of '**Medium-High'**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/hr for the full length of Matheson Road .

Matheson Road is a self-explaining road as the mean operating speed (55 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Matheson Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected to match the speed limit of the adjacent Paparimu Road given Matheson Road is a low volume no exit road. It is also noted that a variable school speed zone is separately being considered for a section of Paparimu Road and this would extend onto Matheson Road.

After considering all the above factors, the speed limit of 100 km/h on Matheson Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Matheson Road is higher than the Speed Management Guide (< 80 km/h) recommendation but was chosen to match the speed limit of the adjacent main road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Mathis Road, Hunua

The speed limit on Mathis Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Mathis Road is classified as an access road under the one network road classification (ONRC). Mathis Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Mathis Road.
	Mathis Road connects to Sky High Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Mathis Road is approximately 480m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Mathis Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Mathis Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd) which is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Mathis Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Mathis Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Mathis Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sky High Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.48
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Severe	2.80
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Mathis Road.

Mathis Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Mathis Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, the severe roadside hazards, its access function and its existing mean operating speed (20 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Mathis Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Matthew Whitford Drive (Bombay)

The speed limit on Matthew Whitford Drive, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Matthew Whitford Drive is classified as an Access Road under the one network road classification (ONRC). Matthew Whitford Drive is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Matthew Whitford Drive.
	Matthew Whitford Drive connects to Maxted Road, at the northern end of Matthew Whitford Drive and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Matthew Whitford Drive is approximately 370 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Matthew Whitford Drive therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Matthew Whitford Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 83 vehicles per day (vpd). This level of traffic volume is consistent for the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Matthew Whitford Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Matthew Whitford Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Matthew Whitford Drive has a mean operating speed of 42 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Maxted Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.37
Annual Daily Traffic	83

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Matthew Whitford Drive.

Matthew Whitford Drive is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Matthew Whitford Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the road being a short no exit road off Maxted Road, so it was considered appropriate to match the proposed speed limit from that road to avoid an unnecessary speed limit change. Its existing low operating speed (42 km/h) also supports this speed limit.

After considering all the above factors, the speed limit of 100 km/h on Matthew Whitford Drive in Bombay, is not considered to be a safe and appropriate speed limit for this road.

The recommended safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h) but provides a more consistent speed limit across the network. The low operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Maxted Road (Ramarama)

The speed limit on Maxted Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Maxted Road is classified as a Secondary Collector under the one network road classification (ONRC). Maxted Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Maxted Road.
	Maxted Road connects to Ararimu Road, at the northern end of Maxted Road and is a cul-de-sac at the southern end. The primary use of the road is to provide access to rural residential properties. Maxted Road is approximately 3,080 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non-injury crash between 2016 and 2020. Maxted Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Maxted Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 457 vehicles per day (vpd). This level of traffic volume is considered low for the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Maxted Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Maxted Road is 100 km/h along the full length of Maxted Road.
MegaMaps Mean Operating Speed (km/h)	Maxted Road has a mean operating speed of 47 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 60 km/h • **Davies Road:** 100 km/h (proposed SaAS 60 km/h) • **Matthew Whitford Drive:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	3.080
Annual Daily Traffic	457

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.50
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.90. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Maxted Road

Maxted Road is a self-explaining road as the mean operating speed (47 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Maxted Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to narrow and winding nature of the road, its access function and its existing low operating speed (47 km/h). These features contribute to the roads "Medium-High" IRR score, making it a High risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Maxted Road in Ramarama, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide recommendation (<80 km/h), and the low operating speed also supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – McEntee Road (Hunua)

The speed limit on McEntee Road, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	McEntee Road is classified as an Access road under the one network road classification (ONRC). McEntee Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along McEntee Road.
	McEntee Road connects to Ponga Road at the western end of the road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of McEntee Road is approximately 430 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. McEntee Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for McEntee Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 10 vehicles per day (vpd) which is consistent with the nature and function of this road.
(i) any planned modification to the road; and	There are no known planned modifications to McEntee Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on McEntee Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	McEntee Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.43
Annual Daily Traffic	10

The Collective Risk score is 0.0, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.90. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Mcentee Road

McEntee Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of McEntee Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, unsealed and curved nature of the road, its access function and its existing low operating speed (20 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on McEntee Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Mcentee Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (20 km/h) supports the reduction. This speed limit also matches the speed limit on the adjacent road so avoids the need for an additional speed limit change and provides a more consistent speed limit across the network.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – McGregor Road (Clevedon)

The speed limit on McGregor Road, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	McGregor Road is classified as a secondary collector road under the one network road classification (ONRC) but functions as an access road. McGregor Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along McGregor Road.
	McGregor Road connects to Highridge Road, Monument Road and Sky High Road at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. McGregor Road is approximately 1890m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non injury crash between 2016 and 2020. McGregor Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for McGregor Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions):** Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 239 vehicles per day (vpd). This level of traffic volume is consistent with a rural access road.
(i) any planned modification to the road; and	There are no known planned modifications to McGregor Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on McGregor Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	McGregor Road has a mean operating speed of 33 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Highridge Road**: 100 km/h (proposed SAAS 60 km/h) • **Monument Road**: 100 km/h (proposed SAAS 60 km/h) • **Sky High Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.89
Annual Daily Traffic	239

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of McGregor Road

McGregor Road is a self-explaining road as the mean operating speed (33 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of McGregor Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and winding nature of the road, and its existing low operating speed (33 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on McGregor Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low operating speed (33 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – McMurray Road (Hunua)

The speed limit on McMurray Road, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	McMurray Road is classified as an Access road under the one network road classification (ONRC). McMurray Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along McMurray Road.
	McMurray Road connects to Batkin Road at the south-western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of McMurray Road is approximately 390 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. McMurray Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for McMurray Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 31 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to McMurray Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on McMurray Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	McMurray Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Batkin Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.39
Annual Daily Traffic	31

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.70. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of McMurray Road

McMurray Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of McMurray Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, its high roadside hazards, access function and existing low operating speed (20 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on McMurray Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for McMurray Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - McNicol Road (Clevedon)

McNicol Road, Clevedon, is divided into three sections and outlined as follows: [1]

1. Section 1: McNicol Road between Clevedon-Kawakawa Road and 1400m north of Tourist Road
2. Section 2: McNicol Road between 1400 north of Tourist Road and 1200m north of Tourist Road
3. Section 3: McNicol Road between 1200m north of Tourist Road and 600m north of Tourist Road
4. Section 4: McNicol Road between 600m north of Tourist Road and 1570m south of Whiteside Lane
5. Section 5: McNicol Road between 1570m south of Whiteside Lane and the end of McNicol Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of McNicol Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table – 1-1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of McNicol Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 1.4 km in length	This section of McNicol Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 200 m in length	This section of McNicol Road is classified as a Secondary Collector under the ONRC. This section is 600 m in length

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

<table>
<tr><td></td><td colspan="3">McNicol Road is a two-way, two-lane, undivided and mostly sealed road (Section 5 being unsealed). There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along McNicol Road.

McNicol Road is primarily used to access rural residential properties along its length.</td></tr>
<tr><td rowspan="2">(d) crash risk for all road users; and</td><td colspan="3">NZTA’s Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td>CAS records two non-injury crashes on this section of McNicol Road. Therefore, this section of road has no Death and Serious Injuries (DSI) crashes.</td><td>CAS records zero crashes on this section of McNicol Road. Therefore, this section of road has no Death and Serious Injuries (DSI) crashes.</td><td>CAS records zero crashes on this section of McNicol Road. Therefore, this section of road has no Death and Serious Injuries (DSI) crashes.</td></tr>
<tr><td rowspan="2">(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of McNicol Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td>• Road stereotype: Two lane undivided
• Road Alignment: Curved
• Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
• Roadside Hazards (in both directions): Moderate</td><td>• Road stereotype: Two lane undivided
• Road Alignment: Curved
• Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
• Roadside Hazards (in both directions): High</td><td>• Road stereotype: Two lane undivided
• Road Alignment: Curved
• Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
• Roadside Hazards (in both directions): High</td></tr>
<tr><td>(f) adjacent land use; and</td><td>The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as “Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”</td><td>The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as “Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”</td><td>The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as “Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”</td></tr>
</table>

(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 10 to <20 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 493 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 454 vpd.	The traffic volume in ADT was determined from MegaMaps as: 454 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to McNicol Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

Table 1-2: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**	
	Section 4 *(as applicable)*	**Section 5** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	This section of McNicol Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 3.12 km in length	This section of McNicol Road is classified as an Access under the one network road classification (ONRC). This section is 1.31 km in length

<table>
<tr><td></td><td colspan="2">McNicol Road is a two-way, two-lane, undivided and generally sealed road (Section 5 being unsealed). There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along McNicol Road.

McNicol Road is primarily used to access rural residential properties along its length.</td></tr>
<tr><td>(d) crash risk for all road users; and</td><td colspan="2">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.

CAS records zero crashes on this section of McNicol Road. Therefore this section of road has no Death and Serious Injuries (DSI) crashes.</td><td>CAS records zero crashes on this section of McNicol Road. Therefore this section of road has no Death and Serious Injuries (DSI) crashes.</td></tr>
<tr><td>(e) the characteristics of the road and roadsides; and</td><td colspan="2">The following characteristics for each section of McNicol Road were determined using a combination of site drive-over footage and geomaps information

• Road stereotype: Two lane undivided
• Road Alignment: Winding
• Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
• Roadside Hazards (in both directions): High</td><td>• Road stereotype: Unsealed
• Road Alignment: Winding
• Carriageway Width: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m)
• Roadside Hazards (in both directions): Severe</td></tr>
<tr><td>(f) adjacent land use; and</td><td>The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as "Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."</td><td>The adjacent land use is classified as Remote Rural using drive-over footage and geomaps. The IRR defines Remote Rural as "Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry.".</td></tr>
<tr><td>(g) the number of intersections and property accessways; and</td><td colspan="2">The following were determined using a combination of site drive over footage and geomaps information:

• Intersection density: <1 intersection per km
• Access density: 2 to <5 access per km</td><td>• Intersection density: <1 intersection per km
• Access density: < 1 access per km</td></tr>
<tr><td>(h) traffic volume; and</td><td>The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 229 vehicles per day (vpd).</td><td>The traffic volume in ADT was determined from MegaMaps as 42 vpd.</td></tr>
</table>

(i) any planned modification to the road; and	There are currently no known planned modifications to McNicol Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2-1 Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit(s) on McNicol Road are as follows: • 100 km/h between Clevedon-Kawakawa Road and 1400m north of Tourist Road (Section 1) • 80 km/h between 1400 north of Tourist Road and 1200m north of Tourist Road (Section 2) • 80 km/h between 1200m north of Tourist Road and 600m north of Tourist Road (Section 3) • 100 km/h between 600m north of Tourist Road and 1570m south of Whiteside Lane (Section 4) • 100 km/h between 1570m south of Whiteside Lane and the end of McNicol Road (Section 5)
MegaMaps Mean Operating Speed (km/h)	McNicol Road has a mean operating speed of: • 60 km/h between Clevedon-Kawakawa Road and 1400m north of Tourist Road (Section 1) • 60 km/h between 1400 north of Tourist Road and 1200m north of Tourist Road (Section 2) • 60 km/h between 1200m north of Tourist Road and 600m north of Tourist Road (Section 3) • 55 km/h between 600m north of Tourist Road and 1570m south of Whiteside Lane (Section 4) • 42 km/h between 1570m south of Whiteside Lane and the end of McNicol Road (Section 5)
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Clevedon-Kawakawa Road**: 100 km/h (proposed SaAS 50 km/h) • **Otau Lane:** 100 km/h (proposed SaAS 60 km/h) • **Otau Mountain Road:** 100 km/h (proposed SaAS 60 km/h)

	• **Quinns Road**: 100 km/h (proposed SaAS 60 km/h) • **Tourist Road**: 100 km/h (proposed SaAS 80 km/h) • **Whiteside Lane**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	**Section 1**	**Section 2**	**Section 3**
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	**0**	0	0
DSI crashes during the period	0	0	0
Corridor Length (km)	1.4	0.2	0.6
Annual Daily Traffic	493	454	454

Required Information for safety metrics calculations	**Section 4**	**Section 5**
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI crashes during the period	0	0
Corridor Length (km)	3.12	1.31
Annual Daily Traffic	229	42

- Section 1
  - The Collective Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
  - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 3
  - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 4
  - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 5

- The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
- The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	Score	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Curved	1.80	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside Hazards (in both directions)	Moderate	1.43	Moderate	1.43	High	2.28
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	2 to <3	1.25	2 to <3	1.25	2 to <3	1.25
Access density (per km)	2 to <5	1.03	2 to <5	1.03	10 to <20	1.1
Traffic volume	<1000	1.00	<1000	1.00	<1000	1.00

Feature	Section 4		Section 5	
	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Unsealed	10.0
Road alignment	Winding	3.50	Winding	3.50
Carriageway width	Medium lane, very narrow shoulder	1.79	Narrow lane, very narrow shoulder	2.01
Roadside Hazards (in both directions)	High	2.28	Severe	2.80
Adjacent land use	Rural residential	1.50	Remote rural	1.00
Intersection density (per km)	<1	1.00	<1	1.00

Access density (per km)	2 to <5	1.03	<1	1
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium.**
- Section 3: The Infrastructure Risk Rating Score is 1.70. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 4: The Infrastructure Risk Rating Score is 1.90. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 5: The Infrastructure Risk Rating Score is 2.20. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- 80 km/h between Clevedon-Kawakawa Road and 1400m north of Tourist Road (Section 1)
- 80 km/h between 1400 north of Tourist Road and 1200m north of Tourist Road (Section 2)
- Less than 80 km/h between 1200m north of Tourist Road and 600m north of Tourist Road (Section 3)
- Less than 80 km/h between 600m north of Tourist Road and 1570m south of Whiteside Lane (Section 4)
- Less than 80 km/h between 1570m south of Whiteside Lane and the end of McNicol Road (Section 5)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *80 km/h between Clevedon-Kawakawa Road and 1200m north of Tourist Road (Section 1 and 2)*
- *60 km/h between 1200m north of Tourist Road and 1570m south of Whiteside Lane (Section 3 and 4)*
- *40 km/h between 1570m south of Whiteside Lane and the end of McNicol Road (Section 5)*

McNicol Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of McNicol Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the first and second section of road due to the curved nature of the road, medium lane width, high number of roadside hazards and low mean operating speed (60 km/h). It is proposed to move the current 100/80 speed limit change point (that is proposed to become a 80/60 speed limit change point) 200m further south to better align with the point that there is a relatively high number of houses on the road.

A proposed speed limit of 60 km/h was selected for the third and fourth sections of road due to the curved nature of the road, high roadside hazards, and the low mean operating speed (between 55 and 60 km/h). The curved nature of the road and roadside hazards along this section of McNicol Road contributes to the sections '**Medium-High'** IRR score, making it a high-risk section of road.[2] Furthermore, this section of the road currently has a lower speed limit and passes through an area of more dense properties than the rest of McNicol Road. Maintaining a reduced speed limit when compared to first and seconds sections of the road is likely to be important to local residents.

A proposed speed limit of 40 km/h was selected for the fifth section of road due to the unsealed, winding nature of the road, severe roadside hazards, and the low mean operating speed (42 km/h). These factors contributes to the sections '**High'** IRR score, making it a high-risk section of road

After considering all the above factors, the existing speed limit of 100 km/h on McNicol Road in Clevedon, is not considered to be a safe and appropriate speed limit for this section of road.

The recommended safe and appropriate speed limits for McNicol Road, Ness Valley are:

- 80 km/h between Clevedon-Kawakawa Road and 1200m north of Tourist Road (Section 1 and 2)
- 60 km/h between 1200m north of Tourist Road and 1570m south of Whiteside Lane (Section 3 and 4)
- 40 km/h between 1570m south of Whiteside Lane and the end of McNicol Road (Section 5)

These aligns with the Speed Management Guide and the low operating speeds support the reductions.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – McPherson Road (Karaka)

The speed limit on McPherson Road, Karaka, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	McPherson Road is classified as a primary collector road under the one network road classification (ONRC). McPherson Road is a two-lane undivided road. There is no pedestrian facilities or cyclist amenities along this road. There is no on-street parking along McPherson Road.
	McPherson Road connects to Burtt Road and Pitt Road at the eastern end and Karaka Road (SH 22) at the western end of the road. The primary use of the road is to provide for through traffic. McPherson Road is approximately 160m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records five crashes between 2016 and 2020, of which one was an minor injury crash. McPherson Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for McPherson Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0m to 3.5m) and narrow shoulder (0.5m to 1.0m) • **Roadside hazards (in both directions)**: Moderate.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed:

Requirement	Comments
	• **Intersection density**: 2 to <3 intersection per km • **Access density**: <1 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1,123 vehicles per day (vpd) which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to McPherson Road .
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on McPherson Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	McPherson Road has a mean operating speed of 41 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Karaka Road (State Highway 22): 100** km/h • **Pitt Road: 100** km/h (proposed SaAS 80 km/h) • **Burtt Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	1
DSI crashes during the period	0
Corridor Length (km)	0.16
Annual Daily Traffic	1,123

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Medium lane, narrow shoulder	1.45
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	<1	1.00
Traffic volume	1000 to <6,000	1.4

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of McPherson Road.

McPherson Road is a self-explaining road as the mean operating speed (41 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of McPherson Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to the medium lane width, moderate roadside hazards crash history, and its existing mean operating speed (41 km/h).

After considering all the above factors, the speed limit of 100 km/h on McPherson Road in Karaka, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (80 km/h) recommendation and the low operating speed (41 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit settings and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Medhurst Road North (Bombay)

The speed limit on Medhurst Road North, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Medhurst Road North is classified as an access road under the one network road classification (ONRC). Medhurst Road North is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Medhurst Road North.
	Medhurst Road North connects to Paparata Road at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Medhurst Road North is approximately 0.81 km length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Medhurst Road North therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Medhurst Road North were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Medhurst Road North
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Medhurst Road North is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Medhurst Road North has a mean operating speed of 35 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.81
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Medhurst Road North.

Medhurst Road North is a self-explaining road as the mean operating speed (35 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Medhurst Road North was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved and narrow alignment of the road, its high risk roadside hazards, its access function and its existing low operating speed (35 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Medhurst Road North is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Medhurst Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (35 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Medhurst Road (Bombay)

The speed limit on Medhurst Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Medhurst Road is classified as an access road under the one network road classification (ONRC). Medhurst Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Medhurst Road.
	Medhurst Road connects to Pinnacle Hill Road at its northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Medhurst Road is approximately 1.06 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Medhurst Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Medhurst Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 10 to <20 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 41 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Medhurst Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Medhurst Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Medhurst Road has a mean operating speed of 45 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Pinnacle Hill Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.06
Annual Daily Traffic	41

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	10 to <20	1.10
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of '**Medium-High'**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Medhurst Road

Medhurst Road is a self-explaining road as the mean operating speed (45 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Medhurst Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved alignment, high risk roadside hazards, its access function and its existing low operating speed (45 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Medhurst Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Medhurst Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (45 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Middleton Road (Hunua)

The speed limit on Middleton Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Middleton Road is classified as an access road under the one network road classification (ONRC). Middleton Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Middleton Road.
	Middleton Road connects to Hunua Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Middleton Road is approximately 1,790m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Middleton Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Middleton Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 124 vehicles per day (vpd), which is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Middleton Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Middleton Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Middleton Road has a mean operating speed of 38 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.79
Annual Daily Traffic	124

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Middleton Road.

Middleton Road is a self-explaining road as the mean operating speed (38 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Middleton Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and winding nature of the road, the high roadside hazards, and its low existing mean operating speed (38 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Middleton Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (38 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Mile Road (Bombay)

The speed limit on Mile Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Mile Road is classified as a secondary collector road under the one network road classification (ONRC). Mile Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Mile Road.
	Mile Road connects to Barber Road at the western end and Wootten Road and Fahey Road at the eastern end. The primary use of the road is to provide access to rural residential properties. This section of Mile Road is approximately 1.2 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Main Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Mile Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Mile Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Mile Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Mile Road has a mean operating speed of 61 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Barber Road:** 100 km/h (proposed SaAS 60 km/h) • **Wootten Road:** 100 km/h (proposed SaAS 60 km/h) • **Fahey Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.2
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Mile Road.

The mean operating speed of Mile Road (61 km/h) is significantly lower than existing 100 km/h speed limit. Engineering up of Mile Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to the narrow lanes, high roadside hazards and its existing operating speed (61 km/h). These features contribute to the roads “Medium” IRR score. A 60 km/h speed limit also matches the proposed speed limit on all adjacent roads so provides consistency of speed limits across the network.

After considering all the above factors, the speed limit of 100 km/h on Mile Road, is not considered to be a safe and appropriate speed limit for this road.

The recommended safe and appropriate speed limit for Mile Road is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate given the nature and function of the road and it provides consistency of speed limit on adjacent roads.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Mill Road (Bombay)

Mill Road, Bombay, is divided into three sections and outlined as follows: [1]

- Section 1: Mill Road between Harrisville Road and 190m east of Harrisville Road
- Section 2: Mill Road between 190m east of Harrisville Road and 550m west of Great South Road
- Section 3: Mill Road between 550m west of Great South Road and 120m west of Bombay Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Mill Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="3">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th><th>Section 3 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="3">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="3">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Mill Road is classified as an Arterial under the one network road classification (ONRC). This section is 0.19 km in length</td><td>This section of Mill Road is classified as an Arterial under the one network road classification (ONRC). This section is 1.62 km in length</td><td>This section of Mill Road is classified as a Primary Collector under the ONRC. This section is 1.19 km in length.</td></tr>
<tr><td colspan="3">Mill Road is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Mill Road.

Mill Road connects to Pukekohe East Road at its western end and Bombay Road at the eastern end. The road is primarily used as a through route, although there are a number of rural residential properties along its length.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.		
	CAS records fifteen crashes on this section of Mill Road: seven minor injury crash and 8 non-injury crash. Therefore, there have been no Death and Serious Injury (DSI) crashes.	CAS records eighteen crashes on this section of Mill Road, 1 fatal crash, 2 serious crashes, 6 minor crashes and 9 non-injury crashes. There have been 3 DSI crashes on this section.	CAS records twenty-three crashes on this section of Mill Road including 3 serious, 5 minor and 15 non-injury crashes. Therefore, there have been three DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Mill Road were determined using a combination of site drive-over footage and geomaps information		
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and very wide shoulder (>2 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width:** Medium lane (3.0 to 3.5 m) and very wide shoulder (>2 m) • **Roadside Hazards (in both directions)**: High	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and Narrow shoulder (0.5 to 1m) • **Roadside Hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 5 to <10 intersection per km • Access density: 5 to <10 access per km	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 10 to <20 accesses per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 15,922 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 15,922 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as: 4,256 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Mill Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Mill is: • 100 km/h from Harrisville Road to 190m east of Harrisville Road (with a 70 km/h variable speed limit when turning traffic is present) • 100 km/h from a point 190m east of Harrisville Road and 550m west of Great South Road • 60 km/h from a point 550m west of Great South Road to Bombay Road
MegaMaps Mean Operating Speed (km/h)	Mill Road has a mean operating speed of: • 84 km/h between Harrisville Road and 190m east of Harrisville Road • 84 km/h between 190m east of Harrisville Road and 550m west of Great South Road • 62 km/h between 550m west of Great South Road and 120m west of Bombay Road

Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Pukekohe East Road**: 100 km/h (proposed SaAS 80 km/h) • **Harrisville Road**: 100 km/h (in Waikato District) • **Great South Road** 60 km/h • **Mill Road (east of a point 120m west of Bombay Road):** 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	**Section 1**	**Section 2**	**Section 3**
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	**7**	**9**	**8**
DSI	0	**3**	**3**
Corridor Length (km)	0.19	1.62	1.19
Annual Daily Traffic	15,922	15,922	4256

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.37. For rural areas this corresponds to a Collective Risk band of **High**
  - The Personal Risk score is 6.4 For rural areas this corresponds to a Personal Risk band of **Medium.**
- Section 3
  - The Collective Risk score is 0.50. For rural areas this corresponds to a Collective Risk band of **High**
  - The Personal Risk score is 32.5. For rural areas this corresponds to a Personal Risk band of **High.**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	Score	Category	Score	Category	Score
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Straight	1.00	Straight	1.00	Straight	1.00
Carriageway width	Medium lane, very wide shoulder	0.78	Medium lane, very wide shoulder	0.78	Medium lane, narrow shoulder	1.45
Roadside hazards (in both directions)	Moderate	1.43	High	2.28	High	2.28
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20	5 to <10	2.6	2 to <3	1.30
Access density (per km)	2 to <5	1.03	5 to <10	1.06	10 to <20	1.10
Traffic volume	12,000+ vpd	3.0	12,000+ vpd	3.0	1000 to < 6,000 vpd	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.70. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **High**.
- Section3: The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h (sections 1,2 and 3)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *80 km/h between Harrisville Road and 190m east of Harrisville Road with a variable 60 km/h speed limit when turning traffic is present (Section 1)*
- *80 km/h between 190m east of Harrisville Road and 550m west of Great South (Section 2)*
- *60km/hr between 550m west of Great South Road and 120m west of Bombay Road (Section 3)*

The operating speed on sections 1 and 2 of Mill Road (84 km/h) are significantly below the existing 100 km/h speed limit. Engineering up of Mill Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the first and seconds section of road due to the medium road width, moderate roadside hazards and poor crash history. These factors contribute to the sections 'Medium-High' and 'High' IRR score, making them high-risk sections of road.[2] It is proposed to maintain the 60 km/h speed limit for section 3 of the road.

After considering all the above factors, the existing speed limit of 100 km/h for section 1 and 2 on Mill Road in Bombay, is not considered to be a safe and appropriate speed limit for this section of road.

The recommended safe and appropriate speed limits for Mill Road are higher than the Speed Management Guide recommendation (< 80 km/h) but are considered appropriate when considering the nature and function of the road. A lower speed limit is unlikely to be credible or supported by the public due to the existing operating speeds (84 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Mill Road (Alfriston)

Mill Road, Alfriston, is divided into four sections and outlined as follows: [1]

1. Section 1: Mill Road between Redoubt Road and Polo Prince Drive
2. Section 2: Mill Road between Polo Prince Drive and Alfriston Road
3. Section 3: Mill Road between Alfriston Road and Airfield Road
4. Section 4: Mill Road between Airfield Road and Hamlin Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Mill Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table – 1-1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of Mill Road is classified as an Arterial under the one network road classification (ONRC). This section is 1.22 km in length	This section of Mill Road is classified as an Arterial under the one network road classification (ONRC). This section is 1.62 km in length	This section of Mill Road is classified as an Arterial under the ONRC. This section is 2.04 km in length

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

<table>
<tr><td></td><td colspan="3">Mill Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Mill Road.

Mill Road is primarily used as a through route, though there are a number of residential properties that it also provides access to.</td></tr>
<tr><td rowspan="2">(d) crash risk for all road users; and</td><td colspan="3">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td>CAS records thirty-six crashes on this section of Mill Road: twenty non-injury crashes, 11 minor injury crashes and five serious injury crashes. Therefore, this section of road has five Death and Serious Injury (DSI) crashes.</td><td>CAS records twenty-two crashes on this section of Mill Road: 12 non-injury crashes, 5 minor injury crashes, four serious injury crashes and one fatal crash. Therefore, this section of road has 5 Death and Serious Injury (DSI) crashes.</td><td>CAS records forty-one crashes on this section of Mill Road: 30 non-injury crashes, 8 minor injury crashes and three serious injury crashes. Therefore, this section of road has three Death and Serious Injury (DSI) crashes.</td></tr>
<tr><td rowspan="2">(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of Mill Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): High</td><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5m to <1.0 m)
Roadside Hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Straight
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0m to <2.0 m)
Roadside Hazards (in both directions): Moderate</td></tr>
</table>

(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:		
	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 12,706 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 12,706 vpd.	The traffic volume in ADT was determined from MegaMaps as: 14,921 vpd.
(i) any planned modification to the road; and	Mill Road forms part of the Mill Road corridor which is creating a new arterial connection from Manukau to Drury South and is expected to be opened in stages starting in 2025/26.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

Table 1-2: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**
	Section 4 *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	This section of Mill Road is classified as an Arterial under the one network road classification (ONRC). This section is 830m in length
	Mill Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Mill Road. Mill Road is primarily used as a through route, though there are a number of residential properties that it also provides access to.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered. CAS records twenty-two crashes on this section of Mill Road: fourteen non-injury crashes, seven minor injury crashes and one serious injury crash. Therefore, this section of road has one Death and Serious Injury (DSI) crash.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Mill Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0m to <2.0 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 10,896 vehicles per day (vpd).
(i) any planned modification to the road; and	Mill Road forms part of the Mill Road corridor which is creating a new arterial connection from Manukau to Drury South and is expected to be opened in stages starting in 2025/26.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1-1 and 1-2, further relevant information has been assessed and is summarised in Table 2 below.

Table 2-1 Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit on Mill Road is 80 km/h for the full length.
MegaMaps Mean Operating Speed (km/h)	Mill Road has a mean operating speed of: • 64km/h between Redoubt Road and Polo Prince Drive (Section 1) • 67 km/h between Polo Prince Drive and Alfriston Road (Section 2) • 68 km/h between Alfriston Road and Airfield Road (Section 3) • 66 km/h between Airfield Road and Hamlin Road (Section 4)
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Redoubt Road (west of Mill Road)**: 60 km/h • **Redoubt Road (east of Mill Road)**: 50 km/h • **Polo Prince Drive**: 50 km/h • **Ranfurly Road (west of Mill Road):** 80 km/h (proposed SaAS 60 km/h) • **Ranfurly Road (east of Mill Road):** 100 km/h (proposed SaAS 60 km/h) • **Alfriston Road:** 80 km /h • **Phillip Road:** 80 km/h (proposed SaAS 60 km/h) • **Wedding Place**: 80 km/h (proposed SaAS 60 km/h) • **Popes Road**: 80 km/h (proposed SaAS 60 km/h) • **Airfield Road (west of Mill Road)**: 60 km/h • **Airfield Road (east of Mill Road)**: 80 km/h

	• **Hamlin Road**: 100 km/h (proposed SaAS 80 km/h) • **Cosgrave Road**: 80 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	16	10	11
DSI crashes during the period	5	5	3
Corridor Length (km)	1.22	1.62	2.04
Annual Daily Traffic	12,706	12,706	14,921

Required Information for safety metrics calculations	Section 4
Crash Analysis Period (years)	5
Total injury crashes during period	8
DSI crashes during the period	1
Corridor Length (km)	0.83
Annual Daily Traffic	10,896

- Section 1
  - The Collective Risk score is 0.82. For rural areas this corresponds to a Collective Risk band of **High.**
  - The Personal Risk score is 17.7. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
  - The Collective Risk score is 0.617 For rural areas this corresponds to a Collective Risk band of **High.**
  - The Personal Risk score is 13.3. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 3
  - The Collective Risk score is 0.29 For rural areas this corresponds to a Collective Risk band of **High.**
  - The Personal Risk score is 5.4. For rural areas this corresponds to a Personal Risk band of **Medium.**
- Section 4
  - The Collective Risk score is 0.18 For rural areas this corresponds to a Collective Risk band of **Medium-High**
  - The Personal Risk score is 4.6. For rural areas this corresponds to a Personal Risk band of **Low-Medium**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	Score	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Curved	1.80	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, narrow shoulder	1.45	Medium lane, wide shoulder	1.00
Roadside Hazards (in both directions)	High	2.28	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	1 to <2	1.15	2 to <3	1.25
Access density (per km)	5 to <10	1.06	2 to <5	1.03	5 to <10	1.06
Traffic volume	>12000	3.00	>12000	3.00	>12000	3.00

Feature	Section 4	
	Category	Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, wide shoulder	1.00
Roadside Hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	2 to <3	1.25

Access density (per km)	2 to <5	1.03
Traffic volume	6000 to <12000	2.20

- Section 1: The Infrastructure Risk Rating Score is 2.2. For rural areas this corresponds to an IRR band of **High.**
- Section 2: The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **Medium-High**
- Section 3: The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium.**
- Section 4: The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between Redoubt Road and Polo Prince Drive (Section 1)
- Less than 80 km/h between Polo Prince Drive and Alfriston Road (Section 2)
- 80 km/h between Alfriston Road and Airfield Road (Section 3)
- 80 km/h between Airfield Road and Hamblin Road (Section 4)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *60 km/h between Redoubt Road between 260m south of Alfriston Road (Sections 1 and 2)*
- *With a 40km/h variable speed limit between 111m south of Alfriston Road and 210 south of Alfriston Road*
- *80 km/h between 260m south of Alfriston Road and Hamlin Road (Sections 3 and 4)*
- *60 km/h between Hamlin Road and Walters Road*

The operating speeds on Mill Road (64 to 68 km/h) are significantly below the existing 80 km/h speed limit on all sections of the road. Engineering up of Mill Road was considered but dismissed in the short term due to the fact the corridor is undergoing a major upgrade as part of the Mill Road corridor improvements within the next 5 years. However, given the timeframe for this, a speed limit change in the interim is still considered worthwhile.

A proposed speed limit of 60 km/h was selected for the first and second sections of road due to the curved nature of the road, high roadside hazards, and the extremely poor crash history. These features contribute to the sections **'Medium-High'** to '**High'** IRR score, making it a high-risk section of road.[2] Furthermore, adverse crash history and the high number of DSIs contribute it to having a '**High'** collective and personal risk.

A speed limit of 80 km/h is proposed to be retained through Sections 3 and 4. A short section of 60km/h is proposed for the school zone. While these sections also have a 'High' IRR score, they have a straight alignment and a 'Medium' IRR score.

After considering all the above factors, the existing speed limit of 80 km/h on Mill Road in Alfriston is not considered to be a safe and appropriate speed limit for Section 1 and 2.

The recommended safe and appropriate speed limits for Mill Road aligns with the Speed Management Guide and the particularly adverse crash history on sections 1 and 2 justify the lower speed limit on these sections despite the existing operating speeds being higher (64 to 67 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Monument Road (Clevedon)

Monument Road, Clevedon, is divided into three sections and outlined as follows: [1]

- Section 1: Monument Road between 400m south of Hyde Road to 750m south of Hyde Road
- Section 2: Monument Road between 750m south of Hyde Road and 1350m south of Hyde Road (the Clevedon Urban Traffic Area Boundary)
- Section 3: Monument Road between 1350m south of Hyde Road (the Clevedon Urban Traffic Area Boundary) and Sky High Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Monument Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table -1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of Monument Road is classified an access road under the one network road classification (ONRC); however, it functions as a secondary collector like the rest of the road. This section is 340 m in length.	This section of Monument Road is classified as a secondary collector under the one network road classification (ONRC). This section is 600 m in length.	This section of Monument Road is classified as a secondary collector under the ONRC. This section is 5.36 km in length.

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

<table>
<tr><td></td><td colspan="3">Monument Road is a two-way, two-lane, undivided and sealed road. At the northern end of the road it enters the Clevedon Urban Traffic Area and joins Papakura-Clevedon Road. At the southern end it connects to Skyhigh Road and McGregor Road. There is a footpath on the western side of Monument Road in Section 1, and on-street parking is available adjacent to the footpath. However, for most of the route there is no pedestrian or cycle amenities and no on-street parking.

Monument Road is used as a through route between Clevedon and Hunua but also provides access to residential properties along its length.</td></tr>
<tr><td rowspan="2">(d) crash risk for all road users; and</td><td colspan="3">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td>CAS records one crash on this section of Monument Road, which was a Death and Serious Injury (DSI) crash.</td><td>CAS records two non-injury crashes on this section of Monument Road. Therefore, this section of road has zero Death and Serious Injury (DSI) crashes.</td><td>CAS records 30 crashes on this section of Monument Road, including 1 fatal crash, 2 serious injury crashes and 5 minor injury crashes. Therefore, this section of road has three Death and Serious Injury (DSI) crashes.</td></tr>
<tr><td rowspan="2">(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of Monument Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td>Road stereotype: Two lane undivided
Road Alignment: Straight
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (>1.0 m to 2.0 m)
Roadside hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (>1.0 m to 2.0 m)
Roadside hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Tortuous
Carriageway Width: Wide lane (> 3.5 m) and very narrow shoulder (<0.5 m)
Roadside hazards (in both directions): High</td></tr>
</table>

(f) adjacent land use; and	The adjacent land use is classified as Rural Towns using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural town with mixture of residential and some shops. Some intersections and accesses are present. Some pedestrian and cyclist activity may also be present."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,299 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 1,299 vpd.	The traffic volume in ADT was determined from MegaMaps as: 1,299 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Monument Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit(s) on Monument Road are as follows: • 60 km/h between 400m south of Hyde Road to 750m south of Hyde Road (Section 1) • 100 km/h between 750m south of Hyde Road and 1350m south of Hyde Road (the Clevedon Urban Traffic Area Boundary) (Section 2) • 100 km/h between 1350m south of Hyde Road (the Clevedon Urban Traffic Area Boundary) and Sky High Road (Section 3)
MegaMaps Mean Operating Speed (km/h)	Monument Road has a mean operating speed of: • 57 km/h between 400m south of Hyde Road to 750m south of Hyde Road (Section 1) • 77 km/h between 750m south of Hyde Road and 1350m south of Hyde Road (the Clevedon Urban Traffic Area Boundary) (Section 2) • 59 km/h between 1350m south of Hyde Road (the Clevedon Urban Traffic Area Boundary) and Sky High Road (Section 3)
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Papakura-Clevedon Road** (north of a point 400m south of Hyde Road): 50 km/h • **Tourist Road:** 100 km/h (proposed SaAS 60 km/h) • **Pioneer Road:** 100 km/h (proposed SaAS 60 km/h) • **Munros Road:** 100 km/h (proposed SaAS 60 km/h) • **Highridge Road:** 100 km/h (proposed SaAS 60 km/h) • **McGregor Road:** 100 km/h (proposed SaAS 60 km/h) • **Sky High Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	1	0	8
DSI crashes in the period	1	0	3
Corridor Length (km)	0.34	0.60	5.36
Annual Daily Traffic	1,299	1,299	1,299

- Section 1
    - The Collective Risk score is 0.59. For rural areas this corresponds to a Collective Risk band of **High**
    - The Personal Risk score is 124.1. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
    - The Collective Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 3
    - The Collective Risk score is 0.11. For rural areas this corresponds to a Collective Risk band of **Medium-High**
    - The Personal Risk score is 23.6. For rural areas this corresponds to a Personal Risk band of **High**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	Score	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Straight	1.00	Curved	1.80	Tortuous	6.00
Carriageway width	Medium lane, wide shoulder	1.00	Medium lane, wide shoulder	1.00	Wide lane, very narrow shoulder	1.58
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43	High	2.28
Adjacent land use	Rural towns	2.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	1 to <2	1.15	<1	1.00
Access density (per km)	5 to <10	1.06	2 to <5	1.03	2 to <5	1.03
Traffic volume	1000 to <6000	1.40	1000 to <6000	1.40	1000 to <6000	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Low**.
- Section 2: The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium.**
- Section 3: The Infrastructure Risk Rating Score is 2.2. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- 40 km/h between 400m south of Hyde Road to 750m south of Hyde Road (Section 1)
- 80 km/h Between 750m south of Hyde Road and 1350m south of Hyde Road (the Clevedon Urban Traffic Area Boundary) (Section 2)
- Less than 80 km/h Between 1350m south of Hyde Road (the Clevedon Urban Traffic Area Boundary) and Skyhigh Road (Section 3)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h between 400m south of Hyde Road to Skyhigh Road (all sections of the road)

Monument Road is generally a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds (except for a section between the Clevedon Urban Traffic Area and Tourist Road), despite the existing higher speed limits. Engineering up of Monument Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

Section 1 is proposed to retain its existing speed limit of 60 km/h. The speed limit along this section was recently lowered from 70 km/h and is considered appropriate given it is on the fringe of the Clevedon urban area. The recommended safe and appropriate speed limit of 40 km/h would introduce unnecessary speed limit changes and is not appropriate for a short section of road.

A proposed speed limit of 60 km/h was selected for the remainder of the road due to sections having a narrow torturous alignment with high roadside hazards. These factors contribute to sections of the road having a "High" IRR score, making it a high risk road.[2] It is acknowledged that there is a section of Monument Road between the Clevedon Urban Traffic Area and Tourist Road where a higher speed limit could have been considered; however, this would not align with the speed limit on all the surrounding roads and would create a relatively short 80 km/h speed limit zone, which is not recommended when considering the overall road network. It is also noted there is a relatively new residential development on this section of road which further reinforces 60 km/h as an appropriate speed limit.

After considering all the above factors, the existing speed limit of 100 km/h on Section 2 and 3 on Monument Road in Clevedon, is not considered to be a safe and appropriate speed limit for these sections of road.

The proposed safe and appropriate speed limits for Monument Road, Clevedon generally aligns with the Speed Management Guide but is also mindful of the need for a consistent speed limit along the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Morgan Road (Pukekohe East)

The speed limit on Morgan Road, Pukekohe East has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Morgan Road is classified as an access road under the one network road classification (ONRC). Morgan Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Morgan Road
	Morgan Road connects to Pukekohe East Road at both ends. The primary use of the road is to provide access to rural residential properties. Morgan Road is approximately 0.65 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Morgan Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Morgan Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Morgan Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Morgan Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Morgan Road has a mean operating speed of 34 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Pukekohe East Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.65
Annual Daily Traffic	52

The Collective Risk score is 0.0, and the Personal Risk score is 0.0 . For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is between less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Morgan Road.

Morgan Road is a self-explaining road as the mean operating speed (34 km/h) is already equal to the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Morgan Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved alignment of the road, high risk roadside hazards, its access function and its existing low operating speed (34 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Morgan Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Morgan Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (34 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Moumoukai Hill Road (Ness Valley)

Moumoukai Hill Road, Ness Valley, is divided into two sections and outlined as follows: [1]

1. Section 1: Moumoukai Hill Road between Ness Valley Road and 830m south of Ness Valley Road.
2. Section 2: Moumoukai Hill Road between 830m south of Ness Valley Road and the end of the road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Moumoukai Hill Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Moumoukai Hill Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 830 m in length</td><td>This section of Moumoukai Hill Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 2.72 km in length</td></tr>
<tr><td colspan="2">Moumoukai Hill Road (Section 1) is a two-way, two-lane, undivided, and sealed road. Moumoukai Hill Road (Section 2) is an unsealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Moumoukai Hill Road.

Moumoukai Hill Road connects to Ness Valley Road at its northern end and is a no exit road. Moumoukai Hill Road is primarily used to access rural residential properties along its length. The road also has access to the Hunua Ranges Regional Park at the end of the road.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes on this section of Moumoukai Hill Road. Therefore, there are no DSI crashes.	CAS records zero crashes on this section of Moumoukai Hill Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Moumoukai Hill Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Unsealed • **Road Alignment**: Tortous • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Remote Rural using drive-over footage and geomaps. The IRR defines Remote Rural as "*Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry.*" It should be noted that the end of the road terminates into a private access road that serves eight properties.
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: < 1 intersection per km • **Access density**: 1 to <2 access per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 14 vehicles per day (vpd). Auckland Transport traffic count data records a 7-day ADT of 68 vpd.	The traffic volume in ADT was determined from MegaMaps as 14 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Moumoukai Hill Road.	
(j) the views of interested persons and groups	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Moumoukai Hill Road is 100 km/h for the full length of the road.
MegaMaps Mean Operating Speed (km/h)	Moumoukai Hill Road has a mean operating speed of: • 43 km/h between Ness Valley Road and 830m south of Ness Valley Road • 25 km/h between 830m south of Ness Valley Road and the end of the road.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Ness Valley Road (west of Moumoukai Hill Road)**: 100 km/h (proposed SAAS 80 km/h) • **Ness Valley Road (east of Moumoukai Hill Road)**: 100 km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI crashes during the period	0	0
Corridor Length (km)	0.83	2.72
Annual Daily Traffic	68	14

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**

    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
    - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Unsealed	10.0
Road alignment	Curved	1.80	Tortuous	6.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43	Severe	2.80
Adjacent land use	Rural residential	1.50	Remote rural	1.00
Intersection density (per km)	1 to <2	1.15	<1	1.00
Access density (per km)	2 to <5	1.03	1 to <2	1.01
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 2.5. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- 80 km/h between Ness Valley Road and 830m south of Ness Valley Road Road (Section 1)
- Less than 80 km/h between 830m south of Ness Valley Road and the end of the road (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *60 km/h between Ness Valley Road and 830m south of Ness Valley Road (Section 1)*
- *40 km/h between 830m south of Ness Valley Road and the end of the road (Section 2)*

Moumoukai Hill Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Moumoukai Hill Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the first section of road due to the extremely narrow and curved nature of the road, moderate road side hazards and low mean operating speeds 43 km/h). These factors contribute to the sections 'Medium' IRR score.

A proposed speed limit of 40 km/h was selected for the second section of road due to the extremely narrow, unsealed and tortuous nature of the road, severe risk roadside hazards and the low mean operating speed (25 km/h). These factors contribute to the sections 'High' IRR score, making it a high risk section of road.[2]

After considering all the above factors, the existing speed limit of 100 km/h on Moumoukai Hill Road in Ness Valley, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Moumoukai Hill Road align with or are lower than the Speed Management Guide recommended speed limits. The proposed limits are consistent with the characteristics of both respective sections of road and the low operating speeds on the road supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Moumoukai Road (Hunua)

The speed limit on Moumoukai Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Moumoukai Road is classified as an access road under the one network road classification (ONRC). Moumoukai Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Moumoukai Road.
	Moumoukai Road connects to Hunua Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Moumoukai Road is approximately 3,840m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records two crashes between 2016 and 2020, neither of which resulted in injury. Moumoukai Road had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Moumoukai Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Tortuous • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 60 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Moumoukai Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Moumoukai Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Moumoukai Road has a mean operating speed of 43 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h) • **Paparimu Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	3.84
Annual Daily Traffic	60

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Tortuous	6.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.0
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Moumoukai Road.

Moumoukai Road is a self-explaining road as the mean operating speed (43 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Moumoukai Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and tortuous nature of the road, the high roadside hazards and its existing mean operating speed (43 km/h). These features also contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Moumoukai Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (43 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Mullins Road (Ardmore)

The speed limit on Mullins Road, Ardmore has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Mullins Road is classified as a secondary collector road under the one network road classification (ONRC). Mullins Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Mullins Road.
	Mullins Road connects to Airfield Road and Alfriston-Ardmore Road at the northern end and Papakura-Clevedon Road at the southern end. The primary use of the road is as a through route but it also provides access to a number of rural residential properties. Mullins Road is approximately 2020m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 7 crashes between 2016 and 2020 including one Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Mullins Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2021 vehicles per day (vpd). This level of traffic volume is consistent with the rural, secondary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Mullins Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Mullins Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Mullins Road has a mean operating speed of 72 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Airfield Road**: 80 km/h • **Alfriston-Ardmore Road**: 100 km/h (proposed SAAS 80 km/h) • **Papakura-Clevedon Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	4
DSI crashes during the period	1
Corridor Length (km)	2.02
Annual Daily Traffic	2021

The Collective Risk score is 0.099, and the Personal Risk score is 13.4. For rural areas this corresponds to a Collective Risk band of **Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Mullins Road

Mullins Road is a self-explaining road as the mean operating speed (72 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Mullins Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 60 km/h; however, the road environment does not support this recommended speed limit and it is unlikely to be credible to the public.

A proposed speed limit of 80 km/h was selected due to the curved nature of the road, moderate roadside hazards and its existing operating speed (72 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Mullins Road in Ardmore, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Mullins Road is 80 km/h along the full length of Mullins Road.

A recommended speed of 80 km/h is considered appropriate despite being higher than the Speed Management Guide recommendation (<80 km/h) due to the fact it will provide a more consistent speed limit across the network and is better aligned to the existing operating speed (72 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Munros Road (Clevedon)

Munros Road, Clevedon, is divided into two sections and outlined as follows: [1]

- Section 1: Munros Road between Monument Road and 300m west of Monument Road
- Section 2: Munros Road between 300m west of Monument Road and western end of the road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Munros Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="3">(c) the function and use of the road; and</td><td>This section of Munros Road is classified as an access under the one network road classification (ONRC). This section is 300 m in length</td><td>This section of Munros Road is classified as an access under the one network road classification (ONRC). This section is 700 m in length</td></tr>
<tr><td>This section of Munros Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Munros Road.</td><td>This section of Munros Road is an unsealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Munros Road.</td></tr>
<tr><td colspan="2">Munros Road connects to Monument Road and is a no exit road at the western end. Section 1 & 2 of Munros Road is primarily used to access rural residential properties along the road.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes on this section of Munros Road. Therefore, there are no DSI crashes.	CAS records zero crashes on this section of Munros Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Munros Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium (3m-3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High	• **Road stereotype**: Unsealed • **Road Alignment**: Curved • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 15 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 15 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Munros Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Munros Road has an existing speed limit of 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Munros Road has a mean operating speed of: • 27 km/h between Monument Road and 300m west of Monument Road • 36 km/h between 300m west of Monument Road and western end of the road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Monument Road: 100km/h (proposed SaAS 60km/h)**

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI crashes during the period	0	0
Corridor Length (km)	0.3	0.7
Annual Daily Traffic	15	15

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**

- The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Unsealed	10.0
Road alignment	Curved	1.80	Straight	1.00
Carriageway width	Medium, very narrow shoulder	1.79	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28	High	2.28
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.01	<1	1.00
Access density (per km)	5 to <10	2.60	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.76. For rural areas this corresponds to an IRR band of **Medium-High.**
- Section 2: The Infrastructure Risk Rating Score is 1.97. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h for the entire length of the road.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h

Munros Road is a self-explaining road as the mean operating speeds (27 km/h to 36 km/h) are already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Munros Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the first section of road due to the narrow, tortuous nature of the road, high risk roadside hazards, and the low mean operating speed (27-36 km/h). These features contributes to the sections '**Medium--High'** IRR score, making it a high risk section of road.[2]

After considering all the above factors, the existing speed limit of 100 km/h on Munros Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limits align with the Speed Management Guide (<80 km/h) and the mean operating speed (27 and 36 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Nairn Road, Hunua

The speed limit on Nairn Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Nairn Road is classified as an access road under the one network road classification (ONRC). Nairn Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Nairn Road.
	Nairn Road connects to Gelling Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Nairn Road is approximately 620m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Nairn Road had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Nairn Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Nairn • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Nairn Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Nairn Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Nairn Road has a mean operating speed of 31 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Gelling Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.62
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.2
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Nairn Road.

Nairn Road is a self-explaining road as the mean operating speed (31 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Nairn Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road, its access function and its existing mean operating speed (31 km/h).

After considering all the above factors, the speed limit of 100 km/h on Nairn Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate given the fact the road is a low volume access road and the low operating speed (31 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Needham Road (Paerata)

The speed limit on Needham Road, Paerata has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Needham Road is classified as an access under the one network road classification (ONRC). Needham Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Needham Road.
	Needham Road connects to Burtt Road on the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Needham Road is approximately 550 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Needham Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Needham Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the rural, access nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Needham Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Needham Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Needham Road has a mean operating speed of 20 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burtt Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.55
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Needham Road

Needham Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Needham Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved alignment of the road, its access function and its existing mean operating speed (20 km/h). These factors contribute to the roads "**Medium**" IRR score.

After considering all the above factors, the speed limit of 100 km/h on Needham Road in Paerata, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate given the short, no exit nature of the road and the mean operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Ness Valley Road (Ness Valley)

Ness Valley Road, Ness Valley, is divided into three sections and outlined as follows: [1]

1. Section 1: Ness Valley Road between Clevedon-Kawakawa Road and Moumoukai Hill Road
2. Section 2: Ness Valley Road between Moumoukai Hill Road and 540m east of Moumoukai Hill Road
3. Section 3: Ness Valley Road between 540m east of Moumoukai Hill Road and the end of the road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Ness Valley Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of Ness Valley Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 4.96 km in length	This section of Ness Valley Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 540 m in length	This section of Ness Valley Road is classified as a Secondary Collector under the ONRC. This section is 380 m in length

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

<table>
<tr><td></td><td colspan="3">The majority of Ness Valley Road is two-way, two-lane, undivided, and sealed road, with a small section (Section 3) being unsealed. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Ness Valley Road.

Ness Valley Road is primarily used to access rural residential properties along its length.</td></tr>
<tr><td rowspan="2">(d) crash risk for all road users; and</td><td colspan="3">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td>CAS records two crashes on this section of Ness Valley Road: one non-injury crash, and one minor-injury crash. None of the crashes resulted in Death and Serious Injuries (DSI) crashes.</td><td>CAS records zero crashes on this section of Ness Valley Road. Therefore, there are no DSI crashes.</td><td>CAS records zero crashes on this section of Ness Valley Road. Therefore, there are no DSI crashes.</td></tr>
<tr><td rowspan="2">(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of Ness Valley Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): High</td><td>Road stereotype: Unsealed
Road Alignment: Straight
Carriageway Width: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m)
Roadside Hazards (in both directions): High</td></tr>
</table>

(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:		
	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 176 vehicles per day (vpd). AT traffic counts for the road recorded the ADT as 473 vpd.	The traffic volume in ADT was determined from MegaMaps as 176 vpd. AT traffic counts for the road recorded the ADT as 473 vpd.	The traffic volume in ADT was determined from MegaMaps as: 44 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Ness Valley Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Ness Valley Road is 100 km/h from Clevedon-Kawakawa Road to the end of the road.
MegaMaps Mean Operating Speed (km/h)	Ness Valley Road has a mean operating speed of: • 60 km/h between Clevedon-Kawakawa Road and Moumoukai Hill Road • 60 km/h between Moumoukai Hill Road and 900m west of the end of the road • 37 km/h between 900m west of the end of the road and the end of the road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Clevedon-Kawakawa Road**: 100 km/h (proposed SAAS 80 km/h) • **Moumoukai Hill Road:** 100 km/h (proposed SAAS 60 km/h) • **Phillips Road**: 100 km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	1	0	0
DSI crashes during the period	0	0	0
Corridor Length (km)	4.96	0.54	0.38
Annual Daily Traffic	176	176	44

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 3
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	**Score**	**Category**	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Unsealed	10.0
Road alignment	Curved	1.80	Curved	1.80	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43	High	2.28	High	2.28
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	<1	1.00	1 to <2	1.15	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 1.70. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section3: The Infrastructure Risk Rating Score is 1.80. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- 80 km/h between Clevedon-Kawakawa Road and Moumoukai Hill Road (Section 1)
- Less than 80 km/h between Moumoukai Hill Road and 540m east of Moumoukai Hill Road (Section 2)
- Less than 80 km/h between 540m east of Moumoukai Hill Road and the end of the road (Section 3)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *80 km/h between Clevedon-Kawakawa Road and Moumoukai Hill Road (Section 1)*
- *60 km/h between Moumoukai Hill Road and 540m east of Moumoukai Hill Road (Section 2)*
- *60 km/h between 540m east of Moumoukai Hill Road and the end of the road. (Section 3)*

Ness Valley Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Ness Valley Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the first section of road due to the narrow, curved nature of the road, moderate road side hazards and low mean operating speeds (<60 km/h).

A proposed speed limit of 60 km/h was selected for the second section of road due to the narrow, curved nature of the road, high risk roadside hazards and the low mean operating speed (<60 km/h). The narrow, curved nature of the road and high risk roadside hazards along this section of Ness Valley Road contributes to the sections 'Medium-High' IRR score, making it a high risk section of road.[2] Furthermore, it would be more intuitive for the 60 km/h speed limit to start on this 'no exit' section of road.

A proposed speed limit of 60 km/h was selected for the third section of road as the narrow, unsealed nature of the road and high-risk roadside hazards and the low mean operating speed (<60 km/h). The narrow, unsealed nature of the road and high risk roadside hazards along this section of Ness Valley Road contributes to the sections 'Medium-High' IRR score, making it a high risk section of road.

After considering all the above factors, the existing speed limit of 100 km/h on Ness Valley Road in Matakana, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Ness Valley Road aligns with the Speed Management Guide and the low operating speeds along the road supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Ngakoroa Road (Runciman)

The speed limit on Ngakoroa Road, Runciman, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ngakoroa Road is classified as an access road under the one network road classification (ONRC). Ngakoroa Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Ngakoroa Road.
	Ngakoroa Road connects to Runciman Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Ngakoroa Road is approximately 50m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Ngakoroa Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ngakoroa Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Remote Rural using drive-over footage and geomaps. The IRR defines Remote Rural as "*Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry.*" It should be noted that the end of the road terminates into a private access road that serves eight properties.
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 1 to <2 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 31 vehicles per day (vpd), which is consistent with the rural, no exit, nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Ngakoroa Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Ngakoroa Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Ngakoroa Road has a mean operating speed of 30 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Runciman Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.05
Annual Daily Traffic	31

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Remote Rural	1.0
Intersection density (per km)	1 to <2	1.20
Access density (per km)	1 to <2	1.01
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Ngakoroa Road.

Ngakoroa Road is a self-explaining road as the mean operating speed (30 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Ngakoroa Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road, the high roadside hazards, its access function and its existing mean operating speed (30 km/h).

After considering all the above factors, the speed limit of 100 km/h on Ngakoroa Road in Runciman, is not considered to be a safe and appropriate speed limit for this road.

Although the proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h), the road environment, nature and function of the road support the reduction, as does the existing mean operating speed (30 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Niccone Place (Bombay)

The speed limit on Niccone Place, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Niccone Place is classified as a secondary collector road under the one network road classification (ONRC) but functions as an access road. Niccone Place is a two-way, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Niccone Place.
	Niccone Place is a cul-de-sac that connects to Chamberlain Road at the eastern end. The primary use of the road is to provide access to rural residential properties. This section of Niccone Place is approximately 0.36 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Niccone Place therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Niccone Place were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was not available in MegaMaps but is estimated to be around 50 vehicles per day (vpd) based on the nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Niccone Place
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Niccone Place is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Mean operating speed data is not available for Niccone Place but it would be expected to be in the range of 40 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Chamberlain Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.36
Annual Daily Traffic	Approx. 50 vpd

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7 For rural areas this corresponds to an IRR band of **Medium**-**High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Niccone Place.

Niccone Place is considered a self-explaining road as the mean operating speed is estimated to be below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Niccone Place was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, curved layout, high roadside hazards, and its estimated operating speed. These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Niccone Place, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Niccone Place aligns with the Speed Management Guide (< 80 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Norfolk King Drive (Ramarama)

The speed limit on Norfolk King Drive, Ramarama, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Norfolk King Drive is classified as an access road under the one network road classification (ONRC). Norfolk King Drive is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Norfolk King Drive.
	Norfolk King Drive connects to Runciman Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Norfolk King Drive is approximately 230m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Norfolk King Drive therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Norfolk King Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd), which is consistent with the rural, no exit, nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Norfolk King Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Norfolk King Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Norfolk King Drive has a mean operating speed of 42 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Runciman Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.23
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Severe	2.80
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Norfolk King Drive.

Norfolk King Drive is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Norfolk King Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the severe roadside hazards, and its existing mean operating speed (42 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Norfolk King Drive in Ramarama, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Okaroro Drive (Beachlands)

The speed limit on Okaroro Drive, Beachlands has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Okaroro Drive is classified as a Secondary Collector road under the one network road classification (ONRC). Okaroro Drive is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Okaroro Drive connects to Whitford Maraetai Road to the north and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. is approximately 2.07 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Okaroro Drive were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 696 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Okaroro Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Okaroro Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Okaroro Drive has a mean operating speed of 50 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Whitford-Maraetai Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	2.07
Annual Daily Traffic	696

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.53. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80km/h.

Okaroro Drive is a self-explaining road as the recorded operating speed (50 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. It's recommended to mark centre line along Okaroro Drive to help drives to adjust the road curvature.

The speed limit on Whitford-Maraetai Road was reduced from 100 km/h to 80 km/h as part of the 2019 bylaw.

After considering all the above factors, the existing speed limit of 100 km/h on Okaroro Drive in Beachlands, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Old Barn Road (Opaheke)

The speed limit on Old Barn Road, Opaheke has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Old Barn Road is classified as an Access road under the one network road classification (ONRC). Old Barn Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Old Barn Road.
	Old Barn Road connects to Ponga Road, at the northern end of Old Barn Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Old Barn Road is approximately 520 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Old Barn Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Old Barn Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Minor
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 166 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Old Barn Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Old Barn Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Old Barn Road has a mean operating speed of 28 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 80 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.52
Annual Daily Traffic	166

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Minor	0.67
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.20. For rural areas this corresponds to an IRR band of **Low-Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Old Barn Road

Old Barn Road is a self-explaining road as the mean operating speed (28 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Old Barn Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to curved nature of the road, its short length and access function, and its existing low operating speed (28 km/h).

After considering all the above factors, the speed limit of 80 km/h on Old Barn Road in Opaheke, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h); however, this is considered appropriate given the nature and function of the road. The main reason a lower speed limit is being recommended is to provide consistency with the speed limit on the adjacent road and the low operating speed (28 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Old Coach Way (Ramarama)

The speed limit on Old Coach Way, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Old Coach Way is classified as an Access Road under the one network road classification (ONRC). Old Coach Way is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Old Coach Way.
	Old Coach Way connects to Kern Road and Cooper Road at the northern end of Old Coach Way and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Old Coach Way is approximately 610 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Old Coach Way therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Old Coach Way were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Old Coach Way.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Old Coach Way is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Old Coach Way has a mean operating speed of 28 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kern Road:** 100 km/h (proposed SaAS 60 km/h) • **Cooper Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.610
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Old Coach Way.

Old Coach Way is a self-explaining road as the mean operating speed (28 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Old Coach Way was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow road, its high roadside hazards, access function and its existing low operating speed (28 km/h).

After considering all the above factors, the speed limit of 100 km/h on Old Coach Way in Ramarama, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Old Coach Way is lower than the Speed Management Guide recommendation (80 km/h), however, this is considered acceptable given the short, no exit nature of the road so it is desirable for the speed limit to match the adjacent road. The low operating speed on the (28 km/h) also supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Opaheke Road (Opaheke)

The speed limit on Opaheke Road, between 375m south of Lorelei Place and Sutton Road, Opaheke has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Opaheke Road is classified as a Primary Collector under the one network road classification (ONRC). Opaheke Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is some on-street parking along Opaheke Road, near Opaheke Road.
	Opaheke Road connects between Great South Road at the northern end of Opaheke Road, and Sutton Road at the southern end of Opaheke Road. The primary use of the road is to provide for through traffic. This section of Opaheke Road is approximately 970 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records nine crashes between 2016 and 2020: Five minor injury crashes and four non-injury crashes. Opaheke Road has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Opaheke Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 3,819 vehicles per day (vpd). This level of traffic volume is consistent with the function of this road carrying a significant volume of through traffic.
(i) any planned modification to the road; and	There are no known planned modifications to Opaheke Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Opaheke Road between 375m south of Lorelei Place and Sutton Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Opaheke Road has a mean operating speed of 63 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 80 km/h (proposed SaAS 60 km/h) • **Sutton Road**: 80 km/h (proposed SaAS 60 km/h) • **Walker Road**: 80 km/h (proposed SaAS 60 km/h) • **Opaheke Road (between Great South Road and a point 375m south of Lorelei Place)**: 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	5
DSI crashes during the period	0
Corridor Length (km)	0.97
Annual Daily Traffic	3,819

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	1,000 to < 6,000 vpd	1.40

The Infrastructure Risk Rating Score is 1.60. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h on Opaheke Road (between 375m south of Lorelei Place and Sutton Road)

Opaheke Road has a mean operating speed of 63 km/h, which is below the existing 80 km/h speed limit. Engineering up of Opaheke Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road and the adverse crash history on the road. These factors contribute to the roads "Medium-High" IRR score, making it a High risk road.[1] The proposed speed limit also improve speed limit consistency on the road network by matching adjacent road speed limits (Ponga Road, Sutton Road and Walker Road).

After considering all the above factors, the speed limit of 80 km/h on Opaheke Road in Opaheke, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Opaheke Road (between 375m south of Lorelei Place and Sutton Road), aligns with the Speed Management Guide (<80 km/h) and the existing operating speed (63 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Orere Point Road (Orere Point)

The speed limit on Orere Point Road (between Kawakawa-Orere Road and 560m south of Bays Road), Orere Point has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Orere Point Road is classified as a secondary collector road under the one network road classification (ONRC). Orere Point Road is a two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Orere Point Road.
	This section of Orere Point Road connects to Kawakawa-Orere Road and Orere-Matingarahi Road, at the southern end of the road and joins to a section of Orere Point Road with a 50 km/h speed limit at a point 560m south of Bays Road. The primary use of the road is to provide access to rural residential properties. This section of Orere Point Road is approximately 1.89 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non-injury crash between 2016 and 2020. This section of Orere Point Road has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Orere Point Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium (3.0m – 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: < 1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 851 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and is similar to the 7-day traffic count data of 596 vpd for the road.
(i) any planned modification to the road; and	There are no known planned modifications to Orere Point Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Orere Point Road is 100 km/h between Kawakawa-Orere Road and 560m south of Bays Road.
MegaMaps Mean Operating Speed (km/h)	Orere Point Road has a mean operating speed of 68 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kawakawa-Orere Road**: 100km/h (proposed SaAS 60 km/h) • **Orere-Matingarahi Road**: 100km/h (proposed SaAS 60 km/h) • **Orere Point Road (north of a point 560m south of Bays Road)**: 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.89
Annual Daily Traffic	851

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane Undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	< 1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	<1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of Medium-**High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for Orere Point Road between Kawakawa-Orere Road and a point 560m south of Bays Road

The mean operating speed on Orere Point Road (68 km/h) is well below the existing 100 km/h speed limit. Engineering up of Orere Point Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the two-lane undivided and curved nature of the road and the high roadside hazard risk. The operating speed for the road (68 km/h) is slightly above the proposed speed limit, but this speed limit matches the proposed limits on Kawakawa-Orere Road and Orere-Matingarahi Road and so will provide a more consistent speed limit across the network. Orere Point Road also has a "Medium-High" IRR score, making it a high risk road[1], which further justifies the 60 km/h speed limit.

After considering all the above factors, the speed limit of 100 km/h on Orere Point Road in Orere Point, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and is consistent with the speed limit on adjacent road. The relatively low mean operating speed also (68 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Orere-Matingarahi Road (Orere Point)

The speed limit on Orere-Matingarahi Road, Orere Point has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Orere-Matingarahi Road is classified as an arterial road under the one network road classification (ONRC). Orere-Matingarahi Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Orere-Matingarahi Road
	Orere-Matingarahi Road connects to Kawakawa-Orere Road, at the western end and East Coast Road at the eastern end of Orere-Matingarahi Road. The primary use of the road is to act as a through route; however, it also provides access to rural residential properties. Orere-Matingarahi Road is approximately 6.76 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 5 crashes between 2016 and 2020. However, none of these were recorded as Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Orere-Matingarahi Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Remote Rural using the drive over footage. The IRR defines Remote Rural as *"Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: < 1 intersection per km • **Access density**: 1 to <2 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 691 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road. This is a similar traffic volume to 7-day ADT traffic counts which recorded 401 vpd.
(i) any planned modification to the road; and	There are no known planned modifications to Orere-Matingarahi Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Orere-Matingarahi Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Orere-Matingarahi Road has a mean operating speed of 64 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kawakawa-Orere Road**: 100 km/h (proposed SAAS 60 km/h) • **East Coast Road**: 100 km/h (proposed SAAS 60 km/h) • **Deerys Road**: 100 km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	2
DSI crashes during the period	0
Corridor Length (km)	6.76
Annual Daily Traffic	691

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane Undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Severe	2.80
Adjacent land use	Rural Remote	1.50
Intersection density (per km)	< 1	1.00
Access density (per km)	1 to <2	1.01
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Orere-Matingarahi Road.

Orere-Matingarahi Road is part of a long rural route between Kawakawa Bay and Miranda in the Hauraki District including Kawakawa-Orere Road, Orere-Matingarahi Road and East Coast Road. The road alignment along this route is generally winding; however, there are some straight sections where higher speeds are possible. This results in a mean operating speed (64 km/h) slightly above the proposed safe and appropriate speed, even though many sections of the road are a self-explaining and would have an operating speed below this. It is also noted the operating speeds are well below the existing 100 km/h speed limit. Engineering up of Orere-Matingarahi Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the many winding sections of the road where operating speeds would be lower that the proposed safe and appropriate speed and also the desire to have a consistent speed limit along the route. The road also has a "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Orere-Matingarahi Road in Orere Point, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the operating speed (64 km/h) generally supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Otau Lane (Clevedon)

The speed limit on Otau Lane, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Otau Lane is classified as an access road under the one network road classification (ONRC). Otau Lane is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Otau Lane.
	Otau Lane connects to McNicol Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Otau Lane is approximately 50m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Otau Lane therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Otau Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Low.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 20 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Otau Lane.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Otau Lane is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Otau Lane has a mean operating speed of 40 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **McNicol Road**: 80 km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.05
Annual Daily Traffic	20

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Low	0.40
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.1. For rural areas this corresponds to an IRR band of Low-Medium.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Otau Lane.

Otau Lane is a self-explaining road as the mean operating speed (40 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Otau Lane was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, unsealed nature of the road and its existing low operating speed (40 km/h). Given the very short length of the road it was also considered appropriate to match the speed limit of the main road it connects with to avoid a speed limit change for a very short section of road.

After considering all the above factors, the speed limit of 100 km/h on Otau Lane in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Otau Lane is 60 km/h along the full length of Otau Lane Road. This aligns with the Speed Management Guide (<80 km/h) and the low operating speed (40 km/h), narrow and unsealed nature of the road supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Otau Mountain Road (Clevedon)

Otau Mountain Road, Clevedon, is divided into two sections and outlined as follows: [1]

1. Section 1: Otau Mountain Road between McNicol Road and 3km east of McNicol Road
2. Section 2: Otau Mountain Road between 3km east of McNicol Road and the end of Otau Mountain Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Otau Mountain Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Otau Mountain Road is classified as an Access Road under the one network road classification (ONRC). This section is 3 km in length</td><td>This section of Otau Mountain Road is classified as an Access Road under the one network road classification (ONRC). This section is 2.34 km in length</td></tr>
<tr><td colspan="2">Otau Mountain Road (Section 1) is a two-way, two-lane, undivided, and sealed road. Otau Mountain Road (Section 2) is an unsealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Otau Mountain Road.

Otau Mountain Road is primarily used to access rural residential properties along its length. There is also access to the Hunua Ranges Regional Park at the end of the road.</td></tr>
<tr><td>(d) crash risk for all road users; and</td><td colspan="2">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	CAS records zero crashes on this section of Otau Mountain Road. Therefore, there are no Death or Serious Injuries (DSI) crashes.	CAS records zero crashes on this section of Otau Mountain Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Otau Mountain Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Severe	• **Road stereotype**: Unsealed • **Road Alignment**: Tortous • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Remote Rural using drive-over footage and geomaps. The IRR defines Remote Rural as "*Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry.*" It should be noted that the end of the road terminates into a private access road that serves eight properties.
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: < 1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: < 1 intersection per km • **Access density**: < 1 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 122 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 101 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Otau Mountain Road.	
(j) the views of interested persons and groups	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Otau Mountain Road is 100 km/h for the full length of the road.
MegaMaps Mean Operating Speed (km/h)	Otau Mountain Road has a mean operating speed of: • 45 km/h between McNicol Road and 3km east of McNicol Road. • 30 km/h between 3km east of McNicol Road and the end of Otau Mountain Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **McNicol Road**: 80 km/h (proposed to be lowered to 60 km/h, discussed separately)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI crashes during the period	0	0
Corridor Length (km)	3.00	2.34
Annual Daily Traffic	122	101

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**

- The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Unsealed	10.0
Road alignment	Winding	3.50	Tortuous	6.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Severe	2.80	Severe	2.80
Adjacent land use	Rural residential	1.50	Remote rural	1.00
Intersection density (per km)	<1	1.00	<1	1.00
Access density (per km)	2 to <5	1.03	<1	1.00
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **High.**
- Section 2: The Infrastructure Risk Rating Score is 2.5. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between McNicol Road and 3km east of McNicol Road (Section 1)
- Less than 80 km/h between 3km east of McNicol Road and the end of Otau Mountain Road (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *60 km/h between McNicol Road and 3km east of McNicol Road (Section 1)*
- *40 km/h between 3km east of McNicol Road and the end of Otau Mountain Road (Section 2)*

Otau Mountain Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Otau Mountain Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the first section of road due to the narrow and winding nature of the road, the severe roadside hazards and the low mean operating speed (45 km/h). These factors contribute to the sections 'High' IRR score, making it a high risk section of road.[2]

A proposed speed limit of 40 km/h was selected for the second section of road due to the extremely narrow, unsealed, tortuous nature of the road, severe risk roadside hazards and the low mean operating speed (30 km/h). These factors contributes to the sections 'High' IRR score, making it a high risk section of road.

After considering all the above factors, the existing speed limit of 100 km/h on Otau Mountain Road in Clevedon, is not considered to be a safe and appropriate speed limit.

The proposed safe and appropriate speed limits for Otau Mountain Road align with the Speed Management Guide (<80 km/h) and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Otto Road (Ramarama)

The speed limit on Otto Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Otto Road is classified as an access road under the one network road classification (ONRC). Otto Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Otto Road.
	Otto Road connects to Ararimu Road, at the eastern end of Otto Road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Otto Road is approximately 560m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Otto Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Otto Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 39 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Otto Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Otto Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Otto Road has a mean operating speed of 22 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.56
Annual Daily Traffic	39

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.90. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Otto Road

Otto Road is a self-explaining road as the mean operating speed (22 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Otto Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the road being unsealed, the narrow width and curved nature of the road, the moderate roadside hazards, its function as an access road and its existing low operating speed (22 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Otto Road in Ararimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low operating speed (22 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Papakura-Clevedon Road (Ardmore/Clevedon)

Papakura-Clevedon Road, Ardmore/Clevedon, is divided into five sections and outlined as follows:

1. Section 1: Papakura-Clevedon Road between 140m east of Dominion Road and 100m west of Church Road
2. Section 2: Papakura-Clevedon Road between 100m west of Church Road and 205m northeast of Burnside Road
3. Section 3: Papakura-Clevedon Road between 205m northeast of Burnside Road and West Road
4. Section 4: Papakura-Clevedon Road between West Road and 210m north of West Road (Clevedon Urban Traffic Area Boundary)
5. Section 5: Papakura-Clevedon Road between 210m north of West Road (Clevedon Urban Traffic Area Boundary) and 210m south of Hyde Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Papakura-Clevedon Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table – 1-1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		

<table>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Papakura-Clevedon Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 3.53 km in length</td><td>This section of Papakura-Clevedon Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 860 m in length</td><td>This section of Papakura-Clevedon Road is classified as a Primary Collector under the ONRC. This section is 4.36 km in length</td></tr>
<tr><td colspan="3">Papakura-Clevedon Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is generally no on-street parking along Papakura-Clevedon Road.

Papakura-Clevedon Road is primarily used for through traffic to travel between Papakura and Clevedon. Ardmore School is located within Section 2.</td></tr>
<tr><td rowspan="2">(d) crash risk for all road users; and</td><td colspan="3">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td>CAS records 23 crashes, including 12 injury crashes on this section of Papakura-Clevedon Road. This section of road has three Death and Serious Injuries (DSI) crashes.</td><td>CAS records four crashes, including 1 injury crash on this section of Papakura-Clevedon Road. This section of road has no Death and Serious Injuries (DSI) crashes.</td><td>CAS records 21 crashes, including 7 injury on this section of Papakura-Clevedon Road. This section of road has one Death and Serious Injuries (DSI) crash.</td></tr>
<tr><td rowspan="2">(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of Papakura-Clevedon Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m)
Roadside hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Straight
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m)
Roadside hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Curved
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m)
Roadside hazards (in both directions): Moderate</td></tr>
</table>

(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:		
	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 4,920 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 4,152 vpd.	The traffic volume in ADT was determined from MegaMaps as: 2,838 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Papakura-Clevedon Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

Table 1-2: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**	
	Section 4 *(as applicable)*	**Section 5** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	This section of Papakura-Clevedon Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 210 m in length	This section of Papakura-Clevedon Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 490 m in length
	Papakura-Clevedon Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Papakura-Clevedon Road. Papakura-Clevedon Road is primarily used for through traffic to travel between Papakura and Clevedon.	
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records three crashes on this section of Papakura-Clevedon Road, including 1 injury crash. This section of road has no Death and Serious Injuries (DSI) crashes.	CAS records zero crashes on this section of Papakura-Clevedon Road. Therefore, this section of road has no Death and Serious Injuries (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Papakura-Clevedon Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m) • **Roadside hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width:** Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m) • **Roadside hazards (in both directions)**: Moderate

Requirement	Comments	
	Section 4 *(as applicable)*	**Section 5** *(as applicable)*
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 1 to <2 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 2,838 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 2,838 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Papakura-Clevedon Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1-1 and 1-2, further relevant information has been assessed and is summarised in Table 2 below.

Table 2-1 Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit(s) on Papakura-Clevedon Road are as follows: • 100 km/h between 140m east of Dominion Road and 100m west of Church Road (Section 1) • 80 km/h between 100m west of Church Road and 205m northeast of Burnside Road (Section 2) – this section also has a variable 40 km/h school speed zone. • 100 km/h between 205m northeast of Burnside Road and West Road (Section 3) • 80 km/h between West Road and 210m north of West Road (Clevedon Urban Traffic Area Boundary) (Section 4) • 80 km/h between 210m north of West Road (Clevedon Urban Traffic Area Boundary) and 210m south of Hyde Road (Section 5)
MegaMaps Mean Operating Speed (km/h)	Papakura-Clevedon Road has a mean operating speed of: • 79 km/h between 140m east of Dominion Road and 100m west of Church Road (Section 1) • 79 km/h between 100m west of Church Road and 205m northeast of Burnside Road (Section 2) • 75 km/h between 205m northeast of Burnside Road and West Road (Section 3) • 75 km/h between West Road and 210m north of West Road (Clevedon Urban Traffic Area Boundary) (Section 4) • 75 km/h between 210m north of West Road (Clevedon Urban Traffic Area Boundary) and 210m south of Hyde Road (Section 5)
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Papakura-Clevedon Road (west of a point 140m east of Dominion Road):** 50 km/h • **Hamlin Road:** 100 km/h (proposed SaAS 80 km/h) • **Bullens Road:** 80 km/h (proposed SaAS 60 km/h) • **Mullins Road:** 100 km/h (proposed SaAS 80 km/h) • **Peterson Road: 8**0 km/h (proposed SaAS 60 km/h) • **Ardmore Quarry Road:** 100 km/h (proposed SaAS 60 km/h) • **Church Road: 80** km/h (proposed SaAS 60 km/h) • **Burnside Road: 8**0 km/h (proposed SaAS 60 km/h) • **Parish Line Road:** 100 km/h (proposed SaAS 60 km/h) • **Creightons Road:** 100 km/h (proposed SaAS 80 km/h) • **Tourist Road:** 100 km/h (proposed SaAS 80 km/h)

	• **Clevedon-Takanini Road:** 100 km/h (proposed SaAS 80 km/h) • **West Road:** 80 km/h • **Papakura-Clevedon Road (north of a point 210m south of Hyde Road):** 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	**Section 1**	**Section 2**	**Section 3**
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	12	1	7
DSI crashes during the period	3	0	1
Corridor Length (km)	3.53	0.86	4.36
Annual Daily Traffic	4920	4152	2838
Required Information for safety metrics calculations	**Section 4**	**Section 5**	
Crash Analysis Period (years)	5	5	
Total injury crashes during period	1	0	
DSI crashes during the period	0	0	
Corridor Length (km)	0.21	0.49	
Annual Daily Traffic	2838	2838	

- Section 1
  - The Collective Risk score is 0.17. For rural areas this corresponds to a Collective Risk band of **Medium-High**
  - The Personal Risk score is 9.5. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
  - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 3
  - The Collective Risk score is 0.05 For rural areas this corresponds to a Collective Risk band of **Low-Medium**
  - The Personal Risk score is 4.4. For rural areas this corresponds to a Personal Risk band of **Low-Medium**
- Section 4

    - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 5
    - The Collective Risk score is 0.0 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	**Score**	**Category**	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Straight	1.00	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, wide shoulder	1.00	Medium lane, wide shoulder	1.00
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	2 to <3	1.25	2 to <3	1.25	1 to <2	1.15
Access density (per km)	2 to <5	1.03	2 to <5	1.03	5 to <10	1.06
Traffic volume	1000 to <6000	1.40	1000 to <6000	1.00	1000 to <6000	1.00

Feature	Section 4		Section 5	
	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Curved	1.80
Carriageway width	Medium lane, wide shoulder	1.00	Medium lane, wide shoulder	1.00
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	<1	1.00
Access density (per km)	1 to <2	1.01	2 to <5	1.03
Traffic volume	1000 to <6000	1.00	1000 to <6000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**
- Section 3: The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.
- Section 4: The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.
- Section 5: The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between 140m east of Dominion Road and 100m west of Church Road (Section 1)
- 80 km/h between 100m west of Church Road and 210m south of Hyde Road (Sections 2,3,4 and 5)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h on Papakura-Clevedon Road between 140m east of Dominion Road and 210m south of Hyde Road (Sections 1, 2, 3, 4 and 5)

Papakura-Clevedon Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds on all sections, despite the existing 100 km/h speed limit. Engineering up of Papakura-Clevedon Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for all sections of Papakura- Clevedon Road to provide a consistent speed limit along the road. This is consistent with the generally curved nature or the road with moderate roadside hazards and a mean operating speed between 75 km/h and 79 km/h. The IRR score for the road varies between "**Medium**" and '**Medium-High**'

After considering all the above factors, the existing speed limit of 100 km/h on some sections of Papakura-Clevedon Road is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Papakura-Clevedon Road aligns the Speed Management Guide (80 km/h) for most sections and the operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Paparata Road (Bombay)

Paparata Road, Bombay, is divided into two sections and outlined as follows: [1]

1. Section 1: Paparata Road, Between 280m east of Barber Road and 1050m east of Barber Road.
2. Section 2: Paparata Road, Between 1050m east of Barber Road and Paparimu Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Paparata Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information.

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	This section of Paparata Road is classified as a secondary collector under the one network road classification (ONRC). This section is 0.77 km in length	This section of Paparata Road classified as a secondary collector under the one network road classification (ONRC). This section is 10.43 km in length
	Paparata Road is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Paparata Road. Paparata Road connects to Bombay Road at its western end and Paparimu Road at its eastern end. The road is primarily used as a route for through traffic but there is also access to rural residential properties along its length.	

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records three crashes between 2016 and 2020 including one minor injury crash. This section of Paparata Road therefore has no Death and Serious Injury (DSI) crashes.	CAS records twenty-three crashes between 2016 and 2020 including thirteen injury crashes. There were three Death and Serious Injury (DSI) crashes on this section of Paparata Road
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Barber Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (3.0 m to 3.5m) and narrow shoulder (<0.5 m to 1.0m) • **Roadside Hazards (in both directions)**: High	• **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width**: Medium lane (3.0 m to 3.5m) and narrow shoulder (<0.5 m to 1.0m) • **Roadside Hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 2 <3 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: <1 intersection per km • **Access density:** 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 2,814 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,587 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Paparata Road	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Paparata Road is: • 60 km/h Between 280m east of Barber Road and 1050m east of Barber Road. • 100 km/h Between 1050m east of Barber Road and Paparimu Road
MegaMaps Mean Operating Speed (km/h)	Paparata Road has a mean operating speed of: • 68 km/h Between 280m east of Barber Road and 1050m east of Barber Road. • 76 km/h Between 1050m east of Barber Road and Paparimu Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Paparata Road (west of a point 280m east of Barber Road)**: 50 km/h • **Barber Road**: 100 km/h (proposed SaAS 60 km/h) • **Wooten Road**: 100 km/h (proposed SaAS 60 km/h) • **Lowry Road**: 100 km/h (proposed SaAS 60 km/h) • **Fahey Road**: 100 km/h (proposed SaAS 60 km/h) • **Main Road**: 100 km/h (proposed SaAS 60 km/h) • **Pinnacle Hill Road**: 100 km/h (proposed SaAS 60 km/h) • **Sawyer Road**: 100 km/h (proposed SaAS 60 km/h) • **Kanuka Road**: 100 km/h (proposed SaAS 60 km/h) • **Totara Road**: 100 km/h (proposed SaAS 80 km/h) • **Medhurst Road North**: 100 km/h (proposed SaAS 60 km/h) • **Lynd Road**: 100 km/h (proposed SaAS 60 km/h) • **Aley Road**: 100 km/h (proposed SaAS 60 km/h) • **Stuart Road**: 100 km/h (proposed SaAS 60 km/h) • **Axtens Road**: 100 km/h (proposed SaAS 60 km/h) • **Paparimu Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	**1**	**13**
DSI equivalents	0	**3**
Corridor Length (km)	0.77	10.43
Annual Daily Traffic	2,814	1,587

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.06. For rural areas this corresponds to a Collective Risk band of **Low-Medium**
  - The Personal Risk score is 9.9 For rural areas this corresponds to a Personal Risk band of **High**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	Score	Category	Score
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Straight	1.00	Winding	3.50
Carriageway width	Medium lane, narrow shoulder	1.45	Medium lane, narrow shoulder	1.45
Roadside hazards (in both directions)	High	2.28	High	2.28
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	2 <3	1.30	<1	1.00
Access density (per km)	5 to <10	1.06	2 to <5	1.03

Traffic volume	1000 to < 6,000 vpd	1.40	1000 to < 6,000 vpd	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.60. For rural areas this corresponds to an IRR band of **Medium- High**.
- Section 2: The Infrastructure Risk Rating Score is 2.10. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h for the length of Paparata Road (sections 1 and 2).

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *60 km/h* between 280m east of Barber Road and 1050m east of Barber Road *(Section 1) --no change on the current bylaw*
- *80 km/h* between 1050m east of Barber Road and Paparimu Road *(Section 2)*

It is proposed to maintain the existing 60 km/h speed limit on Section 1 of Paparata Road.

Section 2 of Paparata Road is a self-explaining road as the mean operating speeds (76 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Paparata Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the second section of road due to the medium width and winding alignment, high risk roadside hazards and the adverse crash history. These features contributes to the sections 'High' IRR score, making it a high-risk section of road.

After considering all the above factors, the existing speed limit of 100 km/h on Section 2 of Paparata Road in Bombay, is not considered to be a safe and appropriate speed limit for this section of road.

The recommended safe and appropriate speed limit for Section 2 of Paparata Road is higher than the Speed Management Guide recommendation (<80 km/h) but considered appropriate given the nature and function of the road and the fact a lower speed limit is unlikely to be credible or supported by the public due to the current mean operating speed (76 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Paparimu Road (Bombay)

The speed limit on Paparimu Road, between Moumoukai Road and 2500m south of Paparata Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Paparimu Road is classified as a secondary collector road under the one network road classification (ONRC). Paparimu Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Paparimu Road.
	This section of Paparimu Road connects to Moumoukai Road at the northern end and continues within the Waikato District at the southern end. The primary use of the road is to provide for through traffic, but it also provides access to rural residential properties. This section of Paparimu Road is approximately 9.43 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records fifteen crashes between 2016 and 2020, including nine injury crashes. There were two Death and Serious Injury (DSI) crashes on the road. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Paparimu Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0m – 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as between 740 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Paparimu Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Paparimu Road is 100 km/h between Moumoukai Road and 2500m south of Paparata Road
MegaMaps Mean Operating Speed (km/h)	Paparimu Road has a mean operating speed ranging between 76 and 82 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road**: 100 km/h (proposed SaAS 80 km/h) • **Moumoukai Road**: 100 km/h (proposed SaAS 60 km/h) • **Bushmere Drive**: 100 km/h (proposed SaAS 60 km/h) • **Wilson Road**: 100 km/h (proposed SaAS 60 km/h) • **Ararimu Road**: 100 km/h (proposed SaAS 80 km/h) • **Matheson Road**: 100 km/h (proposed SaAS 80 km/h) • **Paparata Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	9
DSI crashes during the period	2
Corridor Length (km)	9.43
Annual Daily Traffic	740

The Collective Risk score is 0.04, and the Personal Risk score is 15.7. For rural areas this corresponds to a Collective Risk band of **Low-Medium**, and a Personal Risk band of **High.**

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for Paparimu Road between Moumoukai Road and 2500m south of Paparata Road

Paparimu Road between Moumoukai Road and 2500m south of Paparata Road is a generally self-explaining road as the mean operating speed (76 to 86 km/h) is similar to the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Paparimu Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to the medium road width, curved alignment, and the existing operating speed (76 to 86 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Paparimu Road between Moumoukai Road and 2500m south of Paparata Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Paparimu Road is higher than the Speed Management Guide recommendation (< 80 km/h) but considered appropriate for the nature and function of the road. Furthermore, a lower speed limit is unlikely to be credible to drivers or supported by the public due to the existing operating speed (76 to 86 km/h).

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Parish Line Road (Clevedon)

Parish Line Road, Clevedon, is divided into two sections and outlined as follows: [1]

- Section 1: Parish Line Road between northern end of Parish Line Road and Clevedon-Takanini Road.
- Section 2: Parish Line Road between Clevedon-Takanini Road and Papakura-Clevedon Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Parish Line Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="3">(c) the function and use of the road; and</td><td>This section of Parish Line Road is classified as an access under the one network road classification (ONRC). This section is 0.79 km in length</td><td>This section of Parish Line Road is classified as a secondary collector under the one network road classification (ONRC). This section is 1.89 km in length</td></tr>
<tr><td>This section of Parish Line Road is an unsealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Parish Line Road.</td><td>This section of Parish Line Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Parish Line Road.</td></tr>
<tr><td colspan="2">Parish Line Road connects to Papakura-Clevedon Road in the south and the northern end is a no exit road. Parish Line Road is primarily used to access rural residential properties along the road.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes on this section of Parish Line Road. Therefore, there are no DSI crashes.	CAS records two crashes on this section of Parish Line Road including 1 minor injury crash. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Parish Line Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Unsealed • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width:** Medium lane (3.0 to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 326 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 326 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Parish Line Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Parish Line Road has an existing speed limit of 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Parish Line Road has a mean operating speed of: • 30 km/h between northern end of Parish Line Road and Clevedon-Takanini Road. • 62 km/h between Clevedon-Takanini Road and Papakura-Clevedon Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Papakura-Clevedon Road**: 100 km/h (proposed SaAS 80 km/h) • **Clevedon-Takanini Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	1
DSI equivalents	0	0
Corridor Length (km)	0.79	1.89
Annual Daily Traffic	326	326

- Section 1
    - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
    - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Unsealed	10.0	Two-lane undivided	3.7
Road alignment	Straight	1.00	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	1 to <2	1.15
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**
- Section 2: The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between northern end of Parish Line Road and Clevedon-Takanini Road. (Section 1)
- 80 km/h between Clevedon-Takanini Road and Papakura-Clevedon Road. (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendations:

- *40 km/h on Parish Line Road between northern end of Parish Line Road and Clevedon-Takanini Road (Section 1)*
- *60 km/h on Parish Line Road between Clevedon-Takanini Road and Papakura-Clevedon Road* (*Section 2)*

Parish Line Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Parish Line Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected for the first section of road due to the unsealed nature of the road, moderate risk roadside hazards, and the low mean operating speed (30 km/h). These features contributes to the sections '**Medium-High**' IRR score, making it a high risk section of road.[2]

A proposed speed limit of 60 km/h was selected for the second section of road due to the undivided nature of the road, moderate risk roadside hazards, and the low mean operating speed (62 km/h). These factors contributes to the sections '**Medium**' IRR score.

After considering all the above factors, the existing speed limit 100 km/h on Parish Line Road, in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) for section 1 and is lower than the Speed Management Guide (80 km/h) recommendation for section 2. However, the mean operating speed (62 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Patrick Lane (Ramarama)

The speed limit on Patrick Lane, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Patrick Lane is classified as an access road under the one network road classification (ONRC). Patrick Lane is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Patrick Lane.
	Patrick Lane connects to Kern Road at its northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Patrick Lane is approximately 0.28 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Patrick Lane therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Patrick Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1<2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Patrick Lane
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Patrick Lane is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Patrick Lane has a mean operating speed of 23 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kern Road:** 100km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.28
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Patrick Lane.

Patrick Lane is a self-explaining road as the mean operating speed (27 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Patrick Lane was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high roadside hazards, its access function, and the existing low operating speed (27 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Patrick Lane is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Patrick Lane aligns with the Speed Management Guide (<80 km/h) and the low operating speed (27 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Peach Hill Road (Drury)

The speed limit on Peach Hill Road, Drury has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Peach Hill Road is classified as an Access Road under the one network road classification (ONRC). Peach Hill Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Peach Hill Road. Peach Hill Road connects to Davies Road, at the western end of Peach Hill Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Peach Hill Road is approximately 4,450 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non-injury crash between 2016 and 2020. Peach Hill Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Peach Hill Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Tortuous • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent for the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Peach Hill Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Peach Hill Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Peach Hill Road has a mean operating speed of 38 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Davies Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	4.45
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Tortuous	6.00
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.10. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Peach Hill Road.

Peach Hill Road is a self-explaining road as the mean operating speed (38 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Peach Hill Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the tortuous alignment of the road, high risk roadside hazards, and its existing low operating speed (38 km/h). It also matches the proposed speed limit on the adjacent road.

After considering all the above factors, the speed limit of 100 km/h on Peach Hill Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Peach Hill Road is aligns with the Speed Management Guide (<80 km/h) and the low operating speed (38 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Petersons Road (Ardmore)

The speed limit on Petersons Road, Ardmore has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Petersons Road is classified as a secondary collector road under the one network road classification (ONRC), but functions as an access road. Petersons Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Petersons Road.
	Petersons Road connects to Papakura-Clevedon Road at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Petersons Road is approximately 1000m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Petersons Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Petersons Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium (3.0 m to <3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 218 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Petersons Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Petersons Road is 80 km/h
MegaMaps Mean Operating Speed (km/h)	Petersons Road has a mean operating speed of 42 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Papakura-Clevedon Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.00
Annual Daily Traffic	218

The Collective Risk score is 0.0, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Petersons Road

Petersons Road is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Petersons Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide and recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road, moderate roadside hazards, its access function and its existing low operating speed (42 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 80 km/h on Petersons Road in Ardmore is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Petersons Road is 60 km/h along the full length of Petersons Road.

A speed limit lower than the Speed Management Guide recommendation is justified based on the nature and function of the road and the low operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Phillip Road (Takanini)

The speed limit on Phillip Road, Ardmore has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Phillip Road is classified as a secondary collector road under the one network road classification (ONRC); however, it functions as an access road. Phillip Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Phillip Road.
	Phillip Road connects to Mill Road at the western end and is a no exit road. The primary use of the road is to provide access to rural residential properties and the Zealandia Horticulture and Kiwi Pack & Coolstores factories. Phillip Road is approximately 1690m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Phillip Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Phillip Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 301 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Phillip Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Phillip Road is 80 km/h
MegaMaps Mean Operating Speed (km/h)	Phillip Road has a mean operating speed of 45 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Mill Road**: 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.69
Annual Daily Traffic	301

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Phillip Road

Phillip Road is a self-explaining road as the mean operating speed (45 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Phillip Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide and MegaMaps recommend a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road, the moderate roadside hazards, its function as an access road, the presence of a single lane bridge on the road and its existing low operating speed (45 km/h). These factors also contribute to the roads "Medium" IRR score, making it a medium risk road.[1]

After considering all the above factors, the speed limit of 80 km/h on Phillip Road in Ardmore, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Phillip Road 60 km/h along the full length of Phillip Road.

The low operating speed (45 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Phillips Road (Ness Valley)

The speed limit on Phillips Road, Ness Valley has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Phillips Road is classified as a secondary collector road under the one network road classification (ONRC), but functions as an access road. Phillips Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Phillips Road.
	Phillips Road connects to Ness Valley Road, at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Phillips Road is approximately 120m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Phillips Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Phillips Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 322 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Phillips Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Phillips Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Phillips Road has a mean operating speed of 20 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ness Valley Road**: 100km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.12
Annual Daily Traffic	322

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Phillips Road.

Phillips Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Phillips Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, unsealed and curved nature of the road, a high number of roadside hazards, its access function and its existing low operating speed (20 km/h). These features also contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Phillips Road in Ness Valley, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Phillips Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Pinnacle Hill Road (Bombay)

The speed limit on Pinnacle Hill Road, between Paparata Road and 570m south of Medhurst Road (Waikato District Boundary), Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pinnacle Hill Road between Paparata Road and 570m south of Medhurst Road is classified as a secondary collector road under the one network road classification (ONRC). Pinnacle Hill Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Pinnacle Road.
	Pinnacle Hill Road connects to Paparata Road at the northern end and extends into the Waikato District at the southern end of the Auckland Region boundary. The primary use of the road is to provide access to rural residential properties, but it also carries some through traffic. This section of Pinnacle Hill Road is approximately 2.6 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records two crashes between 2016 and 2020, one minor injury and one non-injury crash. Pinnacle Hill Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Pinnacle Hill Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m-3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High

Requirement	Comments
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 561 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Pinnacle Hill Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Pinnacle Hill Road is 100 km/h, between Paparata Road and 570m south of Medhurst Road.
MegaMaps Mean Operating Speed (km/h)	Pinnacle Road has a mean operating speed of 61 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road**: 100 km/h (proposed SaAS 80 km/h) • **Farr Road**: 100 km/h (proposed SaAS 60 km/h) • **Medhurst Road**: 100 km/h (proposed SaAS 60 km/h) • **Kimber Road**: 100 km/h (proposed SaAS 60 km/h) • **Pinnacle Hill Road (south of a point 570m south of Medhurst Road)**: 100 km/h (within Waikato District)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	1
DSI crashes during the period	0
Corridor Length (km)	2.6
Annual Daily Traffic	561

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.30
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for Pinnacle Hill Road between Paparata Road and 570m south of Medhurst Road.

The mean operating speed (61 km/h) on Pinnacle Hill Road between Paparata Road and 570m south of Medhurst Road is significantly below the existing 100 km/h speed limit. Engineering up of Pinnacle Hill Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved alignment and medium width of the road, the high risk roadside hazards, and its existing operating speed (61 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Pinnacle Hill Road between Paparata Road and 570m south of Medhurst Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Pinnacle Hill Road aligns with the Speed Management Guide (<80 km/h) and the current operating speed (61 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Pioneer Road (Clevedon)

The speed limit on Pioneer Road, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pioneer Road is classified as a secondary collector under the one network road classification (ONRC). Pioneer Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Pioneer Road.
	Pioneer Road connects to Monument Road at the eastern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Pioneer Road is approximately 1,000m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Pioneer Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Pioneer Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 572 vehicles per day (vpd). This level of traffic volume is consistent with the rural, secondary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Pioneer Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Pioneer Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Pioneer Road has a mean operating speed of 26 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Monument Road**: 100 km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.00
Annual Daily Traffic	572

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.06
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Pioneer Road

Pioneer Road is a self-explaining road as the mean operating speed (26 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Pioneer Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, high roadside hazards, access function and its existing low operating speed (26 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Pioneer Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low operating speed (26 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Pitt Road, Runciman

The speed limit on Pitt Road, Runciman has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pitt Road is classified as a Primary Collector under the one network road classification (ONRC). Pitt Road is a two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is on-street parking along the northern section of Pitt Road.
	Pitt Road connects to Burtt Road and McPhearson Road at the southern end of the north and the northern end is a cul-de-sac. The primary use of the road for through traffic but it also provides access to rural residential properties. Pitt Road is approximately 550m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non-injury crash between 2016 and 2020. Pitt Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Pitt Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0m-3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 vehicles per day (vpd). This level of traffic volume is considered low for the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Pitt Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Pitt Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Pitt Road has a mean operating speed of 51 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burtt Road:** 100 km/h (proposed SaAS 80 km/h) • **Great South Road**: 100 km/h (proposed SaAS 80 km/h) • **McPherson Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.55
Annual Daily Traffic	332

The Collective Risk score is 0.0, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Pitt Road.

Pitt Road is a self-explaining road as the mean operating speed (51 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Pitt Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to the medium width, high roadside hazards and existing low operating speed (51 km/h) on the road. In addition, this is a relatively short road and all adjacent roads have proposed speed limits of 80 km/h so matching these is desirable to provide a consistent speed limit on the network.

After considering all the above factors, the speed limit of 80 km/h on Pitt Road in Runciman, is considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed is higher than the Speed Management Guide recommendation (<80 km/h). The main reason a higher speed limit is to provide consistency with the speed limit on adjacent roads. The low operating speed (51 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Ponga Road (Opaheke)

Ponga Road, Opaheke, is divided into two sections and outlined as follows: [1]

1. Section 1: Ponga Road between Sutton Road and 925m north of Sonja Drive
2. Section 2: Ponga Road between 925m north of Sonja Drive and Hunua Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Ponga Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Ponga Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 4.91 km in length.</td><td>This section of Ponga Road is classified as a Secondary Collector under the one network road classification (ONRC). This section is 7.15 km in length</td></tr>
<tr><td colspan="2">Ponga Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Ponga Road.

Ponga Road connects to Opaheke Road and Sutton Road at the western end of the road and to Hunua Road at the eastern end. The road is primarily used as a through route, although there are a number of rural residential properties along its length.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 20120. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records thirteen crashes on this section of Ponga Road: one serious crash, six minor injury crashes, and six non-injury crashes. Ponga Road therefore has one Death and Serious Injury (DSI) crash.	CAS records zero crashes on this section of Ponga Road. Ponga Road therefore has no Death and Serious Injury (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Ponga Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Tortuous • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe	• **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 641 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 291 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Ponga Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the	

	speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	**Comment**
Existing Speed Limit	The speed limit on Ponga Road is: • 80 km/h between Sutton Road and 925m north of Sonja Drive • 100 km/h between 925m north of Sonja Drive and Hunua Road
MegaMaps Mean Operating Speed (km/h)	Ponga Road has a mean operating speed of: • 54 km/h between Sutton Road and 925m north of Sonja Drive • 59 km/h between 925m north of Sonja Drive and Hunua Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Sutton Road**: 80 km/h (proposed SaAS 60 km/h) • **Opaheke Road**: 80 km/h (proposed SaAS 60 km/h) • **Jack Paterson Road**: 80 km/h (proposed SaAS 60 km/h) • **Old Barn Road**: 80 km/h (proposed SaAS 60 km/h) • **Harry Dreadon Road**: 80 km/h (proposed SaAS 60 km/h) • **Coal Mine Road**: 80 km/h (proposed SaAS 60 km/h) • **Jude Richardson Road**: 80 km/h (proposed SaAS 60 km/h) • **Sonja Drive**: 100 km/h (proposed SaAS 40 km/h) • **Laurie Drive**: 100 km/h (proposed SaAS 40 km/h) • **McEntee Road**: 100 km/h (proposed SaAS 60 km/h) • **Reed Road**: 100 km/h (proposed SaAS 60 km/h) • **Batkin Road**: 100 km/h (proposed SaAS 60 km/h) • **Hunua Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI crashes during the period	1	0
Corridor Length (km)	4.91	7.51
Annual Daily Traffic	641	291

- Section 1
  - The Collective Risk score is 0.04. For rural areas this corresponds to a Collective Risk band of **Low-Medium**
  - The Personal Risk score is 17.4. For rural areas this corresponds to a Personal Risk band of H**igh**
- Section 2
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section 2	
	Category	Score	Category	Score
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.7
Road alignment	Tortuous	6.00	Winding	3.50
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Severe	2.80	High	2.28
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	<1	1.00	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume	<1,000 vpd	1.00	<1,000 vpd	1.00

- Section 1: The Infrastructure Risk Rating Score is 2.2. For rural areas this corresponds to an IRR band of **High**.
- Section 2: The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of Medium-**High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/for the full length of Ponga Road.

Ponga Road is a self-explaining road as the mean operating speeds (54 km/h to 59 km/h) are already below the proposed safe and appropriate speeds, despite the existing 80km/h and 100 km/h speed limits. Engineering up of Ponga Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for Ponga Road due to the narrow, winding nature of the road, high to severe roadside hazards and low mean operating speeds (54 to 59 km/h). These features contribute to the roads 'Medium-High' to 'High' IRR score, making it a high risk road.[2]

After considering all the above factors, the existing speed limits of 80 km/h and 100 km/h on Ponga Road in Opaheke, are not considered to be safe and appropriate speed limits for the road.

The proposed safe and appropriate speed limits for Ponga Road aligns with the Speed Management Guide (<80 km/h) and the low operating speeds supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Popes Road (Takanini)

Popes Road, Takanini, is divided into two sections and outlined as follows: [1]

1. Section 1: Popes Road, Between Takanini School Road and 250m east of Porchester Road.
2. Section 2: Popes Road, Between 250m east of Porchester Road and Mill Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Popes Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information.

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Popes Road is classified as a primary collector under the one network road classification (ONRC). This section is 0.77 km in length</td><td>This section of Popes Road classified as a primary collector under the one network road classification (ONRC). This section is 1.39 km in length</td></tr>
<tr><td colspan="2">Popes Road is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Popes Road.

Popes Road connects to Takanini School Road at its western end and Mill Road at its eastern end. The road is primarily used as a route for through traffic but there is also access to rural residential properties along its length.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records nine crashes between 2016 and 2020 including one serious crash, three minor injury crashes and five non-injury crashes. This section of Popes Road therefore has one Death and Serious Injury (DSI) crash.	CAS records three crashes between 2016 and 2020 including one fatal crash and two non-injury crashes. Therefore there was one Death and Serious Injury (DSI) crash on this section of Popes Road.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Barber Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (<0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (<0.5 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density:** 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 2,062 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 2,062 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Popes Road	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Popes Road is: • 60 km/h Between Takanini School Road and 250m east of Porchester Road • 80 km/h Between 250m east of Porchester Road and Mill Road
MegaMaps Mean Operating Speed (km/h)	Popes Road has a mean operating speed of: • 59 km/h Between Takanini School Road and 250m east of Porchester Road • 59 km/h Between 250m east of Porchester Road and Mill Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Takanini School Road:** 50 km/h • **Porchester Road**: 60 km/h (proposed SaAS 60 km/h) • **Mill Road**: 80 km/h (proposed SaAS 80 km/h) • **Wedding Place**: 80 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	**4**	**1**
DSI equivalents	1	**1**
Corridor Length (km)	0.77	1.39
Annual Daily Traffic	2,062	2,062

- Section 1
  - The Collective Risk score is 0.260. For rural areas this corresponds to a Collective Risk band of **High**
  - The Personal Risk score is 34.50. For rural areas this corresponds to a Personal Risk band of **High**
- Section 2
  - The Collective Risk score is 0.144. For rural areas this corresponds to a Collective Risk band of **Medium-High**

- The Personal Risk score is 19.1 For rural areas this corresponds to a Personal Risk band of **High**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Straight	1.00	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1. 79
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20	1 to <2	1. 20
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume	1000 to < 6,000 vpd	1.40	1000 to < 6,000 vpd	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h for the length of Popes Road (sections 1 and 2).

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *60 km/h* between Takanini School Road and 250m east of Porchester Road *(Section 1)*
- *60 km/h* between 250m east of Porchester Road and Mill Road *(Section 2)*

It is proposed to maintain the existing 60 km/h speed limit on Section 1 of Popes Road.

Section 2 of Popes Road is a self-explaining road as the mean operating speeds (59 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Popes Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the second section of road due to the medium width and very narrow shoulder, and the adverse crash history. These features contribute to the sections 'High' IRR score, making it a high-risk section of road.

After considering all the above factors, the existing speed limit of 80 km/h on Section 2 of Popes Road in Takanini, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limit for Section 2 of Popes Road aligns with the Speed Management Guide recommendation (<80 km/h) and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment – Porterfield Road Extension (Whitford)

The speed limit on Porterfield Road Extension, Whitford has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Porterfield Road Extension is classified as a Secondary Collector road under the one network road classification (ONRC). Porterfield Road Extension is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Porterfield Road Extension connects to Porterfield Road to the south and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. is approximately 0.52 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Porterfield Road Extension were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate including frequent roadside vegetation.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 291 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Porterfield Road Extension.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Porterfield Road Extension is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Porterfield Road Extension has a mean operating speed of 42 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Porterfield Road:** 80 km/h (proposed to be simultaneously reduced to 60 km/h) • **Clifton Road:** 60 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.53
Annual Daily Traffic	291

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.58. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Porterfield Road Extension is a self-explaining road as the recorded operating speed (42 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Porterfield Road Extension was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The speed limit on Clifton Road was reduced from 80 km/h to 60 km/h as part of the 2019 bylaw. The speed limit of Porterfield Road is proposed to be simultaneously reduced from 80 km/h to 60 km/h.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected for Porterfield Road Extension due to the narrow nature of the road, its existing low operating speed (42 km/h), and for consistency with its connected road.

After considering all the above factors, the existing speed limit of 100 km/h on Porterfield Road Extension in Whitford, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment – Porterfield Road (Whitford)

The speed limit on Porterfield Road, Whitford has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Porterfield Road is classified as a Secondary Collector road under the one network road classification (ONRC). Porterfield Road is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road. Porterfield Road connects to Clifton Road to the west and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Porterfield Road is approximately 0.52 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Porterfield Road were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 431 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Porterfield Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Porterfield Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Porterfield Road has a mean operating speed of 47 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Clifton Road:** 60 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.52
Annual Daily Traffic	420

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.43. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Porterfield Road is a self-explaining road as the recorded operating speed (47 km/h) is already below the proposed safe and appropriate speed, despite the existing 80 km/h speed limit. Engineering up of Porterfield Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The speed limit on Clifton Road was reduced from 80 km/h to 60 km/h as part of the 2019 bylaw.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected for Porterfield Road due to the narrow nature of the road, its existing low operating speed (47 km/h), and for consistency with its connected road.

After considering all the above factors, the existing speed limit of 80 km/h on Porterfield Road in Whitford, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Portsmouth Road (Bombay)

The speed limit on Portsmouth Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Portsmouth Road is classified as a secondary collector road under the one network road classification (ONRC). Portsmouth Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Portsmouth Road.
	Portsmouth Road connects to Chamberlain Road at the eastern end and Bombay Road at the western end of the road. The primary use of the road is to provide access to rural residential properties. Portsmouth Road is approximately 2.03 km long.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Portsmouth Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Portsmouth Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 519 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Portsmouth Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Portsmouth Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Portsmouth Road has a mean operating speed of 60 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bombay Road** 100 km/h (proposed SaAS 60 km/h) • **Hillview Road**: 100 km/h (proposed SaAS 60 km/h) • **Barber Road** 100 km/h (proposed SaAS 60 km/h) • **Wootten Road** 100 km/h (proposed SaAS 60 km/h) • **Chamberlain Road 10**0 km/hr (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	2.03
Annual Daily Traffic	519

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band between **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Portsmouth Road.

Portsmouth Road is a self-explaining road as the mean operating speed (60 km/h) is already equal to the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Portsmouth Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, moderate roadside hazards and its existing operating speed (60 km/h). These factors contribute to the roads “Medium” IRR score. It is also noted that all the adjacent roads of similar function have a proposed speed limit of 60 km/h so matching this speed limit on Portsmouth Road also provides better consistency across the network.

After considering all the above factors, the speed limit of 100 km/h on Portsmouth Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Portsmouth Road is lower than the Speed Management Guide recommendation (80 km/h) but is considered the most appropriate speed to maintain a consistent speed limit on the adjacent network of roads. The operating speed (60 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Pratts Road (Ramarama)

Pratts Road, Ramarama, is divided into two sections and outlined as follows: [1]

1. Section 1: Pratts Road between the western end of Pratts Road and 690m west of the eastern end of Pratts Road
2. Section 2: Pratts Road between 690m west of the eastern end of Pratts Road and the eastern end of Pratts Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Pratts Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Pratts Road is classified as a Secondary Collector under the one network road classification (ONRC), but functions as an access road. This section is 1.27 km in length.</td><td>This section of Pratts Road is classified as a Secondary Collector under the one network road classification (ONRC) , but functions as an access road. This section is 0.69 km in length</td></tr>
<tr><td colspan="2">Pratts Road is a two-way, two-lane, undivided and partially unsealed road (section 2). There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Pratts Road. Pratts Road links between two sections of Ararimu Road. The road is primarily used for access to the rural residential properties along its length.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 20120. CAS includes crashes for all road users and therefore the crash risk for all road users was considered. CAS records one non-injury crash on this section of Pratts Road. Pratts Road therefore has no Death and Serious Injury (DSI) crashes.	CAS records zero crashes on this section of Pratts Road. Pratts Road therefore has no Death and Serious Injury (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Pratts Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Winding • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High	• **Road stereotype**: Unsealed • **Road Alignment**: Curved • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 49 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 49 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Pratts Road.	

(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Pratts Road is 100 km/h for the full length of the road.
MegaMaps Mean Operating Speed (km/h)	Pratts Road has a mean operating speed of: • 55 km/h between the western end of Pratts Road and 690m west of the eastern end of Pratts Road • 39 km/h between 690m west of the eastern end of Pratts Road and the eastern end of Pratts Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Ararimu Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI crashes during the period	0	0
Corridor Length (km)	1.27	0.69
Annual Daily Traffic	49	49

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2

- The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
- The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section 2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Unsealed	10.00
Road alignment	Winding	3.50	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28	High	2.28
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	<1	1.00	1 to <2	1.20
Access density (per km)	5 to <10	1.06	2 to <5	1.03
Traffic volume	<1,000 vpd	1.00	<1,000 vpd	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.90. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 2.10. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is = 60 km/h for the length of Pratts Road.

Pratts Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Pratts Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for Pratts Road due to the narrow, curved/winding nature of the road, high road side hazards and low mean operating speeds (39 to 55 km/h). Part of the road is also unsealed. These features contribute to the road 'Medium-High' to 'High' IRR score, making it a high risk section of road.[2]

After considering all the above factors, the existing speed limit of 100 km/h on Pratts Road in Ramarama, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Pratts Road aligns with the Speed Management Guide (<80 km/h) and the low operating speeds supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Pukekohe Road East (Pukekohe)

Pukekohe Road East, Pukekohe, is divided into three sections and outlined as follows: [1]

- Section 1: Pukekohe Road East between Belgium Road and 130m east of Anselmi Ridge Road
- Section 2: Pukekohe Road East between 130m east of Anselmi Ridge Road and 300m west of Harrisville Road
- Section 3: Pukekohe Road East between 300m west of Harrisville Road and Harrisville Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Pukekohe Road East have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of Pukekohe Road East is classified as an Arterial under the one network road classification (ONRC). This section is 0.60 km in length.	This section of Pukekohe Road East is classified as an Arterial under the one network road classification (ONRC). This section is 2.23 km in length.	This section of Pukekohe Road East is classified as an Arterial under the ONRC. This section is 0.3 km in length.

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

<table>
<tr><td></td><td colspan="3">Pukekohe Road East is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road and there is no on-street parking along Pukekohe Road East.

Pukekohe Road East connects West Street at its eastern end to Mill Road at the western end. The road is a major through route between Pukekohe and Bombay, although there are a number of rural residential properties along its length.</td></tr>
<tr><td rowspan="2">(d) crash risk for all road users; and</td><td colspan="3">NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.</td></tr>
<tr><td>CAS records ten crashes on this section of Pukekohe Road East including six minor injury crashes. There have been no DSI crashes on this section of Pukekohe Road East.</td><td>CAS records twenty crashes on this section of Pukekohe Road East including 1 fatal crash, 2 serious injury crashes and 8 minor injury crashes. Therefore there have been three DSI crashes.</td><td>CAS records six non-injury crashes on this section of Pukekohe Road East. There have been no DSI crashes on this section of Pukekohe Road East.</td></tr>
<tr><td rowspan="2">(e) the characteristics of the road and roadsides; and</td><td colspan="3">The following characteristics for each section of Mill Road were determined using a combination of site drive-over footage and geomaps information</td></tr>
<tr><td>Road stereotype: Two lane undivided
Road Alignment: Straight
Carriageway Width: Medium lane (3.0 to 3.5 m) and very wide shoulder (>2 m)
Roadside Hazards (in both directions): Moderate</td><td>Road stereotype: Two lane undivided
Road Alignment: Straight
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (1.5 to 2 m)
Roadside Hazards (in both directions): High</td><td>Road stereotype: Two lane undivided
Road Alignment: Straight
Carriageway Width: Medium lane (3.0 to 3.5 m) and wide shoulder (1.5 to 2 m
Roadside Hazards (in both directions): Moderate</td></tr>
</table>

(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *“Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *“Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *“Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.”*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:		
	• **Intersection density**: 3 to <5 intersection per km • **Access density**: 1 to <2 access per km	• **Intersection density**: 1 to <2 intersection per km • Access density: 2 to <5 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 13,761 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 14,747 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 14,747 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Pukekohe Road East.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Pukekohe Road East is: • 80 km/h between Belgium Road and 130m east of Anselmi Ridge Road • 100 km/h between 130m east of Anselmi Ridge Road and 300m west of Harrisville Road • 100 km/h between 300m west of Harrisville Road and Harrisville Road (with a variable 70 km/h speed limit when turning traffic is detected)
MegaMaps Mean Operating Speed (km/h)	Pukekohe Road East has a mean operating speed of: • 61 km/h between Belgium Road and 130m east of Anselmi Ridge Road • 84 km/h between 130m east of Anselmi Ridge Road and 300m west of Harrisville Road • 84 km/h between 300m west of Harrisville Road and Harrisville Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Mill Road**: 100 km/h (proposed SaAS 80 km/h) • **Harrisville Road**: 100 km/h (in Waikato District Council) • **Morgan Road**: 100 km/h (proposed SaAS 60 km/h) • **Runciman Road** 100 km/h (proposed SaAS 80 km/h) • **Anselmi Ridge Road:** 50 km/h • **Golding Road: 60** km/h • **Belgium Road: 6**0 km/h • **East Street: 6**0 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	6	11	0
DSI crashes during period	0	3	0
Corridor Length (km)	0.6	2.23	0.3
Annual Daily Traffic	13,761	14,747	14,747

- Section 1
    - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
    - The Collective Risk score is 0.24. For rural areas this corresponds to a Collective Risk band of **High**
    - The Personal Risk score is 17.1 For rural areas this corresponds to a Personal Risk band of **High.**
- Section 3
    - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	**Section 1**		**Section2**		**Section3**	
	Category	**Score**	**Category**	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Straight	1.00	Straight	1.00	Straight	1.00
Carriageway width	Medium lane, very wide shoulder	0.78	Medium lane, wide shoulder	1.00	Medium lane, wide shoulder	1.00
Roadside hazards	Moderate	1.43	High	2.28	Moderate	1.43
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50	1 to <2	1.15	1 to <2	1.15
Access density (per km)	1 to <2	1.01	2 to <5	1.03	2 to <5	1.03
Traffic volume	12,000+ vpd	3.0	12,000+ vpd	3.0	12,000+ vpd	3.0

- Section 1: The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section3: The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 60 km/h for sections 1 and 2 of Pukekohe East Road and 80 km/h for section 3.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *60 km/h between Belgium Road and 130m east of Anselmi Ridge Road (Section 1)--No change on the current bylaw*
- *80 km/h between 130m east of Anselmi Ridge Road and 300m west of Harrisville Road (Section 2)*
- *80 km between 300m west of Harrisville Road and Harrisville Road – with 60 km/h variable speed limit when turning traffic detected (Section 3)*

The operating speeds on Pukekohe Road East are around or slightly lower than the existing speed limits. Engineering up of Pukekohe Road East was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

It is proposed to maintain the existing speed limit of 60 km/h on Section 1 of Pukekohe East Road.

A proposed speed limit of 80 km/h was selected for Sections 2 and 3 due to the medium lane width moderate to high roadside hazards and poor crash history. These factors contribute to the Section 2 having a 'Medium-High' IRR score, 'High' Personal Risk and 'High' Collective risk, making it a high risk road.[2]

After considering all the above factors, the existing speed limit of 100 km/h on sections 2 and 3 of Pukekohe Road East in Pukekohe, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Pukekohe Road East (Section 2) are higher than the Speed Management Guide recommendation (< 80 km/h) but given the existing operating speeds (84 km/h) a lower speed limit is unlikely to be credible or supported by the public.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Puketutu Road (Bombay)

The speed limit on Puketutu Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Puketutu Road is classified as an access road under the one network road classification (ONRC). Puketutu Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Puketutu Road.
	Puketutu Road connects to Razorback Road at the western end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Puketutu Road is approximately 1.18 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Puketutu Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Puketutu Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Puketutu Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Puketutu Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Puketutu Road has a mean operating speed of 42 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Razorback Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.18
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of '**Medium-High'**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/hr for the full length of Puketutu Road.

Puketutu Road is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Puketutu Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, curved alignment, high risk roadside hazards, its access function and its existing low operating speed (42 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Puketutu Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Puketutu Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Quarry Road (Drury)

Quarry Road, Drury, is divided into two sections and outlined as follows: [1]

1. Section 1: Quarry Road between Great South Road and Tegal Road
2. Section 2: Quarry Road between Tegal Road and Fitzgerald Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Quarry Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Quarry Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 330m in length</td><td>This section of Quarry Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 2450m in length</td></tr>
<tr><td colspan="2">Quarry Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Quarry Road.
Quarry Road connects Great South Road to Fitzgerald Road. The road is primarily used as a through route, although there are a number of rural residential properties along its length. There is a Quarry located at the end of the road.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered. CAS records zero crashes on this section of Quarry Road. Therefore, there are no DSI crashes.	CAS records three crashes on this section of Quarry Road, two of which were injury crashes. The crashes on Quarry Road have resulted in two DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Quarry Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5m to 1.0 m) • **Roadside Hazards**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width:** Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: 1 to <2 intersection per km • **Access density**: <1 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 538 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 534 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Quarry Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to	

	the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Drury Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Quarry Road has a mean operating speed of: • 48 km/h for section 1 • 60 km/h for section 2
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Great South Road:** 100 km/h (proposed SaAS 80 km/h) • **Tegal Road:** 80 km/h (proposed SaAS 60 km/h) • **Harrison Road:** 100 km/h (proposed SaAS 60 km/h) • **Maketu Road:** 80 km/h (proposed SaAS 60 km/h) • **Ramarama Road:** 80 km/h (proposed SaAS 60 km/h) • **Fitzgerald Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	3
DSI crashes during the period	0	2
Corridor Length (km)	0.33	2.45
Annual Daily Traffic	538	534

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2

- The Collective Risk score is 0.16. For rural areas this corresponds to a Collective Risk band of **Medium High**
- The Personal Risk score is 83.8. For rural areas this corresponds to a Personal Risk band of **High**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Curved	1.80	Curved	1.80
Carriageway width	Medium lane, narrow shoulder	1.45	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.2	1 to <2	1.2
Access density (per km)	<1	1.0	2 to <5	1.03
Traffic volume	538	1.0	534	1.0

- Section 1: The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- 80 km/h between Great South Road and Tegal Road (Section 1)
- Less than 80 km/h between Tegal Road and Fitzgerald Road (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is = 80 km/h for the full length of Quarry Road.

Quarry Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Quarry Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the road due to the curved nature, moderate roadside hazards and low mean operating speeds.

After considering all the above factors, the existing speed limit of 100 km/h on Quarry Road in Drury, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide recommendation (80 km/h) for section 1 but is higher that the recommendation for section 2 (<80 km/h). To ensure consistency of speed limits, it is not considered appropriate to change the speed limit along Quarry Road and the proposed speed limit is considered appropriate for the full length of the road based on the road environment, nature and function of the road. It is also aligned with the current mean operating speeds on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Quinns Road (Clevedon)

The speed limit on Quinns Road, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Quinns Road is classified as a Secondary Collector under the one network road classification (ONRC) but functions as an access road. Quinns Road is a two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Quinns Road.
	Quinns Road connects to McNicol Road at the western end and to Chesham Lane at the eastern end of the road. The primary use of the road is to provide access to rural residential properties. Quinns Road is approximately 430m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Quinns Road therefore has no Death and Serious Injury (DSI)crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Quinns Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 447 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Quinns Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Quinns Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Quinns Road has a mean operating speed of 32 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **McNicol Road**: 100km/h (proposed SAAS 60 km/h) • **Chesham Lane:** 100km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.43
Annual Daily Traffic	447

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane Undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.3
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Quinns Road.

Quinns Road is a self-explaining road as the mean operating speed (32 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Quinns Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, the high number of roadside hazards, its access function and its existing low operating speed (32 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Quinns Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Quinns Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (32 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Ramarama Road (Ramarama)

Ramarama Road, Ramarama, is divided into two sections and outlined as follows: [1]

- Section 1: Ramarama Road between Quarry Road and Willow Road
- Section 2: Ramarama Road between Willow Road and Ararimu Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Ramarama Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	**Comments**	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	This section of Ramarama Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 1.09 km in length	This section of Ramarama Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 0.84 km in length
	Ramarama Road is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Ramarama Road.	
	Ramarama Road connects Quarry Road and Fitzgerald Road at its northern end to Ararimu Road at its southern end. The road is primarily used as a through route.	

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records five crashes between 2016 and 2020: two minor injury crashes and three non-injury crashes. This section of Ramarama Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This section of Ramarama Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ramarama Road were determined using a combination of site drive-over footage and geomaps information.	
	• **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High	• **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 972 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.	Average daily traffic (ADT) was determined from MegaMaps as 1,681 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(i) any planned modification to the road; and	There are no known planned modifications to Ramarama Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The speed limit on Ramarama Road is: • 80 km/h between Quarry Road and Willow Road (section 1) • 60 km/h between Willow Road and Ararimu Road (section 2)
MegaMaps Mean Operating Speed (km/h)	Ramarama Road has a mean operating speed of: • 68 km/h between Quarry Road and Willow Road • 70 km/h between Willow Road and Ararimu Road
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Fitzgerald Road:** 80 km/h • **Quarry Road:** 100 km/h (proposed SaAS 80 km/h) • **Maketu Road:** 80 km/h (proposed SaAS 60 km/h) • **Willow Road:** 100 km/h (proposed SaAS 60 km/h) • **Dale Road:** 60 km/h • **Ararimu Road:** 60 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	2	0
DSI crashes during period	0	**0**
Corridor Length (km)	1.09	0.84
Annual Daily Traffic	972	1,681

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

- Section 2
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Curved	1.80	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28	Moderate	1.43
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	2 to < 3	1.25	2 to < 3	1.25
Access density (per km)	2 to <5	1.03	5 to <10	1.06
Traffic volume	<1,000 vpd	1.0	1,000 to < 6,000 vpd	1.4

- Section 1: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between Quarry Road and Willow Road (Section 1)
- 80 km/h between Willow Road and Ararimu Road (Section 2)

.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Ramarama Road (Section 1 and 2)

The operating speeds on Section 1 of Ramarama Road (68 km/h) are lower than the existing 80 km/h speed limit. Engineering up of Ramarama Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the first section of road due to the narrow and curved nature of the road, high risk roadside hazards and to match the existing speed limit on Section 2 of Ramarama Road. These factors contribute to the sections 'Medium- High' IRR score, making it a high risk section of road.[2]

It is proposed to maintain the existing 60 km/h speed limit for the second section of Ramarama Road even though this is lower than the Speed Management Guide (80 km/h) recommendation as increasing the speed limit is not considered appropriate.

After considering all the above factors, the existing speed limit of 80 km/h on section 1 of Ramarama Road, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for section 1 of Ramarama Road aligns with the Speed Management Guide (<80 km/h) and will result in a consistent speed limit along the length of Ramarama Road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment - Ranfurly Road (Alfriston)

Ranfurly Road, Alfriston, is divided into two sections and outlined as follows: [1]

1. Section 1: Ranfurly Road between Alfriston Road and Mill Road
2. Section 2: Ranfurly Road between Mill Road to eastern end of Ranfurly Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Ranfurly Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Ranfurly Road is classified as an Arterial under the one network road classification (ONRC). This section is 1.38 km in length. The road is a two-way, two-lane, undivided, and sealed road. There is a footpath along the northern side of the road, and there is no on-street parking along the road.</td><td>This section of Ranfurly Road is classified as an Access Road under the one network road classification (ONRC). This section is 450 m in length. The road is a two-way, unsealed road. There are no pedestrian or cyclist amenities along this section of road and there is no on-street parking.</td></tr>
<tr><td colspan="2">Section 1 of Ranfurly Road is primarily used as a through route between Alfriston Road and Mill Road, although there are several residential properties along its length.
Section 2 of Ranfurly Road is a no exit road and primarily used to access residential properties.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records 18 crashes on this section of Ranfurly Road including two minor injury crashes and one serious injury crash. Therefore, there has been one Death or Serious Injury (DSI) crash.	CAS records zero crashes on this section of Ranfurly Road. Therefore, there are no DSIs.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Ranfurly Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (3.0 to 3.5m) and very narrow shoulder (<0.5m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Unsealed • **Road Alignment**: Straight • **Carriageway Width:** Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 3 to <5 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to < 5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 6,026 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as 77 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Ranfurly Road.	
(j) the views of interested	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
persons and groups.	Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit(s) on Ranfurly Road are as follows: • 80 km/h between Alfriston Road and Mill Road (Section 1) • 100 km/h between Mill Road to eastern end of Ranfurly Road (Section 2)
MegaMaps Mean Operating Speed (km/h)	Ranfurly Road has a mean operating speed of: • 64 km/h between Alfriston Road and Mill Road (Section 1) • 22 km/h between Mill Road to eastern end of Ranfurly Road (Section 2)
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Alfriston Road**: 50 km/h • **Stratford Road:** 50 km/h • **Aunceston Rise:** 50 km/h • **Notch Place:** 50 km/h • **Everlea Place:** 50 km/h • **Wastney Road:** 60 km/h • **Mill Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	3	0
DSI crashes during the period	1	0
Corridor Length (km)	1.38	0.45
Annual Daily Traffic	6026	77

- Section 1
    - The Collective Risk score is 0.14. For rural areas this corresponds to a Collective Risk band of **Medium-High**
    - The Personal Risk score is 6.6. For rural areas this corresponds to a Personal Risk band of **Medium**
- Section 2
    - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.0. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Unsealed	10.0
Road alignment	Straight	1.00	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	3 to <5	1.50	2 to <3	1.25
Access density (per km)	5 to <10	1.06	2 to <5	1.03
Traffic volume	6000 to <12,000	2.20	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**
- Section 2: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between Alfriston Road and Mill Road (Section 1)
- Less than 80 km/h between Mill Road and the eastern end of Ranfurly Road (Section 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *60 km/h between Alfriston Road and Mill Road (Section 1)*
- *60 km/h between Mill Road to eastern end of Ranfurly Road (Section 2)*

Ranfurly Road is a self-explaining road as the mean operating speeds are similar to, or below, the proposed safe and appropriate speeds, despite the existing higher speed limits. Engineering up of Ranfurly Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the first section of road due to having a Collective Risk of 'Medium-High', making it a high-risk section of road.[2]

A proposed speed limit of 60 km/h was selected for the second section of road due to the narrow, unsealed nature of the road. These factors contribute to the sections 'Medium-High' IRR score, also making it a high-risk section of road.

After considering all the above factors, the existing speed limit of 80 and 100 km/h on Ranfurly Road in Alfriston, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Ranfurly Road aligns with the Speed Management Guide and the operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Razorback Road (Bombay)

The speed limit on Razorback Road, Bombay between 80m south of Mill Road and 85m south of Puketutu Road has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	This section Razorback Road is classified as an access road under the one network road classification (ONRC). Razorback Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Razorback Road.
	Razorback Road connects to Bombay Road and Mill Road at the northern end and continues into the Waikato District at the southern end. The primary use of the road is to provide access to rural residential properties; however, it also carries through traffic. This section of Razorback Road is approximately 2.37 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records two crashes between 2016 and 2020 on this section of Razorbank Road including 1 minor injury and 1 non-injury crash. Therefore, there have been no (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Razorback Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 219 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Razorback Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on this section of Razorback Road 100 km/h
MegaMaps Mean Operating Speed (km/h)	Razorback Road has a mean operating speed of 54 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Razorback Road (north of a point 80m south of Mill Road)**: 50 km/h • **Beaver Road East:** 100 km/h (proposed SaAS 60 km/h) • **Puketutu Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	1
DSI crashes during the period	0
Corridor Length (km)	2.37
Annual Daily Traffic	219

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of '**Medium -High'**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for Razorback Road between 80m south of Mill Road and 85m south of Puketutu Road.

Razorback Road is a self-explaining road as the mean operating speed (54 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Razorback Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved alignment of the road, the high risk roadside hazards, and its existing operating speed (54 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Razorback Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Razorback Road is aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (54 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Redman Road, Hunua

The speed limit on Redman Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Redman Road is classified as an access road under the one network road classification (ONRC). Redman Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Redman Road.
	Redman Road connects to John Hill Road at the southern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Redman Road is approximately 390m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Redman Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Redman Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 31 vehicles per day (vpd), which is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Redman Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Redman Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Redman Road has a mean operating speed of 30 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Hill Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.39
Annual Daily Traffic	31

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Severe	2.80
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.8. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Redman Road.

Redman Road is a self-explaining road as the mean operating speed (30 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Redman Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, its access function, the severe roadside hazards and its existing low mean operating speed (30 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Redman Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the mean operating speed (30 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Reed Road (Hunua)

The speed limit on Reed Road, between Ponga Road and the Southern end of Reed Road, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Reed Road is classified as an Access road under the one network road classification (ONRC). Reed Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Reed Road.
	Reed Road connects to Ponga Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Reed Road is approximately 420 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Reed Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Reed Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 17 vehicles per day (vpd), which is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Reed Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Reed Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Reed Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.42
Annual Daily Traffic	17

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.10. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Reed Road

Reed Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Reed Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, unsealed and curved nature of the road, high roadside hazards, its access function and its existing low operating speed (20 km/h). These features also contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Reed Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Reed Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (20 km/h) supports the reduction. This speed limit also matches the speed limit on the adjacent road so avoids the need for an additional speed limit change and provides a more consistent speed limit across the network.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Rogers Road (Puni)

The speed limit on Rogers Road, Puni has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Rogers Road is classified as a secondary collector road under the one network road classification (ONRC). Rogers Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road.
	Rogers Road connects to Patumahoe Road at its northern end and to Waiuku Road at its southern end. The road is primarily used as a through route, although there are a number of rural residential properties along its length. Rogers Road is approximately 2.01 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records three crashes between 2016 and 2020: one serious injury crash in 2017 and two non injury crashes in 2018 and 2019. Rogers Road therefore has one Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Rogers Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards**: Moderate and includes frequent roll-over slopes and vegetation.
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Requirement	Comments
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 377 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Rogers Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation. The longer section of Rogers Road is within Waikato District Council. The proposed speed limit should be consistent with Waikato DC speed limit review result.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Rogers Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Rogers Road has a mean operating speed of 37km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Patumahoe Road**: 80 km/h • **Waiuku Road**: 80km/h adjacent to Rogers Road

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**1**

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

DSI crash number	**1**
Corridor Length (km)	2.01
Annual Daily Traffic	377

The Collective Risk score is 0.0995. The Personal Risk score is 72.31. For rural areas this corresponds to a Collective Risk band of **Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.28. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80km/h.

Rogers Road is a self-explaining road as the recorded operating speed (<40 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Rogers Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for Rogers Road due to its existing low operating speed (<40 km/h) and for consistency with speed limits in the surrounding area. The one Serious Injury crash in 2017 also means that Rogers Road is considered a high risk road.[1]

After considering all the above factors, the existing speed limit of 100 km/h on Rogers Road in Puni, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Royal Doulton Drive (Pukekohe)

The speed limit on Royal Doulton Drive, Pukekohe has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Royal Doulton Drive is classified as an access road under the one network road classification (ONRC). Royal Doulton Drive is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Royal Doulton Drive.
	Royal Doulton Drive connects to Golding Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Royal Doulton Drive is approximately 0.27 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Royal Doulton Drive therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Royal Doulton Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersection per km • **Access density**: 10 to <20 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Royal Doulton Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Royal Doulton Drive is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Royal Doulton Drive has a mean operating speed of 29 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Golding Road: 10**0 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.27
Annual Daily Traffic	104

The Collective Risk score is 0.0, and the Personal Risk score is 0.0 . For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width (in both directions)	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	3 to <5	1.50
Access density (per km)	10 to <20	1.10
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Royal Doulton Drive

Royal Doulton Drive is a self-explaining road as the mean operating speed (29 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Royal Doulton Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the short no exit nature of the road, its access function, moderate roadside hazards and its existing low operating speed (29 km/h). These features contribute to the roads "Medium" IRR score. A speed limit of 60 km/h also matches the proposed speed limit on the adjacent road, which provides better speed limit consistency on the network.

After considering all the above factors, the speed limit of 100 km/h on Royal Doulton Drive, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Royal Doulton Drive is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate given the nature and function of the road and to provide a consistent speed limit with adjacent roads. The low operating speed (29 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Runciman Road (Bombay)

Runciman Road, Bombay, is divided into three sections and outlined as follows: [1]

- Section 1: Runciman Road between Pukekohe East Road and 120m north of Rutherford Road
- Section 2: Runciman Road between 120m north of Rutherford Road and 820m north of Rutherford Road
- Section 3: Runciman Road between 820m north of Rutherford Road and Great South Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Runciman Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="3">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th><th>Section 3 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="3">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="3">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Runciman Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 1.03 km in length</td><td>This section of Runciman Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 0.70 km in length</td><td>This section of Runciman Road is classified as a Primary Collector under the one network road classification (ONRC). This section is 7.25 km in length</td></tr>
<tr><td colspan="3">Runciman Road is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Mill Road.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
	Runciman Road connects Pukekohe East Road at its southern end to Great South Road at its northern end. The road is primarily used as a through route, although there are a number of rural residential properties along its length. Pukekohe East School is located on the road.		
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.		
	CAS records three minor injury crashes on this section of Runciman Road Therefore there have been no Death and Serious Injury (DSI) crashes.	CAS records one minor injury crash on this section of Runciman Road Therefore there have been no Death and Serious Injury (DSI) crashes.	CAS records thirteen crashes on this section of Runciman Road including 9 minor injury crashes and 4 non-injury crashes. Therefore, there have been no Death and Serious Injury (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Runciman Road were determined using a combination of site drive-over footage and geomaps information		
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (<0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width:** Medium lane (3.0 to 3.5 m) and very narrow shoulder (<0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (<0.5 m) • **Roadside Hazards (in both directions)**: Moderate

(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:		
	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • Access density: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,204 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,179 vehicles per day (vpd).	The traffic volume in ADT was determined from MegaMaps as: 932 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Mill Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Runciman Road is: • 100 km/h between Pukekohe East Road and 120m north of Rutherford Road (section 1) • 60 km/h between 120m north of Rutherford Road and 820m north of Rutherford Road (with a variable school speed zone of 40 km/h at certain times) (section 2) • 100 km/h between 820m north of Rutherford Road and Great South Road (section 3)
MegaMaps Mean Operating Speed (km/h)	Runciman Road has a mean operating speed of: • 61 km/h between Pukekohe East Road and 120m north of Rutherford Road • 61 km/h between 120m north of Rutherford Road and 820m north of Rutherford Road • 73 km/h between 820m north of Rutherford Road and Great South Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Pukekohe Road East**: 100 km/h (proposed SaAS 80 km/h) • **Rutherford Road**: 100 km/h (proposed SaAS 60 km/h) • **Gordon Francis Road**: 100 km/h (proposed SaAS 60 km/h) • **Valley Spring Way**: 100 km/h (proposed SaAS 60 km/h) • **Norfolk King Drive**: 100 km/h (proposed SaAS 60 km/h) • **Kern Road**: 100 km/h (proposed SaAS 60 km/h) • **Tuhimata Road**: 100 km/h (proposed SaAS 60 km/h) • **Ngakoroa Road**: 100 km/h (proposed SaAS 60 km/h) • **Great South Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	3	1	9
DSI crashes during period	0	**0**	**0**
Corridor Length (km)	1.03	0.70	7.25
Annual Daily Traffic	1,204	1,179	932

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 3
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	**Score**	**Category**	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Curved	1.80	Straight	1.00	Curved	1.80
Carriageway width	Medium lane, narrow shoulder	1.45	Medium lane, narrow shoulder	1.45	Medium lane, narrow shoulder	1.45
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	1 to < 2	1.15	<1	1.0	1 to <2	1.15
Access density (per km)	2 to <5	1.03	5 to <10	1.06	2 to <5	1.03
Traffic volume	1,000 to < 6,000 vpd	1.4	1,000 to < 6,000 vpd	1.4	< 1,000 vpd	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2: The Infrastructure Risk Rating Score is 1.3. For rural areas this corresponds to an IRR band of **Medium**.
- Section3: The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between Pukekohe East Road and 120m north of Rutherford Road (Section 1)
- 80 km/h between 120m north of Rutherford Road and 820m north of Rutherford Road (Section 2)
- 80 km/h between 820m north of Rutherford Road and Great South Road (Section 3)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- *80 km/h between Pukekohe East Road and 120m north of Rutherford Road (Section 1)*
- *60 km/h between 120m north of Rutherford Road and 820m north of Rutherford Road (Section 2) with a 40 km/h variable school speed zone (same as existing)*
- *80 km/h between 820m north of Rutherford Road and Great South Road (Section 3)*

Runciman Road is a self-explaining road as the mean operating speeds (61 km/h to 73 km/h) are already similar to, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Runciman Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for the first section of road due to the medium width and curved nature of the road, moderate roadside hazards and low operating speeds (61 km/h). These factors contribute to the sections 'Medium- High' IRR score, making it a high-risk section of road.

A proposed speed limit of 60 km/h was selected for the second section of road due to the hazardous nature of the road, very narrow hazards and the high mean operating speed (>60 km/h). The hazardous nature of this section of Runciman Road contributes to the sections 'Medium -High' IRR score, making it a high risk section of road.[2]

It is proposed to maintain the existing 60 km/h speed limit for the seconds section of Runciman Road with the existing 40 km/h variable school speed zone at certain times.

A proposed speed limit of 80 km/h was selected for the third section of road due to the medium width and curved nature of the road, the high roadside hazards and the existing mean operating speeds (73 km/h). These factors contribute to this sections 'Medium' IRR score.

After considering all the above factors, the existing speed limit of 100 km/h on sections 1 and 3 of Runciman Road, is not considered to be a safe and appropriate speed limit for this section of road.

The proposed safe and appropriate speed limits for Runciman Road generally aligns with the Speed Management Guide (80 km/h), although section 1 is higher than the Speed Management Guide recommendation (< 80 km/h) but this is considered acceptable due to the nature and function of the road and a lower speed limit is unlikely to be credible to motorists. The existing operating speeds (61 to 73 km/h) support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Rutherford Road (Pukekohe East)

The speed limit on Rutherford Road, Pukekohe East has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Rutherford Road is classified as an access road under the one network road classification (ONRC). Rutherford Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Rutherford Road
	Rutherford Road connects to Runciman Road at the western end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Rutherford Road is approximately 1.51 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020 on Rutherford Road and therefore it has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Rutherford Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Rutherford Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Rutherford Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Rutherford Road has a mean operating speed of 43 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Runciman Road: 60** km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.51
Annual Daily Traffic	104

The Collective Risk score is 0.0, and the Personal Risk score is 0.0 . For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Rutherford Road.

Rutherford Road is a self-explaining road as the mean operating speed (43 km/h) is already equal to the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Rutherford Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the medium road width, high risk roadside hazards, its access function and its existing low operating speed (43 km/h). These factors contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Rutherford Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Rutherford Road is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate give the nature and function of the road and the low operating speed (43 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment – Saddleton Road (Waiau Pa)

The speed limit on Saddleton Road, Waiau Pa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Saddleton Road is classified as an Access road under the one network road classification (ONRC). Saddleton Road is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Saddleton Road connects to Waiau Pa Road to the east and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Hawthorne Lane is approximately 1.34 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Saddleton Road were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Saddleton Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Saddleton Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Saddleton Road has a mean operating speed of 56 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Waiau Pa Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	1.34
Annual Daily Traffic	104

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.33. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Saddleton Road is a self-explaining road as the recorded operating speed (56 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Saddleton Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the moderate roadside hazards, its function as an access road and its existing low operating speed (56 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the existing speed limit of 80 km/h on Saddleton Road in Waiau Pa, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Sawyer Road (Bombay)

The speed limit on Sawyer Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sawyer Road is classified as an access road under the one network road classification (ONRC). Sawyer Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Sawyer Road.
	Sawyer Road connects to Paparata Road at its southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Sawyer Road is approximately 0.53 km length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Sawyer Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sawyer Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Sawyers Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Sawyer Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Sawyer Road has a mean operating speed of 36 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.53
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/hr for the full length of Sawyer Road.

Sawyer Road is a self-explaining road as the mean operating speed (36 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Sawyer Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes and curved alignment of the road, the high risk roadside hazards, its access function and its existing low operating speed (36 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Sawyer Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Sawyer Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (36 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Sinclair Road (Ararimu)

The speed limit on Sinclair Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sinclair Road is classified as a secondary collector road under the one network road classification (ONRC) but functions as an access road. Sinclair Road is a two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Sinclair Road.
	Sinclair Road connects to Ararimu Road at the southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Sinclair Road is approximately 2.23 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Sinclair Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sinclair Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 228 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Sinclair Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Sinclair Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Sinclair Road has a mean operating speed of 45 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	2.23
Annual Daily Traffic	228

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane Undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Severe	2.80
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Sinclair Road.

Sinclair Road is a self-explaining road as the mean operating speed (45 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Sinclair Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, winding nature of the road, the severe roadside hazards, its access function and its existing low operating speed (45 km/h). These factors contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Sinclair Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Sinclair Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (45 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Skyhigh Road, Hunua

The speed limit on Skyhigh Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Skyhigh Road is classified as a secondary collector road under the one network road classification (ONRC). Skyhigh Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Skyhigh Road.
	Skyhigh Road connects to John Hill Road and White Road at the southern end and Monument Road, McGregor Road and Highridge Road at the northern end of the road. The primary use of the road is to provide access to rural residential properties. Skyhigh Road is approximately 3,040m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Skyhigh Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Skyhigh Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium (3.0m-3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 514 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Skyhigh Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Skyhigh Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Skyhigh Road has a mean operating speed of 71 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Hill Road:** 100 km/h (proposed SaAS 80 km/h) • **White Road:** 100 km/h (proposed SaAS 80 km/h) • **Mathis Road:** 100 km/h (proposed SaAS 60 km/h) • **Monument Road:** 100 km/h (proposed SaAS 60 km/h) • **McGregor Road:** 100 km/h (proposed SaAS 60 km/h) • **Highridge Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	3.04
Annual Daily Traffic	514

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Skyhigh Road.

Skyhigh Road is a self-explaining road as the mean operating speed (71 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Skyhigh Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to the curved nature of the road, medium lane width, and its existing operating speed (71 km/h).

After considering all the above factors, the speed limit of 100 km/h on Skyhigh Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is higher than the Speed Management Guide (<80 km/h) recommendation but is considered appropriate based on the road environment and the fact the mean operating speed is 71 km/h and hence a lower speed limit is unlikely to be credible to motorists.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Solitaire Lane (Paerata)

The speed limit on Solitaire Lane, Paerata has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Solitaire Lane is classified as an access under the one network road classification (ONRC). Solitaire Lane is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Solitaire Lane.
	Solitaire Lane connects to Burtt Road on the eastern end of Solitaire Lane and is a no exit road. The primary use of the road is to provide access to rural residential properties. Solitaire Lane is approximately 210 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Solitaire Lane therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Solitaire Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 31 vehicles per day (vpd). This level of traffic volume is consistent with the rural, access nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Solitaire Lane.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Solitaire Lane is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Solitaire Lane has a mean operating speed of 42 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burtt Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.21
Annual Daily Traffic	31

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Solitaire Lane

Solitaire Lane is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Solitaire Lane was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the very narrow width of the road, its access function and its existing mean operating speed (42 km/h). These factors also contribute to the roads "**Medium**" IRR score.

After considering all the above factors, the speed limit of 100 km/h on Solitaire Lane in Paerata, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate given the short, no exit nature of the road and the mean operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Sonja Drive (Hunua)

The speed limit on Sonja Drive, Hunua has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sonja Drive is classified as an Access road under the one network road classification (ONRC). Sonja Drive is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Sonja Drive.
	Sonja Drive connects to Ponga Road at the eastern end of the road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Sonja Drive is approximately 990 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Sonja Drive therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sonja Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Tortuous • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 36 vehicles per day (vpd). This level of traffic volume is consistent with the nature and function of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Sonja Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Sonja Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Sonja Drive has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Laurie Drive:** 100 km/h (proposed SaAS 40 km/h) • **Ponga Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.99
Annual Daily Traffic	36

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.00
Road alignment	Tortuous	6.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.70. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Sonja Drive

Sonja Drive is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Sonja Drive was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow, unsealed and tortuous nature of the road, high roadside hazards, its access function and its existing low operating speed (20 km/h). These factors contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Sonja Drive in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed for Sonja Drive aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Sowerby Heights (Hunua)

The speed limit on Sowerby Heights, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sowerby Heights is classified as an access road under the one network road classification (ONRC). Sowerby Heights is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Sowerby Heights.
	Sowerby Heights connects to Hunua Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Sowerby Heights is approximately 1,050m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Sowerby Heights had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sowerby Heights were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Sowerby Heights.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Sowerby Heights is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Sowerby Heights has a mean operating speed of 36 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.05
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.2
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Sowerby Heights.

Sowerby Heights is a self-explaining road as the mean operating speed (36 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Sowerby Heights was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow nature of the road, its access function and its existing low mean operating speed (36 km/h).

After considering all the above factors, the speed limit of 100 km/h on Sowerby Heights in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide (80 km/h) recommendation, but this is considered appropriate based on the road environment, nature and function of the road. It also aligns with the mean operating speeds (36 km/h) on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Station Road (Pukekohe)

The speed limit on Station Road, Pukekohe, between 20m south of Subway Road and Yates Road has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Station Road is classified as a secondary collector road under the one network road classification (ONRC). Station Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Station Road.
	This section of Station Road connects to Yates Road at the southern end and continues as Station Road with a 50 km/h speed limit at the northern end. The road carries mainly through traffic, but also provides access to rural residential properties and along the road. This section of Station Road is approximately 1.41 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one minor injury crash between 2016 and 2020. Station Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Station Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5m) and narrow shoulder (0.5 m to 1.0 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 880 vehicles per day (vpd). This level of traffic volume is consistent with the rural, secondary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Station Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit along this section of Station Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Station Road has a mean operating speed of 69 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Station Road (north of a point 20m south of Subway Road):** 50 km/h • **Yates Road**: 80 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	1
DSI crashes during the period	0
Corridor Length (km)	1.41
Annual Daily Traffic	880

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.00
Carriageway width	Medium lane, narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.45
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Low-Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h Station Road, between 20m south of Subway Road and Yates Road

The mean operating speed on Station Road (69 km/h) is significantly below then existing 80 km/h speed limit on the road. Engineering up of Station Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected to provide consistency on the road network as it matches the proposed speed limit of Yates Road which Station Road joins.

After considering all factors, the speed limit of 80 km/h on Station Road in Pukekohe, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower that the Speed Management Guide recommendation (80 km/h) and below the mean operating speed (69 km/h). However, when considered in the context of the wider network, it provides better consistency of speed limits and hence is considered the most appropriate speed limit.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Steel Road (Ararimu)

Steel Road, Ararimu, is divided into two sections and outlined as follows: [1]

- Section 1: Steel Road between Ararimu Road and 490m west of Ararimu Road
- Section 2: Steel Road between 490m west of Ararimu Road and 770m west of Ararimu Road
- Section 3: Steel Road between 770m west of Ararimu Road and the end of the road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Steel Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="3">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th><th>Section 3 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="3">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="3">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>This section of Steel Road is classified as an access under the one network road classification (ONRC). This section is 490m in length</td><td>This section of Steel Road is classified as an access under the one network road classification (ONRC). This section is 280m in length</td><td>This section of Steel Road is classified as a secondary collector under the one network road classification (ONRC). This section is 1.04 km in length</td></tr>
<tr><td colspan="3">Steel Road is a two-way, two-lane, undivided road. There is a section of footpath and parking areas on Section 1 of Steel Road outside Ararimu School, but apart from that there are no pedestrian or cyclist amenities,or on-street parking along the road.

Steel Road is primarily used to access rural residential properties along the road and the total length of the road is 1810m.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered. CAS records zero crashes on Steel Road and therefore there are no DSI crashes.		
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Steel Road were determined using a combination of site drive-over footage and geomaps information		
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0m to 3.5m) and very wide shoulder (>2 m) • **Roadside hazards (in both directions)**: High	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Narrow lane (< 3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width:** Narrow lane (< 3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:		
	• **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 90 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 90 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 93 vehicles per day (vpd).

Requirement	Comments		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(i) any planned modification to the road; and	There are currently no known planned modifications to Steel Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.		

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Steel Road has an existing speed limit of: • 80 km/h between Ararimu Road and 770m west of Ararimu Road (with a variable school speed limit of 60 km/h at certain times between Ararimu Road and 290m west of Ararimu Road). • 100 km/h between 770m west of Ararimu Road and the end of the road.
MegaMaps Mean Operating Speed (km/h)	Steel Road has a mean operating speed of: • 41 km/h between Ararimu Road and 770m west of Ararimu Road. • 43 km/h between 770m west of Ararimu Road and the end of the road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Ararimu Road**: 80 km/h (with a variable school speed limit of 60 km/h at certain times)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	0	0	0
DSI equivalents	0	0	0
Corridor Length (km)	0.49	0.28	1.04
Annual Daily Traffic	90	90	93

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 3
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section 2		Section 3	
	Category	Score	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Curved	1.80	Curved	1.80
Carriageway width	Medium lane, very wide shoulder	0.78	Medium lane, very narrow shoulder	1.79	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28	High	2.28	High	2.28
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	2 to <3	1.25	<1	1.00	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**
- Section 2: The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium-High.**
- Section 3: The Infrastructure Risk Rating Score is 1.6. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less the 80 km/h for the length of the road.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is:

- *80 km/h on Steel Road between Ararimu Road and 490m west of Ararimu Road (Section 1)*
- *60 km/h on Steel Road between 490m west of Ararimu Road and the end of the road* (*Section 2 and 3)*

Steel Road is a self-explaining road as the mean operating speeds are already at, or below, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Steel Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for the majority of the road (sections 2 and 3) due to the narrow and curved nature of the road, high risk roadside hazards, access function and the low mean operating speed (41 and 43 km/h). These factors contribute to the sections '**Medium-High'** IRR score, making it a high risk section of road.[2]

It is proposed to maintain the 80 km/h speed limit of Section 1 (which matches the speed limit on the adjacent Ararimu Road) given this has a variable school speed limit, which reduces to 60 km/h during school peak times. If this section is not maintained as an 80 km/h speed limit to match Ararimu Road it would create issues signing the variable school zone which extends onto Ararimu Road.

After considering all the above factors, the existing speed limits of 80 km/h on Section 2 and 100 km/h on Section 3 of Steel Road in Ararimu, are not considered to be a safe and appropriate speed limits for these sections of road.

The proposed safe and appropriate speed limit for Section 1 is higher than the Speed Management Guide (<80 km/h) but is a short section that matches the adjacent main road speed limit and has a variable 60 km/h speed limit at school times. The proposed safe and appropriate speed limit for Section 2 and 3 aligns with the Speed Management Guide (<80 km/h) and the mean operating speeds (41 and 43 km/h) support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Stevens Road (Hunua)

The speed limit on Stevens Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Stevens Road is classified as an access road under the one network road classification (ONRC). Stevens Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Stevens Road.
	Stevens Road connects to Cowan Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Stevens Road is approximately 480m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Stevens Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Stevens Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 1 to <2 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 12 vehicles per day (vpd), which is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Stevens Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Stevens Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Stevens Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Cowan Road: 100** km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.48
Annual Daily Traffic	12

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	1 to <2	1.01
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Stevens Road.

Stevens Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Stevens Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and winding nature of the road, the high roadside hazards and its existing mean operating speed (20 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Stevens Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Stone Road (Bombay)

The speed limit on Stone Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Stone Road is classified as an access road under the one network road classification (ONRC). Stone Road is a two lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Stone Road.
	Stone Road connects to Hillview Road to the west and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Stone Road is approximately 280m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Stone Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Stone Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Stone Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Stone Road is 100 km/h along the full length of Stone Road.
MegaMaps Mean Operating Speed (km/h)	Stone Road has a mean operating speed in the range of 31 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hillview Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.28
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	52 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for Stone Road.

Stone Road is a self-explaining road as the mean operating speed (31 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Stone Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, high roadside hazards, its access function and its existing low operating speed (31 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Stone Road in Bombay, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Stone Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (31 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Stuart Road (Bombay)

The speed limit on Stuart Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Stuart Road is classified as an access road under the one network road classification (ONRC). Stuart Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Stuart Road.
	This section of Stuart Road connects to Paparata Road at its southern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Stuart Road is approximately 0.35 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020, therefore Stuart Road has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Stuart Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 15 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Stuart Road
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Stuart Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Stuart Road has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road:** 100 km/h (proposed SaAS 80 km/h) • **Axtens Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.35
Annual Daily Traffic	15

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.25
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of '**Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Stuart Road.

Stuart Road is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Stuart Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the unsealed and narrow nature of the road, high roadside hazards, its access function and the existing low operating speed (20 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Stuart Road is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Stuart Road aligns with the Speed Management Guide (< 80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Sutton Road (Drury)

The speed limit on Sutton Road, between 300 m east of Great South Road and Ponga Road, Drury has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sutton Road is classified as a Secondary Collector under the one network road classification (ONRC). Sutton Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is some on-street parking along Sutton Road, near Opaheke Road.
	Sutton Road connects to Opaheke Road and Ponga Road at the northern end and continues with a 50 km/h speed limit at the southern end to join Great South Road. The primary use of the road is to provide access to rural residential properties. This section of Sutton Road is approximately 1.75 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records nine crashes between 2016 and 2020: two serious crashes, two minor injury crashes, and five non-injury crashes. Sutton Road had two Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sutton Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed:

Requirement	Comments
	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 468 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Sutton Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Sutton Road between 300 m east of Great South Road and Ponga Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Sutton Road has a mean operating speed of 60 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponga Road**: 80 km/h (proposed SaAS 60 km/h) • **Opaheke Road**: 80 km/h (proposed SaAS 60 km/h) • **Sutton Road (west of a point 300m east of Great South Road):** 50 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	4
DSI crashes during the period	2
Corridor Length (km)	1.75
Annual Daily Traffic	468

The Collective Risk score is 0.23, and the Personal Risk score is 133.8. For rural areas this corresponds to a Collective Risk band of **High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.60. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h on Sutton Road, (between 300 m east of Great South Road and Ponga Road).

Sutton Road is a self-explaining road as the mean operating speed (60 km/h) is the same as the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Sutton Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved nature of the road, high roadside hazards and its existing mean operating speed (60 km/h). These factors contribute to the roads "Medium-High" IRR score, making it a High risk road.[1] The road also has "High' Collective and Personal risk.

After considering all the above factors, the speed limit of 80 km/h on Sutton Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Sutton Road, (between 300 m east of Great South Road and Ponga Road), aligns with the Speed Management Guide (<80 km/h) and the existing operating speed (60 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Sydney Owen Road (Kingseat)

The speed limit on Sydney Owen Road, Kingseat has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sydney Owen Road is classified as an Access road under the one network road classification (ONRC). Sydney Owen Road is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Sydney Owen Road connects to Kingseat Road to the east and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Sydney Owen Road is approximately 0.83 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sydney Owen Road were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Sydney Owen Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Sydney Owen Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Sydney Owen Road has a mean operating speed of 34 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Kingseat Road: 8**0 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.83
Annual Daily Traffic	104

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.33. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Sydney Owen Road is a self-explaining road as the recorded operating speed (34 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Sydney Owen Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

The Speed Management Guide recommends a speed limit of 80 km/h; however, the road environment does not support this recommended speed limit.

A proposed speed limit of 60 km/h was selected due to the moderate roadside hazards, its function as an access road and its existing low operating speed (34 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the existing speed limit of 100 km/h on Sydney Owen Road in Kingseat, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Tawhero Road (Ararimu)

The speed limit on Tawhero Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Tawhero Road is classified as an access road under the one network road classification (ONRC). Tawhero Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Tawhero Road.
	Tawhero Road connects to Totara Road at the eastern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Tawhero Road is approximately 440m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Tawhero Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Tawhero Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both direction)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 41 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Tawhero Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Tawhero Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Tawhero Road has a mean operating speed of 42 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Totara Road** (full length): 100km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.44
Annual Daily Traffic	41

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Tawhero Road

Tawhero Road is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Tawhero Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, access road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow width and curved nature of the road, the high number of roadside hazards, its function as an access road and its existing low operating speed (42 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Tawhero Road in Ararimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Te Papa Road (Kawakawa Bay)

The speed limit on Te Papa Road, Kawakawa Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Te Papa Road is classified as an access road under the one network road classification (ONRC). Te Papa Road is a two lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no formal on-street parking along Te Papa Road; however, due to the number of residential properties on the road a number of cars were observed parking on the berm.
	Te Papa Road connects to Kawakawa Bay Coast Road at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Te Papa Road is approximately 170 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Te Papa Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Te Papa Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed:

Requirement	Comments
	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 93 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Te Papa Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Te Papa Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Te Papa Road has a mean operating speed of 42 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kawakawa Bay Coast Road**: 100 km/h (proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.17
Annual Daily Traffic	93

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane Undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.2
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Te Papa Road.

Te Papa Road is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Te Papa Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, two-lane undivided and curved nature of the road, and its existing low operating speed (42 km/h). The narrow, two-lane undivided and curved nature of Te Papa Road also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Te Papa Road in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low mean operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Tegal Road (Drury)

The speed limit on Tegal Road, Drury, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Tegal Road is classified as an access road under the one network road classification (ONRC). Tegal Road is two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Tegal Road.
	Tegal Road connects to Quarry Road at the southern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Tegal Road is approximately 540m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Tegal Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Tegal Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). No AT traffic count data is available for this road, however the level of traffic volume is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Tegal Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Tegal Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Tegal Road has a mean operating speed of 35 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Quarry Road**: 100km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.54
Annual Daily Traffic	52

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside Hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Tegal Road

Tegal Road is a self-explaining road as the mean operating speed (35 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Tegal Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, the high roadside hazards, its access function and its existing mean operating speed (35 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a medium-high risk road[1], further supporting the speed limit reduction.

After considering all the above factors, the speed limit of 80 km/h on Tegal Road in Drury, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the mean operating speed (35 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Totara Road (Ararimu)

The speed limit on Totara Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Totara Road is classified as a secondary collector road under the one network road classification (ONRC). Totara Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Totara Road.
	Totara Road connects to Paparata Road and Dunn Road at the southern and northern ends of Totara Road respectively. The primary use of the road is to provide access to rural residential properties. Totara Road is approximately 3km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one minor injury crash between 2016 and 2020. Totara Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Totara Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 697 vehicles per day (vpd). This level of traffic volume is consistent with the rural, secondary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Totara Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Totara Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Totara Road has a mean operating speed of 72 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparata Road**: 100 km/h (Proposed SAAS 80 km/h) • **Dunn Road** (west of Totara Road): 100 km/h (Proposed SAAS 80 km/h) • **Dunn Road** (east of Totara Road): 100 km/h (Proposed SAAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	1
DSI crashes during the period	0
Corridor Length (km)	3.14
Annual Daily Traffic	697

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Totara Road

Totara Road is a self-explaining road as the mean operating speed (72 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Totara Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to the narrow width of the road, the high number of roadside hazards, and its existing mean operating speed (72 km/h). These factors also contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Totara Road in Ararimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (80 km/h) and the mean operating speed (72 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Tourist Road (Clevedon)

Tourist Road, Clevedon, is divided into two sections and outlined as follows: [1]

- Section 1: Tourist Road between Papakura-Clevedon Road and Monument Road.
- Section 2: Tourist Road between Monument Road and McNicol Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Tourist Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1 (as applicable)</th><th>Section 2 (as applicable)</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">The information provided by the agency that has been included is listed below:
New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="3">(c) the function and use of the road; and</td><td>This section of Tourist Road is classified as a secondary collector under the one network road classification (ONRC). This section is 2.23 km in length</td><td>This section of Tourist Road is classified as a secondary collector under the one network road classification (ONRC). This section is 1.46 km in length</td></tr>
<tr><td>This section of Tourist Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Tourist Road.</td><td>This section of Tourist Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Tourist Road.</td></tr>
<tr><td colspan="2">Tourist road connects Papakura-Clevedon Road is the west to McNicol Road in the east. Tourist Road primarily serves through traffic, but is also used to access rural residential properties along the road.</td></tr>
</table>

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records five crashes on this section of Tourist Road, including 2 injury crashes. There has been one DSI crash on this section.	CAS records zero crashes on this section of Tourist Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Tourist Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two-lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate	• **Road stereotype**: Two-lane undivided • **Road Alignment**: Curved • **Carriageway Width:** Medium lane (3.0 to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,204 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,204 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Tourist Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Tourist Road has an existing speed limit of 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Tourist Road has a mean operating speed of: • 62 km/h between Papakura-Clevedon Road and Monument Road. • 57 km/h between Monument Road and McNicol Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Papakura-Clevedon Road**: 100 km/h (proposed SaAS 80 km/h) • **Creightons Road**: 100 km/h (proposed SaAS 80 km/h) • **Monument Road**: 100 km/h (proposed SaAS 60 km/h) • **McNicol Road**: 100 km/h (proposed SaAS 60 km/h) • **Quinns Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	1	0
DSI crashes during the period	0	0
Corridor Length (km)	2.23	1.46
Annual Daily Traffic	1,204	1,204

- Section 1
  - The Collective Risk score is 0.90. For rural areas this corresponds to a Collective Risk band of **Medium**
  - The Personal Risk score is 20.4. For rural areas this corresponds to a Personal Risk band of **High**

- Section 2
    - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
    - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	<1	1.00	1 to <2	1.15
Access density (per km)	5 to <10	1.06	2 to <5	1.03
Traffic volume	1000 to <6000	1.40	1000 to <6000	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.58. For rural areas this corresponds to an IRR band of **Medium.**
- Section 2: The Infrastructure Risk Rating Score is 1.63. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h on Tourist Road

Tourist Road is a self-explaining road as the mean operating speeds are already similar to or below (62 km/h and 57 km/h for sections 1 and 2 respectively), the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Tourist Road was considered but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for both sections of road due to the medium road width, moderate roadside hazards, relatively high traffic volume and the function of the road. These factors contribute to the '**Medium**' to **'Medium-High'** IRR score along the road, making it a high risk road.[2] Section 1 also has a 'Medium' Personal risk and 'High' Collective risk ranking which further justify the 60 km/h speed limit. A 60 km/h speed limit will also match the speed limit on intersecting roads and therefore provides a more consistent speed limit across the network.

After considering all the above factors, the existing speed limit 100 km/h on Tourist Road, in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for the road aligns with the Speed Management Guide (<80 km/h) recommendation, and the operating speeds (62 km/h and 57 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

[2] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Townson Road (Kawkawa Bay)

The speed limit on Townson Road, Kawakawa Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Townson Road is classified as an access road under the one network road classification (ONRC). Townson Road is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Townson Road.
	Townson Road connects to Clevedon-Kawakawa Road, at the northern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Townson Road is approximately 330m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Townson Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Townson Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 43 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Townson Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Townson Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Townson Road has a mean operating speed of 42 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Clevedon-Kawakawa Road**: 100 km/h (proposed to be lowered to 80 km/h, discussed separately)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.33
Annual Daily Traffic	43

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Townson Road.

Townson Road is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Townson Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, unsealed nature of the road, its access function, and its existing low operating speed (42 km/h). These features contribute to the roads "High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Townson Road in Kawakawa Bay, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Townson Road aligns with the Speed Management Guide (<80 km/h) and the low operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Trail Road (Hunua)

The speed limit on Trail Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Trail Road is classified as an access road under the one network road classification (ONRC). Trail Road is an unsealed road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Trail Road.
	Trail Road connects to Hunua Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Trail Road is approximately 80m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Trail Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Trail Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was unavailable; however there is only a single property accessed off the road so an ADT is likely to be less than 10 vpd.
(i) any planned modification to the road; and	There are no known planned modifications to Trail Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Trail Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Trail Road mean operating speed was unavailable but would be expected to be less than 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.08
Annual Daily Traffic	Approx. 10 vpd

The Collective Risk score is 0.0, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000 vpd	1.0

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Trail Road.

Trail Road is a self-explaining road as the operating speed is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Trail Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow and unsealed nature of the road. These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Trail Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the recorded operating speed on the road supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Tuhimata Road (Pukekohe)

The speed limit on Tuhimata Road, Between Runciman Road and Cape Hill Road, Pukekohe has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Tuhimata Road is classified as a secondary collector road under the one network road classification (ONRC). Tuhimata Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Tuhimata Road
	Tuhimata Road connects to Cape Hill Road (where it continues with a 60 km/h speed limit) at the southern end and Runciman Road at the northern end. The primary use of the road is to provide access to rural residential properties although it does carry some through traffic. This section of Tuhimata Road is approximately 3.67 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records three crashes between 2016 and 2020 including 1 serious injury, 1 minor injury and one non-injury crash. Tuhimata Road therefore has one Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Tuhimata Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 340 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Tuhimata Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Tuhimata Road is 100 km/h between Runciman Road and Cape Hill Road,
MegaMaps Mean Operating Speed (km/h)	Tuhimata Road has a mean operating speed of 60 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Cape Hill Road**: 60 km/h • **Tuhimata Road (west of Cape Hill Road)**: 60 km/h • **Burtt Road:** 100km/h (proposed SaAS 80 km/h) • **Bush Road:** 100 km/h (proposed SaAS 60 km/h) • **Runciman Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	2
DSI crashes during the period	1
Corridor Length (km)	3.67
Annual Daily Traffic	340

The Collective Risk score is 0.05, and the Personal Risk score is 43.9. For rural areas this corresponds to a Collective Risk band of **Low -Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Winding	3.5
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of '**Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for Tuhimata Road between Runciman Road and Cape Hill Road.

Tuhimata Road between Runciman Road and Cape Hill Road is a self-explaining road as the mean operating speed (60 km/h) matches the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Tuhimata Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the winding alignment, high risk roadside hazards and its existing operating speed (60 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Tuhimata Road, between Runciman Road and Cape Hill Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Tuhimata Road aligns with the Speed Management Guide (< 80 km/h) and the operating speed (60 km/h) supports the reduction. It also matches the existing speed limit at the western end of Tuhimata Road so provides a more consistent speed limit along the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Turner Road (Ararimu)

The speed limit on Turner Road, Ararimu has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Turner Road is classified as an access road under the one network road classification (ONRC). Turner Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Turner Road.
	Turner Road connects to Ararimu Road and Dunn Road at the northern end and is a no exit road. The primary use of the road is to provide access to rural residential properties. Turner Road is approximately 660m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Turner Road therefore has no Death and Serious Injury (DSI). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Turner Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both direction)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Turner Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Turner Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Turner Road has a mean operating speed of 26 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 100 km/h (proposed SAAS 80 km/h) • **Dunn Road**: 100 km/h (proposed SAAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.66
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Turner Road

Turner Road is a self-explaining road as the mean operating speed (26 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Turner Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow width and curved nature of the road, the high number of roadside hazards, its function as an access road and its existing low operating speed (26 km/h). These factors also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Turner Road in Ararimu, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the low operating speed (26 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Valley Springs Way (Ramarama)

The speed limit on Valley Springs Way, Ramarama, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Valley Springs Way is classified as an access road under the one network road classification (ONRC). Valley Springs Way is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Valley Springs Way.
	Valley Springs Way connects to Runciman Road at the eastern end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Valley Springs Way is approximately 220m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Valley Springs Way therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Valley Springs Way were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 30 vehicles per day (vpd), which is consistent with the rural, no exit, nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Valley Springs Way.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Valley Springs Way is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Operating speed data is not available for Valley Springs Way, but it is estimated to be around 30 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Runciman Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.22
Annual Daily Traffic	30

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.5
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Valley Springs Way.

Valley Springs Way is considered a self-explaining road as the operating speed is expected to be well below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Valley Springs Way was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, the moderate roadside hazards and its access function.

After considering all the above factors, the speed limit of 100 km/h on Valley Springs Way in Ramarama, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Valley Springs Way is lower than the Speed Management Guide recommendation (80 km/h), however, the road environment, nature and function of the road support the lower speed limit.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment – Waitangi Falls Road (Glenbrook)

The speed limit on Waitangi Falls Road, Glenbrook has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Waitangi Falls Road is classified as an Access road under the one network road classification (ONRC). Waitangi Falls Road is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Waitangi Falls Road connects to Glenbrook-Waiuku Road to the east and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Waitangi Falls Road is approximately 1.23 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records two crashes between 2016 and 2020: two non injury crashes in 2018 and 2019. Waitangi Falls Road therefore has no Death and Serious Injuries (DSI's). CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Waitangi Falls Road were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km

Requirement	Comments
	• **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 24 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Waitangi Falls Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Waitangi Falls Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Waitangi Falls Road has a mean operating speed of 46 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Glenbrook-Waiuku Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	1.23
Annual Daily Traffic	24

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	24 vpd	1.00

The Infrastructure Risk Rating Score is 1.64. For rural areas this corresponds to an IRR band of Medium-High.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 60km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Waitangi Falls Road is a self-explaining road as the recorded operating speed (46 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Waitangi Falls Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for Waitangi Falls Road due to the narrow nature of the road and its existing low operating speed (46 km/h).

After considering all the above factors, the existing speed limit of 100 km/h on Waitangi Falls Road in Glenbrook, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Walker Road (Opaheke)

The speed limit on Walker Road, Opaheke has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Walker Road is classified as an Access road under the one network road classification (ONRC). Walker Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Walker Road.
	Walker Road connects to Opaheke Road at the southern end of Walker Road and is a cul-de-sac. The primary use of the road is to provide access to rural residential properties. This section of Walker Road is approximately 960 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Walker Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Walker Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 10 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Walker Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Walker Road is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Walker Road has a mean operating speed of 30 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Opaheke Road**: 80 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.96
Annual Daily Traffic	10

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Walker Road

Walker Road is a self-explaining road as the mean operating speed (30 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Walker Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow and curved nature of the road, its access function and its existing low operating speed (30 km/h).

After considering all the above factors, the speed limit of 80 km/h on Walker Road in Opaheke, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h). The main reason a lower speed limit is being recommended is to provide consistency with the speed limit on the adjacent road and the low operating speed (30 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment – Wallace Drive (Clarks Beach)

The speed limit on Wallace Drive, Clarks Beach has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wallace Drive is classified as an Access road under the one network road classification (ONRC). Wallace Drive is a two-way, two-lane, undivided cul-de-sac. There are no pedestrian or cyclist amenities along this road.
	Wallace Drive connects to Clarks Beach Road to the north and provides access to residential properties. The primary use of the road is to provide access to rural residential properties. Wallace Drive is approximately 0.31 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wallace Drive were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m), and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Wallace Drive.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Wallace Drive is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Wallace Drive has a mean operating speed of 42 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Clarks Beach Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.31
Annual Daily Traffic	104

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.58. For rural areas this corresponds to an IRR band of Medium-High.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 60km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h.

Wallace Drive is a self-explaining road as the recorded operating speed (42 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Wallace Drive was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected for Wallace Drive due to the narrow nature of the road and its existing low operating speed (42 km/h).

After considering all the above factors, the existing speed limit of 100 km/h on Wallace Drive in Clarks Beach, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Wattie Road, Hunua

The speed limit on Wattie Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wattie Road is classified as an access road under the one network road classification (ONRC). Wattie Road is an unsealed road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Wattie Road.
	Wattie Road connects to Hunua Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Wattie Road is approximately 200m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Wattie Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wattie Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 46 vehicles per day (vpd), which is consistent with the rural, cul-de-sac nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Wattie Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Wattie Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Wattie Road has a mean operating speed of 25 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hunua Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.20
Annual Daily Traffic	46

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h for the full length of Wattie Road.

Wattie Road is a self-explaining road as the mean operating speed (25 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Wattie Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 40 km/h was selected due to the narrow, unsealed and curved nature of the road, the high roadside hazards and its existing mean operating speed (25 km/h). These features also contribute to the roads "High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Wattie Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

This proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) and the mean operating speed (25 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Wedding Place (Takanini)

The speed limit on Wedding Place, Takanini has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wedding Place is classified as an Access road under the one network road classification (ONRC). Wedding Place is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Wedding Place.
	Wedding Place connects to Mill Road, at the western end of Wedding Place and is a no exit road. The primary use of the road is to provide access to rural residential properties. This section of Wedding Place is approximately 160 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records one non-injury crash between 2016 and 2020. Wedding Place therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wedding Place were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 10 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Wedding Place.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Wedding Place is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Wedding Place has a mean operating speed of 20 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Mill Road**: 80 km/h • **Popes Road**: 80 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.16
Annual Daily Traffic	10

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.70. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Wedding Place.

Wedding Place is a self-explaining road as the mean operating speed (20 km/h) is already below the proposed safe and appropriate speeds, despite the existing 80 km/h speed limit. Engineering up of Wedding Place was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, curved nature of the road, the high roadside hazards, its access function and its existing low operating speed (20 km/h). These features contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

The proposed safe and appropriate speed limit for Wedding Place is aligns with the Speed Management Guide (<80 km/h) and the low operating speed (20 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – White Road, Hunua

The speed limit on White Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	White Road is classified as a secondary collector road under the one network road classification (ONRC). White Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along White Road.
	White Road connects to John Hill Road and Skyhigh Road at the northern end and Hunua Road at the southern end of the road. The primary use of the road is to provide access to rural residential properties. White Road is approximately 2,350m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 2 crashes between 2016 and 2020, one non-injury and one minor injury crash. White Road had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for White Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Medium (3.0m-3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1,096 vehicles per day (vpd), which is consistent with the rural secondary collector nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to White Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on White Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	White Road has a mean operating speed of 69 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Hill Road:** 100 km/h (proposed SaAS 80 km/h) • **Skyhigh Road:** 100 km/h (proposed SaAS 80 km/h) • **Jollie Road:** 100 km/h (proposed SaAS 40 km/h) • **Falls Road:** 100 km/h (proposed SaAS 60 km/h) • **Hunua Road:** 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	1
DSI crashes during the period	0
Corridor Length (km)	2.35
Annual Daily Traffic	1,096

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.2
Access density (per km)	2 to <5	1.03
Traffic volume	1,000 to < 6,000 vpd	1.4

The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of White Road.

White Road is a self-explaining road as the mean operating speed (69 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of White Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected due to the winding nature of the road, the high roadside hazards and its existing mean operating speed (69 km/h). These features also contribute to the roads "High" IRR score, making it a high-risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on White Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is higher than the Speed Management Guide (<80 km/h) recommendation, but is considered appropriate based on the road environment, nature and function of the road and it also provides a consistent speed limit with the roads at both ends of the road. Given the existing operating speed (69 km/h) a lower speed limit is unlikely to be credible to motorists.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Whiteside Lane (Clevedon)

The speed limit on Whiteside Lane, Clevedon has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Whiteside Lane is classified as a secondary collector road under the one network road classification (ONRC) but functions as an access road. Whiteside Lane is an unsealed road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Whiteside Lane
	Whiteside Lane connects to McNicol Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Whiteside Lane is approximately 200m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Whiteside Lane therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Whiteside Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 31 vehicles per day (vpd). This level of traffic volume is consistent with the rural, cul-de-sac nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Whiteside Lane.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Whiteside Lane is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Whiteside Lane has a mean operating speed of 42 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **McNicol Road**: 100km/h (proposed SSAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.20
Annual Daily Traffic	31

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10.0
Road alignment	Curved	1.80
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.1. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Whiteside Lane.

Whiteside Lane is a self-explaining road as the mean operating speed (42 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Whiteside Lane was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow, unsealed and curved nature of the road, and its existing low operating speed (42 km/h). These factors contribute to the roads "High" IRR score, making it a high risk road.[1] Given the short length of the road a speed limit of 60 km/h which matches the adjacent road is also considered appropriate.

After considering all the above factors, the speed limit of 100 km/h on Whiteside Lane in Clevedon, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Whiteside Lane aligns with the Speed Management Guide (<80 km/h) and the low operating speed (42 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Willow Road (Ramarama)

The speed limit on Willow Road, Ramarama has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Willow Road is classified as a Primary Collector under the one network road classification (ONRC). Willow Road is a two-way, two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Willow Road.
	Willow Road connects to Davies Road at the eastern end of Willow Road and to Ramarama Road at the western end of Willow Road. The primary use of the road is to provide access to rural residential properties. This section of Willow Road is approximately 490 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Willow Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Willow Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 114 vehicles per day (vpd). This level of traffic volume is considered low for the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Willow Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Willow Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Willow Road has a mean operating speed of 50 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ramarama Road (north of Willow Road)**: 80 km/h (proposed SaAS 60 km/h) • **Ramarama Road (**south of Willow Road**)**: 60 km/h • **Davies Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.49
Annual Daily Traffic	114

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.30
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.50. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Willow Road

Willow Road is a self-explaining road as the mean operating speed (50 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Willow Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow road, its high roadside hazards and its existing low operating speed (50 km/h). This speed limit is also consistent with the proposed speed limit on all adjacent roads.

After considering all the above factors, the speed limit of 100 km/h on Willow Road in Ramarama, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit is lower than the Speed Management Guide recommendation (80 km/h). The main reason a lower speed limit is being recommended is to provide a speed limit that is consistent with the adjacent roads.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Wilson Road (Hunua)

The speed limit on Wilson Road, Hunua, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wilson Road is classified as an access road under the one network road classification (ONRC). Wilson Road is two-lane undivided road. There is no pedestrian or cyclist amenities along this road. There is no on-street parking along Wilson Road.
	Wilson Road connects to Paparimu Road at the western end of the road and is a no exit road. The primary use of the road is to provide access to rural residential properties. Wilson Road is approximately 1,240m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Wilson Road therefore had no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wilson Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Medium (3.0m-3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd), which is consistent with the rural nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Wilson Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Wilson Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Wilson Road has a mean operating speed of 40 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paparimu Road: 100** km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.24
Annual Daily Traffic	104

The Collective Risk score is 0.00, and the Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.0
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.0

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Wilson Road.

Wilson Road is a self-explaining road as the mean operating speed (40 km/h) is already below the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Wilson Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the winding nature of the road, the high roadside hazards, its access function and its existing mean operating speed (40 km/h). These features also contribute to the roads "Medium-High" IRR score, making it a high risk road.[1]

After considering all the above factors, the speed limit of 100 km/h on Wilson Road in Hunua, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit aligns with the Speed Management Guide (<80 km/h) recommendation and the mean operating speed (40 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Assessment – Wily Road (Puni)

The speed limit on Wily Road, between Waiuku Road and 720m south of Waiuku Road (the boundary of Auckland), Puni has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wily Road is classified as a Secondary Collector road under the one network road classification (ONRC). Wily Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road.
	Wily Road connects to Waiuku Road to the north and Eastern Drain Road to the south. The primary use of the road is as a through route, however Wily Road does provide access to rural residential properties. Wily Road is approximately 0.72 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wily Road were determined using a combination of site drive over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5), and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 700 vehicles per day (vpd). This level of traffic volume is consistent with the rural, residential nature of the road.
(i) any planned modification to the road; and	There are currently no known planned modifications to Wily Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Wily Road is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Wily Road has a mean operating speed of 70 km/h.
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Waiuku Road:** 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crash number	**0**
Corridor Length (km)	0.72
Annual Daily Traffic	700

The Collective Risk score is 0.00. The Personal Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1 per km	1.00
Access density (per km)	2 to <5 per km	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.28. For rural areas this corresponds to an IRR band of Medium-High.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80km/h.

Wily Road is a self-explaining road as the recorded operating speed (70 km/h) is already below the proposed safe and appropriate speed, despite the existing 100 km/h speed limit. Engineering up of Wily Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume access road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 80 km/h was selected for Wily Road due to the narrow nature of the road and its existing low operating speed (70 km/h).

After considering all the above factors, the existing speed limit of 100 km/h on Wily Road in Puni, is not considered to be a safe and appropriate speed limit for this road.

This aligns with the Speed Management Guide and the low operating speeds support the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Wootten Road (Bombay)

The speed limit on Wootten Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wootten Road is classified as a secondary collector road under the one network road classification (ONRC). Wootten Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Wootten Road.
	Wootten Road connects to Chamberlain Road and Portsmouth Road at the northern end and Paparata Road and Lowry Road at the southern end. The primary use of the road is to provide access to rural residential properties. This section of Wootten Road is approximately 1.16 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Wootten Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wootten Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 312 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Wootten Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Wootten Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Wootten Road has a mean operating speed of 60 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Portsmouth Road**: 100 km/h (proposed SaAS 60 km/h) • **Chamberlain Road:** 100 km/h (proposed SaAS 60 km/h) • **Mile Road:** 100 km/h (proposed SaAS 60 km/h) • **Fahey Road:** 100 km/h (proposed SaAS 60 km/h) • **Paparata Road:** 60 km/h • **Lowry Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.16
Annual Daily Traffic	312

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.25
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.3. For rural areas this corresponds to an IRR band of Medium.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/hr for the entire length of Wootten Road.

Wootten Road is a self-explaining road as the mean operating speed (60 km/h) equals the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Wootten Road was considered but dismissed due to the substantial and costly upgrades that would be required for what is a low volume, low classification road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the narrow lanes, moderate roadside hazards, its existing low operating speed (60 km/h) and to match the speed limit on the adjacent roads. These factors contribute to the roads “Medium” IRR score.

After considering all the above factors, the speed limit of 100 km/h on Wootten Road, is not considered to be a safe and appropriate speed limit for this road.

The recommended safe and appropriate speed limit for Wootten Road is lower than the Speed Management Guide recommendation (80 km/h) but is considered appropriate to ensure a consistent speed limit on the local road network and the existing operating speed (60 km/h) supports the reduction.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Yates Road (Pukekohe)

The speed limit on Yates Road, Pukekohe has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Yates Road is classified as a secondary collector road under the one network road classification (ONRC). Yates Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Yates Road.
	Yates Road connects to Logan Road at its eastern end and Station Road at its western end. The primary use of the road is to provide for through traffic, but there is also access to rural residential properties and Pukekohe Christian School is located on the road. Yates Road is approximately 1.0 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records nine crashes between 2016 and 2020, including 1 serious injury, five minor injury and three non-injury crashes. Yates Road therefore has one Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Yates Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 860 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Yates Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. More detailed feedback is anticipated from each group during public consultation.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Yates Road is 80 km/h
MegaMaps Mean Operating Speed (km/h)	Yates Road has a mean operating speed of 64 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Logan Road: 8**0 km/h • **Station Road: 8**0 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	6
DSI crashes during the period	1
Corridor Length (km)	1.0
Annual Daily Traffic	860

The Collective Risk score is 0.2, and the Personal Risk score is 63.7 . For rural areas this corresponds to a Collective Risk band of **High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.20
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.5. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h for the full length of Yates Road.

The current operating speeds of Yates Road (64 km/h) is significantly below the existing 80 km/h speed limit. Engineering up of Yates Road was considered, but dismissed due to the substantial and costly upgrades that would be required for what is a low volume road. The cost to do this would substantially outweigh any benefits.

A proposed speed limit of 60 km/h was selected due to the curved natures of the road, moderate roadside hazards and the poor crash history on the road. These factors contribute to the roads "Medium" IRR score, 'High' Personal risk and 'High' Collective risk, making it a high risk road.[1]

After considering all the above factors, the speed limit of 80 km/h on Yates Road, is not considered to be a safe and appropriate speed limit for this road.

The proposed safe and appropriate speed limit for Yates Road aligns with the Speed Management Guide (< 80 km/h) and is considered appropriate given the adverse crash history on the road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or High

Speed Limit Review – Aarts Avenue (Manurewa)

The speed limit on Aarts Avenue, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Aarts Avenue is classified as an access road under the one network road classification (ONRC). Aarts Avenue is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Aarts Avenue connects to Rowandale Avenue to the west and Wordsworth Road to the east. This road provides access to residential properties and is approximately 0.5 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of three recorded crashes: three non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Aarts Avenue were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 955 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Aarts Avenue has a mean operating speed in the range of 20-24 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue**: 50 km/h • **Wordsworth Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Aarts Avenue has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.06 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Aarts Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Addington Avenue (Manurewa)

The speed limit on Addington Avenue, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Addington Avenue is classified as an access road under the one network road classification (ONRC). Addington Avenue is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Addington Avenue connects to Rowandale Avenue to the west and Sunlands Drive to the south. This road provides access to residential properties and is approximately 0.6 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crashes: two non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Addington Avenue were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 790 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Addington Avenue has a mean operating speed in the range of 20-24km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue:** 50 km/h • **Sunlands Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Addington Avenue has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.91 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Addington Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Ainsdale Place (Manurewa)

The speed limit on Ainsdale Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ainsdale Place is classified as an access road under the one network road classification (ONRC). Ainsdale Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Ainsdale Place connects to Winsford Street to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ainsdale Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Ainsdale Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Winsford Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Ainsdale Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.41. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Ainsdale Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Antalya Place (Manurewa)

The speed limit on Antalya Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Antalya Place is classified as an access road under the one network road classification (ONRC). Antalya Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Antalya Place connects to Weymouth Road to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Antalya Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 140 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Antalya Place has a mean operating speed in the range of 20-24km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Weymouth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Antalya Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.41. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Antalya Place, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Arbor Close (Manurewa)

The speed limit on Arbor Close, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Arbor Close is classified as an access road under the one network road classification (ONRC). Arbor Close is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Arbor Close connects to Russell Road to the east. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Arbor Close were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 220 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Arbor Close has a mean operating speed in the range of 20-24km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Russell Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Arbor Close has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 1.91. For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Arbor Close, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Arnwood Street (Manurewa)

The speed limit on Arnwood Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Arnwood Street is classified as an access road under the one network road classification (ONRC). Arnwood Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Arnwood Street connects to Burbank Road to the north and Wordsworth Road to the south. This road provides access to residential properties and is approximately 0.4 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of four recorded crashes: two serious crashes and two non-injury crashes. This resulted in three Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Arnwood Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 561 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Arnwood Street has a mean operating speed in the range of 25-29km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wordsworth Road:** 50 km/h • **Burbank Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Arnwood Street has the following information:

- Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium-High**
- The Infrastructure Risk Rating Score is 1.91 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Arnwood Street, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Awakino Place (Manurewa)

The speed limit on Awakino Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Awakino Place is classified as an access road under the one network road classification (ONRC). Awakino Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Awakino Place connects to Aarts Avenue to the east. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Awakino Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 955 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Awakino Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Aarts Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Awakino Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.06. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Awakino Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Bedlington Avenue (Manurewa)

The speed limit on Bedlington Avenue, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Bedlington Avenue is classified as an access road under the one network road classification (ONRC). Bedlington Avenue is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Bedlington Avenue connects to Sunlands Drive to the north and Wordsworth Road to the south. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Bedlington Avenue were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 228 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Bedlington Avenue has a mean operating speed in the range of 25-29km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sunlands Drive:** 50 km/h • **Wordsworth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Bedlington Avenue has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.41 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Bedlington Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Beeston Crescent (Manurewa)

The speed limit on Beeston Crescent, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Beeston Crescent is classified as an access road under the one network road classification (ONRC). Beeston Crescent is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Beeston Crescent connects to Wordsworth Road to the north and to the south. This road provides access to residential properties and is approximately 0.5 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crashes: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Beeston Crescent were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 520 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Beeston Crescent has a mean operating speed in the range of 20-24 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wordsworth Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Beeston Crescent has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.17 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Beeston Cres, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Benmore Place (Manurewa)

The speed limit on Benmore Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Benmore Place is classified as an access road under the one network road classification (ONRC). Benmore Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Benmore Place connects to Burndale Terrace to the south. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Benmore Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Benmore Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burndale Terrace:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Benmore Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.41. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Benmore Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Benton Place (Manurewa)

The speed limit on Benton Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Benton Place is classified as an access road under the one network road classification (ONRC). Benton Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Benton Place connects to Rowandale Avenue to the east. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Benton Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 170 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Benton Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Benton Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.51 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Benton Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Bettina Place (Manurewa)

The speed limit on Bettina Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Bettina Place is classified as an access road under the one network road classification (ONRC). Bettina Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Bettina Place connects to Rowandale Avenue to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Bettina Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 140 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Bettina Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Bettina Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.20. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Bettina Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Brent Place (Manurewa)

The speed limit on Brent Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Brent Place is classified as an access road under the one network road classification (ONRC). Brent Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Brent Place connects to Sunlands Drive to the north. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Brent Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 110 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Brent Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sunlands Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Brent Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Brent Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Brentford Place (Manurewa)

The speed limit on Brentford Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Brentford Place is classified as an access road under the one network road classification (ONRC). Brentford Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Brentford Place connects to Burbank Avenue to the south. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Brentford Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 150 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Brentford Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burbank Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Brentford Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.20 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Brentford Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Burbank Avenue (Manurewa)

The speed limit on Burbank Avenue, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Burbank Avenue is classified as an Secondary Collector road under the one network road classification (ONRC). Burbank Avenue is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Burbank Avenue connects to Roscommon Road to the west and Rowandale Avenue to the east. This road provides access to residential properties and is approximately 0.7 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of 14 recorded crashes: two minor crashes and 12 non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Burbank Avenue were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very wide shoulder (>2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2385 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Burbank Avenue has a mean operating speed in the range of 35-39 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Roscommon Road:** 50 km/h • **Rowandale Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Burbank Avenue has the following information:

- Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium**
- The Infrastructure Risk Rating Score is 2.22 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Burbank Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Burlington Place (Manurewa)

The speed limit on Burlington Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Burlington Place is classified as an access road under the one network road classification (ONRC). Burlington Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Burlington Place connects to Winsford Street to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Burlington Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Burlington Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Winsford Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Burlington Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.41. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Burlington Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Burndale Terrace (Manurewa)

The speed limit on Burndale Terrace, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Burndale Terrace is classified as an access road under the one network road classification (ONRC). Burndale Terrace is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Burndale Terrace connects to Rowandale Avenue to the west and Gainsborough Street to the east. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crashes: one non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Burndale Terrace were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Burndale Terrace has a mean operating speed in the range of 20-24 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue**: 50 km/h • **Gainsborough Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Burndale Terrace has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**
- The Infrastructure Risk Rating Score is 2.41 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Burndale Terrace, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Carbery Place (Manurewa)

The speed limit on Carbery Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Carbery Place is classified as an access road under the one network road classification (ONRC). Carbery Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Carbery Place connects to Burbank Avenue to the north. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crash: two non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Carbery Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 200 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Carbery Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burbank Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Carbery Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.44 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Carbery Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips. Lowering the speed limit improves the credibility of speed limit setting and assists

in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Carter Place (Manurewa)

The speed limit on Carter Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Carter Place is classified as an access road under the one network road classification (ONRC). Carter Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Carter Place connects to Sharland Avenue to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Carter Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 301 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Carter Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sharland Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Carter Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.91. For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Carter Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Clendon Place (Manurewa)

The speed limit on Clendon Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Clendon Place is classified as an access road under the one network road classification (ONRC). Clendon Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Clendon Place connects to Weymouth Road to the south. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Clendon Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 330 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Clendon Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Weymouth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Clendon Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Clendon Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Crampton Place (Manurewa)

The speed limit on Crampton Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Crampton Place is classified as an access road under the one network road classification (ONRC). Crampton Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Crampton Place connects to Aarts Avenue to the north. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Crampton Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 955 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Crampton Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Aarts Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Crampton Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.06. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Crampton Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Dagenham Street (Manurewa)

The speed limit on Dagenham Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Dagenham Street is classified as an access road under the one network road classification (ONRC). Dagenham Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Dagenham Street connects to Browns Road to the north and Burbank Avenue to the south. This road provides access to residential properties and is approximately 0.5 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crashes: two non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Dagenham Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 884 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Dagenham Street has a mean operating speed in the range of 25-29km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Browns Road:** 50 km/h • **Burbank Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Dagenham Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Dagenham Street, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Dreadon Road (Manurewa)

The speed limit on Dreadon Road, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Dreadon Road is classified as an access road under the one network road classification (ONRC). Dreadon Road is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Dreadon Road connects to Kay Road to the north. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crashes: one minor crash and one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Dreadon Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Dreadon Road has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kay Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Dreadon Road has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium**.
- The Infrastructure Risk Rating Score is 2.32. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Dreadon Road, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Elmwood Place (Manurewa)

The speed limit on Elmwood Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Elmwood Place is classified as an access road under the one network road classification (ONRC). Elmwood Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Elmwood Place connects to Burndale Terrace to the north. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Elmwood Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Elmwood Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burndale Terrace:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Elmwood Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.41. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Elmwood Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Ewbank Place (Manurewa)

The speed limit on Ewbank Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ewbank Place is classified as an access road under the one network road classification (ONRC). Ewbank Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Ewbank Place connects to Fellbrook Street to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ewbank Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 170 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Ewbank Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Fellbrook Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Ewbank Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Ewbank Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Fairlight Place (Manurewa)

The speed limit on Fairlight Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Fairlight Place is classified as an access road under the one network road classification (ONRC). Fairlight Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Fairlight Place connects to Winsford Street to the east. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Fairlight Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Fairlight Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Winsford Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Fairlight Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.41. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Fairlight Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Feasegate Street (Manurewa)

The speed limit on Feasegate Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Feasegate Street is classified as an access road under the one network road classification (ONRC). Feasegate Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Feasegate Street connects to Browns Road to the north and Burbank Avenue to the south. This road provides access to residential properties and is approximately 0.4 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crashes: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Feasegate Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 665 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Feasegate Street has a mean operating speed in the range of 25-29km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Browns Road:** 50 km/h • **Burbank Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Feasegate Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.06 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Feasegate Street, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Fellbrook Street (Manurewa)

The speed limit on Fellbrook Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Fellbrook Street is classified as an Primary Collector road under the one network road classification (ONRC). Fellbrook Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Fellbrook Street connects to Russel Road to the north and Burbank Avenue to the south. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crashes: one serious crash and one non-injury crash. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Fellbrook Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 3494 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Fellbrook Street has a mean operating speed in the range of 30-34 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Browns Road:** 50 km/h • **Burbank Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Fellbrook Street has the following information:

- Collective Risk band of **Medium-High**, and a Personal Risk band of **High**
- The Infrastructure Risk Rating Score is 2.42 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Fellbrook Street, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Funnell Place (Manurewa)

The speed limit on Funnell Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Funnell Place is classified as an access road under the one network road classification (ONRC). Funnell Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Funnell Place connects to Funnell Place to the east. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Funnell Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 967 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Funnell Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Poutini Place:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Funnell Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.82 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Funnell Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Gainsborough Street (Manurewa)

The speed limit on Gainsborough Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Gainsborough Street is classified as an access road under the one network road classification (ONRC). Gainsborough Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Gainsborough Street connects to Winsford Street to the north and Weymouth Road to the south. This road provides access to residential properties and is approximately 0.5 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of three recorded crashes: one serious and two non-injury crashes. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Gainsborough Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Gainsborough Street has a mean operating speed in the range of 20-24 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Winsford Street**: 50 km/h • **Weymouth Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Gainsborough Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**
- The Infrastructure Risk Rating Score is 2.41 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Gainsborough Street, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Garth Place (Manurewa)

The speed limit on Garth Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Garth Place is classified as an access road under the one network road classification (ONRC). Garth Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Garth Place connects to Fellbrook Street to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Garth Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 150 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Garth Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Fellbrook Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Garth Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Garth Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Harrow Place (Manurewa)

The speed limit on Harrow Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Harrow Place is classified as an access road under the one network road classification (ONRC). Harrow Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Harrow Place connects to Addington Avenue to the east. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Harrow Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 790 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Harrow Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Addington Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Harrow Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 1.91. For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Harrow Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Healy Road (Manurewa)

The speed limit on Healy Road, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Healy Road is classified as an access road under the one network road classification (ONRC). Healy Road is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Healy Road connects to Watts Road to the west and Russell Road to the east. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Healy Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and wide shoulder (1.0 m to <2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 390 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Healy Road has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Watts Road:** 50 km/h • **Russell Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Healy Road has the following information:

- Collective Risk band of **High**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.13. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Healy Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Helms Place (Manurewa)

The speed limit on Helms Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Helms Place is classified as an access road under the one network road classification (ONRC). Helms Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Helms Place connects to Ronald Place to the north. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crash: two non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Helms Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 220 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Helms Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Helms Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Helms Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Heybridge Street (Manurewa)

The speed limit on Heybridge Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Heybridge Street is classified as an access road under the one network road classification (ONRC). Heybridge Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Heybridge Street connects to Wordsworth Road to the north and to the south. This road provides access to residential properties and is approximately 0.5 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crashes: one non-injury crashe. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Heybridge Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 520vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Heybridge Street has a mean operating speed in the range of 20-24 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wordsworth Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Heybridge Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**
- The Infrastructure Risk Rating Score is 2.41 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Heybridge Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Hobman Place (Manurewa)

The speed limit on Hobman Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hobman Place is classified as an access road under the one network road classification (ONRC). Hobman Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Hobman Place connects to Smedley Street to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hobman Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2169 vehicles per day (vpd). This level of traffic volume is not consistent with the cul-de-sac nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Hobman Place has a mean operating speed in the range of 25-29km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Smedley Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Hobman Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low-Medium**
- The Infrastructure Risk Rating Score is 2.06 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Hobman Place, the actual operating speeds from the MegaMaps tool are between 25-29km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and

regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

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Speed Limit Review – Hoturoa Place (Manurewa)

The speed limit on Hoturoa Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hoturoa Place is classified as an access road under the one network road classification (ONRC). Hoturoa Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Hoturoa Place connects to Sharland Avenue to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hoturoa Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 200 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Hoturoa Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sharland Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Hoturoa Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Hoturoa Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Hywell Place (Manurewa)

The speed limit on Hywell Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hywell Place is classified as an access road under the one network road classification (ONRC). Hywell Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Hywell Place connects to Swallow Drive to the west. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hywell Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 210 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Hywell Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Swallow Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Hywell Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.41. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Hywell Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – John Walker Drive (Manurewa)

John Walker Drive, Wordsworth, is divided into two sections as outlined below:

1. Section 1: John Walker Drive between Wordsworth Road and Sharland Avenue
2. Section 2: John Walker Drive between Sharland Avenue and Weymouth Road

The speed limit on John Walker Drive, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments	
	Section 1	**Section 2**
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	John Walker Drive connects to Wordsworth Rd to the north and Sharland Avenue to the south. This road provides access to residential properties and is approximately 0.5 km in length.	John Walker Drive connects to Sharland Avenue to the north and Weymouth Road to the south. This road provides access to residential properties and is approximately 0.4 km in length.
	John Walker Drive is classified as a secondary collector road under the one network road classification (ONRC). John Walker Drive is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.	John Walker Drive is classified as a secondary collector road under the one network road classification (ONRC). John Walker Drive is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of eight recorded crashes: one minor and seven non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.	From NZTA's MegaMaps tool there is a total of four recorded crashes: one serious and three non-injury crashes. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.

Requirement	Comments	
	Section 1	**Section 2**
(e) the characteristics of the road and roadsides; and	The following characteristics for John Walker Drive were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate	The following characteristics for John Walker Drive were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to 2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"	
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km	
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1939 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.	Average daily traffic (ADT) was determined from MegaMaps as 2587 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.	
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.	

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to		
Current speed limit	The existing speed limit is 50 km/h.	
	This section of John Walker Drive has a mean operating	This section of John Walker Drive has a mean operating

MegaMaps Mean Operating Speed (km/h)	speed in the range of 35-39 km/h.	speed in the range of 30-34 km/h.
	Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.	
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wordsworth Road**: 50 km/h • **Sharland Avenue**: 50 km/h • **Weymouth Road**: 50 km/h	

Step 2: Determine the road safety metrics and IRR score

From MegaMaps John Walker Drive has the following information:

- Section 1
  - Collective Risk band of **Low**, and a Personal Risk band of **Low**
  - The Infrastructure Risk Rating Score is **2.49**. For urban areas this corresponds to an IRR band of **Medium-High**
- Section 2
  - Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium**.
  - The Infrastructure Risk Rating Score is **2.33**. For urban areas this corresponds to an IRR band of **Medium**

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for John Walker Drive, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Kay Road (Manurewa)

The speed limit on Kay Road, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kay Road is classified as an access road under the one network road classification (ONRC). Kay Road is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Kay Road connects to Russell Road to the north and Dreadon Road on the south. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Kay Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Kay Road has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Russell Road:** 50 km/h • **Dreadon Road:** 50km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Kay Road has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium**.
- The Infrastructure Risk Rating Score is 2.32. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Kay Road, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Kern Place (Manurewa)

The speed limit on Kern Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kern Place is classified as an access road under the one network road classification (ONRC). Kern Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Kern Place connects to Sharland Avenue to the north. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Kern Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 90 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Kern Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sharland Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Kern Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.44. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Kern Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Landette Road (Manurewa)

The speed limit on Landette Road, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Landette Road is classified as an access road under the one network road classification (ONRC). Landette Road is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Landette Road connects to John Walker Drive to the west. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Landette Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 330 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Landette Road has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Walker Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Landette Road has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Landette Road, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Maida Vale (Manurewa)

The speed limit on Maida Vale, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Maida Vale is classified as an access road under the one network road classification (ONRC). Maida Vale is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Maida Vale connects to Shallow Drive to the east. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Maida Vale were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 210 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Maida Vale has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Shallow Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Maida Vale has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.06. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Maida Vale, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Malmo Place (Manurewa)

The speed limit on Malmo Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Malmo Place is classified as an access road under the one network road classification (ONRC). Malmo Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Malmo Place connects to Feasegate Street to the west. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Malmo Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 665 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Malmo Place has a mean operating speed in the range of 25-29km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Feasegate Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Malmo Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.06. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Malmo Place, the actual operating speeds from the MegaMaps tool are between 25-29km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Mckean Avenue (Manurewa)

The speed limit on Mckean Avenue, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Mckean Avenue is classified as an Secondary Collector road under the one network road classification (ONRC). Mckean Avenue is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Mckean Avenue connects to Russel Road to the north and Weymouth Road to the south. This road provides access to residential properties and is approximately 0.6 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of six recorded crashes: six non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Mckean Avenue were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 3063 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Mckean Avenue has a mean operating speed in the range of 35-39 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Russel Road:** 50 km/h • **Weymouth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Mckean Avenue has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.05 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Mckean Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Minton Place (Manurewa)

The speed limit on Minton Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Minton Place is classified as an access road under the one network road classification (ONRC). Minton Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Minton Place connects to Weymouth Road to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Minton Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 239 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Minton Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Weymouth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Minton Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.06. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Minton Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Mon Desir Place (Manurewa)

The speed limit on Mon Desir Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Mon Desir Place is classified as an access road under the one network road classification (ONRC). Mon Desir Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Mon Desir Place connects to Sharland Avenue to the north. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Mon Desir Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 130 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Mon Desir Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sharland Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Mon Desir Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Awakino Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Montilla Place (Manurewa)

The speed limit on Montilla Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Montilla Place is classified as an access road under the one network road classification (ONRC). Montilla Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Montilla Place connects to Russell Road to the north. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Montilla Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Montilla Place has a mean operating speed in the range of 20-24km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Russell Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Montilla Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.17. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Montilla Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and

regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Naomi Place (Manurewa)

The speed limit on Naomi Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Naomi Place is classified as an access road under the one network road classification (ONRC). Naomi Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Naomi Place connects to John Walker Drive to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Naomi Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 90 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Naomi Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Walker Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Naomi Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.44. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Naomi Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Neems Place (Manurewa)

The speed limit on Neems Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Neems Place is classified as an access road under the one network road classification (ONRC). Neems Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Neems Place connects to Pallant Street to the north. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crash: two non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Neems Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2169 vehicles per day (vpd). This level of traffic volume is not consistent with the cul-de-sac nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Neems Place has a mean operating speed in the range of 25-29km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Pallant Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Neems Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low-Medium**
- The Infrastructure Risk Rating Score is 2.06 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Neems Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Nina Place (Manurewa)

The speed limit on Nina Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Nina Place is classified as an access road under the one network road classification (ONRC). Nina Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Nina Place connects to Burbank Avenue to the south. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Nina Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 150 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Nina Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burbank Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Nina Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.20 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Nina Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Oratu Place (Manurewa)

The speed limit on Oratu Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Oratu Place is classified as an access road under the one network road classification (ONRC). Oratu Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Oratu Place connects to John Walker Drive to the west This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Oratu Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 239 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Oratu Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Walker Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Oratu Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.91 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Oratu Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Pallant Street (Manurewa)

The speed limit on Pallant Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pallant Street is classified as an access road under the one network road classification (ONRC). Pallant Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Pallant Street connects to Burbank Avenue to the north and Wordsworth Road to the south. This road provides access to residential properties and is approximately 0.6 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of seven recorded crashes: two minor crash and five non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Pallant Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2169 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Pallant Street has a mean operating speed in the range of 25-29km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wordsworth Road:** 50 km/h • **Burbank Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Pallant Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low-Medium**
- The Infrastructure Risk Rating Score is 2.06 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Pallant Street, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Pawa Place (Manurewa)

The speed limit on Pawa Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pawa Place is classified as an access road under the one network road classification (ONRC). Pawa Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Pawa Place connects to Sharland Avenue to the north. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Pawa Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 90 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Pawa Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sharland Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Pawa Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.44. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Pawa Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Poutini Place (Manurewa)

The speed limit on Poutini Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Poutini Place is classified as an access road under the one network road classification (ONRC). Poutini Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Poutini Place connects to Wordsworth Road to the north. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Poutini Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 967 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Poutini Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wordsworth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Poutini Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.82 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Poutini Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Primrose Place (Manurewa)

The speed limit on Primrose Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Primrose Place is classified as an access road under the one network road classification (ONRC). Primrose Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Primrose Place connects to Addington Avenue to the west. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Primrose Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 790 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Primrose Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Addington Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Primrose Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 1.91. For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Primrose Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Pushon Place (Manurewa)

The speed limit on Pushon Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pushon Place is classified as an access road under the one network road classification (ONRC). Pushon Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Pushon Place connects to Addington Avenue to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Pushon Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 90 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Pushon Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Addington Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Pushon Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.49. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Pushon Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Rako Place (Manurewa)

The speed limit on Rako Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Rako Place is classified as an access road under the one network road classification (ONRC). Rako Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Rako Place connects to Landette Road to the north. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Rako Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 330 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Rako Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Landette Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Rako Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Rako Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Rangataua Place (Manurewa)

The speed limit on Rangataua Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Rangataua Place is classified as an access road under the one network road classification (ONRC). Rangataua Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Rangataua Place connects to Sharland Avenue to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Rangataua Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 250 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Rangataua Place has a mean operating speed in the range of 25-29km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sharland Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Rangataua Place has the following information:

- Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium**
- The Infrastructure Risk Rating Score is 1.91 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Rangataua Place, the actual operating speeds from the MegaMaps tool are between 25-29km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Ririno Place (Manurewa)

The speed limit on Ririno Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ririno Place is classified as an access road under the one network road classification (ONRC). Ririno Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Ririno Place connects to Mon Desir Place to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ririno Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 130 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Ririno Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Mon Desir Place:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Ririno Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Ririno Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Romney Place (Manurewa)

The speed limit on Romney Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Romney Place is classified as an access road under the one network road classification (ONRC). Romney Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Romney Place connects to Addington Avenue to the north. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Romney Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 790 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Romney Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Addington Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Romney Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 1.91. For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Romney Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Ronald Place (Manurewa)

The speed limit on Ronald Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ronald Place is classified as an access road under the one network road classification (ONRC). Ronald Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Ronald Place connects to Rowandale Avenue to the west. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ronald Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 220 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Ronald Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Ronald Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Ronald Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Rondorlyn Place (Manurewa)

The speed limit on Rondorlyn Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Rondorlyn Place is classified as an access road under the one network road classification (ONRC). Rondorlyn Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Rondorlyn Place connects to Weymouth Road to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Rondorlyn Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 120 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Rondorlyn Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Weymouth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Rondorlyn Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Rondorlyn Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Rowandale Avenue (Manurewa)

Rowandale Avenue, Wordsworth, is divided into two sections as outlined below:

1. Section 1: Rowandale Avenue between Browns Road and Wordsworth Road
2. Section 2: Rowandale Avenue between Wordsworth Road and Weymouth Road

The speed limit on Rowandale Avenue, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments	
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	Rowandale Avenue is classified as a primary collector road under the one network road classification (ONRC). Rowandale Avenue is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.	
	Rowandale Avenue connects to Browns Road to the north and Wordsworth Road to the south. This road provides access to residential properties and is approximately 0.9 km in length.	Rowandale Avenue connects to Wordsworth Road to the north and Weymouth Road to the south. This road provides access to residential properties and is approximately 0.8 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of 18 recorded crashes: one serious, four minor and 13 non-injury crashes. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered. Rowandale Avenue is identified as one of the top 10% DSI saving network sections for New Zealand.	From NZTA's MegaMaps tool there is a total of 23 recorded crashes: one fatal, three serious, four minor and 17 non-injury crashes. This resulted in three Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Rowandale Avenue were determined using MegaMaps tool.	The following characteristics for Rowandale Avenue were determined using MegaMaps tool.

Requirement	Comments	
	• **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to 2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate	• **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very wide shoulder (> 2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"	
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km	
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 7152 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.	Average daily traffic (ADT) was determined from MegaMaps as 4128 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.	
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.	

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to		
Current speed limit	The existing speed limit is 50 km/h.	
MegaMaps Mean Operating Speed (km/h)	Rowandale Avenue has a mean operating speed in the range of 45-49 km/h.	Rowandale Avenue has a mean operating speed in the range of 40-44 km/h.
	Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.	
Speed limits on adjoining roads	The existing speed limits on adjoining roads are:	

	• **Browns Road**: 50 km/h • **Weymouth Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Rowandale Avenue has the following information:

- Section 1
  - Collective Risk band of **Medium-High**, and a Personal Risk band of **Medium-High**
  - The Infrastructure Risk Rating Score is 2.24 For urban areas this corresponds to an IRR band of **Medium**.
- Section 2
  - Collective Risk band of **Medium**, and a Personal Risk band of **High**
  - The Infrastructure Risk Rating Score is 1.94 For urban areas this corresponds to an IRR band of **Low Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Rowandale Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Sealord Place (Manurewa)

The speed limit on Sealord Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sealord Place is classified as an access road under the one network road classification (ONRC). Sealord Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Sealord Place connects to Sharland Avenue to the north. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sealord Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 140 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Sealord Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Sharland Avenue:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Sealord Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Sealord Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Selago Place (Manurewa)

The speed limit on Selago Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Selago Place is classified as an access road under the one network road classification (ONRC). Selago Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Selago Place connects to Landette Road to the south. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Selago Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 330 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Selago Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Landette Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Selago Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Selago Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Selsey Lane (Manurewa)

The speed limit on Selsey Lane, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Selsey Lane is classified as an access road under the one network road classification (ONRC). Selsey Lane is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Selsey Lane connects to Burndale Terrace to the south. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Selsey Lane were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Selsey Lane has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Burndale Terrace:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Selsey Lane has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.41. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Selsey Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Sharland Avenue (Manurewa)

Sharland Avenue, Wordsworth, is divided into two sections as outlined below:

1. Section 1: Sharland Avenue between Roscommon Road and John Walker Drive
2. Section 2: Sharland Avenue between John Walker Drive and Rowandale Avenue

The speed limit on Sharland Avenue, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1</th><th>Section 2</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">• New Zealand Transport Agency (NZTA) Speed Management Guide 2016
• Infrastructure Risk Rating Manual 2016 (IRR)
• NZTA MegaMaps tool
• Auckland Transport Vision Zero

Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>Sharland Avenue connects to Roscommon Road to the west and John Walker Road to the east. This road provides access to residential properties and is approximately 0.3 km in length.</td><td>Sharland Avenue connects to Sharland Avenue to the north and Weymouth Road to the south. This road provides access to residential properties and is approximately 0.5 km in length.</td></tr>
<tr><td colspan="2">Sharland Avenue is classified as a primary collector road under the one network road classification (ONRC). Sharland Avenue is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.</td></tr>
<tr><td>(d) crash risk for all road users; and</td><td>From NZTA's MegaMaps tool there is a total of four recorded crashes: two minor and two non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.</td><td>From NZTA's MegaMaps tool there is a total of nine recorded crashes: two minor and seven non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.</td></tr>
<tr><td>(e) the characteristics of the road and roadsides; and</td><td colspan="2">The following characteristics for Sharland Avenue were determined using MegaMaps tool.

• Road stereotype: Two lane undivided
• Road alignment: Straight
• Carriageway width: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m)</td></tr>
</table>

Requirement	Comments	
	Section 1	**Section 2**
	• **Roadside hazards (in both directions)**: Severe and Moderate	
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"	
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 3679 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.	
(i) any planned modification to the road; and	There are no planned modifications at this time.	
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.	

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to		
Current speed limit	The existing speed limit is 50 km/h.	
MegaMaps Mean Operating Speed (km/h)	This section of Sharland Avenue has a mean operating speed in the range of 30-34 km/h.	This section of Sharland Avenue has a mean operating speed in the range of 35-39 km/h.
	Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.	
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Roscommon Road**: 50 km/h • **John Walker Road**: 50 km/h • **Rowandale Avenue**: 50 km/h	

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Sharland Avenue has the following information:

- Section 1
    - Collective Risk band of **Low**, and a Personal Risk band of **Medium**
    - The Infrastructure Risk Rating Score is **2.33**. For urban areas this corresponds to an IRR band of **Medium**
- Section 2
    - Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium-High**.
    - The Infrastructure Risk Rating Score is **2.05**. For urban areas this corresponds to an IRR band of **High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Sharland Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Smedley Street (Manurewa)

The speed limit on Smedley Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Smedley Street is classified as an access road under the one network road classification (ONRC). Smedley Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Smedley Street connects to Burbank Avenue to the north and Pallant Street to the south. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Smedley Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2169 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Smedley Street has a mean operating speed in the range of 25-29km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue:** 50 km/h • **Swallow Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Smedley Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium**
- The Infrastructure Risk Rating Score is 2.3 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Smedley Street, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Stella Place (Manurewa)

The speed limit on Stella Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Stella Place is classified as an access road under the one network road classification (ONRC). Stella Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Stella Place connects to John Walker Drive to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Stella Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 70 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Stella Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Walker Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Stella Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.44 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Stella Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Sunlands Drive (Manurewa)

The speed limit on Sunlands Drive, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sunlands Drive is classified as a Secondary Collector road under the one network road classification (ONRC). Sunlands Drive is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Sunlands Drive connects to Rowandale Avenue to the west and Swallow Drive to the east. This road provides access to residential properties and is approximately 0.6 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of four recorded crashes: one Minor crash and three non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sunlands Drive were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1476 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Sunlands Drive has a mean operating speed in the range of 25-29km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rowandale Avenue:** 50 km/h • **Swallow Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Sunlands Drive has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium**
- The Infrastructure Risk Rating Score is 2.3 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Sunlands Drive, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Swallow Drive (Manurewa)

The speed limit on Swallow Drive, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Swallow Drive is classified as an Primary Collector road under the one network road classification (ONRC). Swallow Drive is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Swallow Drive connects to Russel Road to the north and Wordsworth Road to the south. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crashes: one serious crash and one non-injury crash. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Swallow Drive were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very wide shoulder (>2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2385 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Swallow Drive has a mean operating speed in the range of 35-39 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Russel Road:** 50 km/h • **Wordsworth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Swallow Drive has the following information:

- Collective Risk band of **Medium-High**, and a Personal Risk band of **High**
- The Infrastructure Risk Rating Score is 2.42 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Swallow Drive Avenue, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Tamworth Close (Manurewa)

The speed limit on Tamworth Close, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Tamworth Close is classified as an access road under the one network road classification (ONRC). Tamworth Close is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Tamworth Close connects to John Walker Drive to the east. This road provides access to residential properties and is approximately 0.4 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one serious crash. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Tamworth Close were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 90 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Tamworth Close has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Walker Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Tamworth Close has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.44. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Tamworth Close, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Tuna Place (Manurewa)

The speed limit on Tuna Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Tuna Place is classified as an access road under the one network road classification (ONRC). Tuna Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Tuna Place connects to John Walker Drive to the east This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Tuna Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 80 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Tuna Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **John Walker Drive:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Tuna Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.44 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Tuna Place have been engineered down through speed calming measures where drivers are expected to travel at or below the proposed safe and appropriate speed, despite the existing 50 km/h speed limit. A proposed speed limit of 30 km/h was selected to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Watts Road (Manurewa)

The speed limit on Watts Road, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Watts Road is classified as an access road under the one network road classification (ONRC). Watts Road is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Watts Road connects to Healy Road to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Watts Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and wide shoulder (1.0 m to <2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 390 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Watts Road has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Healy Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Watts Road has the following information:

- Collective Risk band of **High**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.13. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Watts Road, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Wenlock Place (Manurewa)

The speed limit on Wenlock Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wenlock Place is classified as an access road under the one network road classification (ONRC). Wenlock Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Wenlock Place connects to Wordsworth Road to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wenlock Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 190 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Wenlock Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wordsworth Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Wenlock Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.15 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Wenlock Place, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – White Road (Manurewa)

The speed limit on White Road, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	White Road is classified as an access road under the one network road classification (ONRC). White Road is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	White Road connects to Healy Road to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crash: one serious crash. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for White Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and wide shoulder (1.0 m to <2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density:** 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 390 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	White Road has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Healy Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps White Road has the following information:

- Collective Risk band of **High**, and a Personal Risk band of **Medium-High**.
- The Infrastructure Risk Rating Score is 2.13. For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for White Road, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Winsford Street (Manurewa)

The speed limit on Winsford Street, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Winsford Street is classified as an access road under the one network road classification (ONRC). Winsford Street is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Winsford Street connects to Wordsworth Road to the north and Heybridge St to the south. This road provides access to residential properties and is approximately 0.6 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of five recorded crashes: one minor and four non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Winsford Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 405 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Winsford Street has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wordsworth Road**: 50 km/h • **Heybridge Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Winsford Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Medium-High**
- The Infrastructure Risk Rating Score is 2.41 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Winsford Sreet, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Wordsworth Road (Manurewa)

Wordsworth Road, Wordsworth, is divided into two sections as outlined below:

1. Section 1: Wordsworth Road between Roscommon Road and Rowandale Avenue
2. Section 2: Wordsworth Road between Rowandale Avenue and Weymouth Road

The speed limit on Wordsworth Road, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

<table>
<tr><th rowspan="2">Requirement</th><th colspan="2">Comments</th></tr>
<tr><th>Section 1</th><th>Section 2</th></tr>
<tr><td>(a) the information about speed management developed and maintained by the Agency; and:</td><td colspan="2">New Zealand Transport Agency (NZTA) Speed Management Guide 2016
Infrastructure Risk Rating Manual 2016 (IRR)
NZTA MegaMaps tool
Auckland Transport Vision Zero
Refer to the Process Summary for further information.</td></tr>
<tr><td>(b) any relevant guidance on speed management provided by the Agency; and</td><td colspan="2">The NZTA Speed Management Guide was used for the review and consideration of the speed limit.</td></tr>
<tr><td rowspan="2">(c) the function and use of the road; and</td><td>Wordsworth Road connects to Roscommon Rd to the west and Rowandale Avenue to the east. This road provides access to residential properties and is approximately 0.8 km in length.</td><td>Wordsworth Road connects to Rowandale Avenue to the west and Weymouth Road to the south. This road provides access to residential properties and is approximately 1.3 km in length.</td></tr>
<tr><td colspan="2">Wordsworth Road is classified as a primary collector road under the one network road classification (ONRC). Wordsworth Road is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.</td></tr>
<tr><td>(d) crash risk for all road users; and</td><td>From NZTA’s MegaMaps tool there is a total of 19 recorded crashes: three serious, six minor and 10 non-injury crashes. This resulted in three Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.

Wordsworth Road is identified as one of the top 10% DSI saving network sections for New Zealand.</td><td>From NZTA’s MegaMaps tool there is a total of 44 recorded crashes: two serious, 13 minor and 29 non-injury crashes. This resulted in two Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.</td></tr>
</table>

Requirement	Comments	
	Section 1	**Section 2**
(e) the characteristics of the road and roadsides; and	The following characteristics for Wordsworth Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to 2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate	
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"	
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km	
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 5398 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.	Average daily traffic (ADT) was determined from MegaMaps as 5068 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.	
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.	

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to		
Current speed limit	The existing speed limit is 50 km/h.	
MegaMaps Mean Operating Speed (km/h)	This section of Wordsworth Road has a mean operating speed in the range of 40-44 km/h.	This section of Wordsworth Road has a mean operating speed in the range of 45-49 km/h.
	Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.	
Speed limits on adjoining roads	The existing speed limits on adjoining roads are:	

	• **Roscommon Road**: 60 km/h • **Weymouth Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Wordsworth Road has the following information:

- Section 1
  - Collective Risk band of **Medium-High**, and a Personal Risk band of **High**
  - The Infrastructure Risk Rating Score is 1.94 For urban areas this corresponds to an IRR band of **Low Medium**.
- Section 2
  - Collective Risk band of **Medium**, and a Personal Risk band of **Medium-High**
  - The Infrastructure Risk Rating Score is 1.94 For urban areas this corresponds to an IRR band of **Low Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Wordsworth Road, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Yearsley Place (Manurewa)

The speed limit on Yearsley Place, Manurewa has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Yearsley Place is classified as an access road under the one network road classification (ONRC). Yearsley Place is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Yearsley Place connects to Pallant Street to the west. This road provides access to residential properties and is approximately 0.3 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Yearsley Place were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from Traffic data from Team Portal as 312 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 13th of May. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Yearsley Place has a mean operating speed in the range of 25-29km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Pallant Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Yearsley Place has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low-Medium**
- The Infrastructure Risk Rating Score is 2.06 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Yearsley Place, the actual operating speeds from the MegaMaps tool are between 25-29km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Alexander Crescent (Ōtara)

The speed limit on Alexander Crescent, Ōtara between Bairds Road and Blair Place has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Alexander Crescent is classified as a secondary collector road under the one network road classification (ONRC). Alexander Crescent is a two-lane undivided road. There is pedestrian amenities and on-road parking along this road. There are no cyclist amenities along this road.
	Alexander Crescent connects to Bairds Road to the south. This road provides access to local businesses and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crashes: one serious crash and one non-injury crashes. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Alexander Crescent were determined using Megamaps. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and very wide shoulder (>2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	From site observation: • **Intersection density**: <1 intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was estimated from MegaMaps as 4053 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	The entire length of Alexander Crescent has a mean operating speed in the range of 35-39 km/h. Alexander Crescent between Bairds Road and Blair Place has an estimated operating speed in the range of 25-29 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bairds Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Alexander Crescent has the following information:

- Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium**
- The Infrastructure Risk Rating Score is 1.78 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Alexander Cres, the actual operating speed for this section is close to 30km/h. This is due to the close proximity of this section of Alexander Crescent to the give way controlled intersection with Bairds Road.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Bairds Road (Ōtara)

The speed limit on Bairds Road, Ōtara between East Tamaki Road and 10m west of Cordobar Court has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Bairds Road is classified as an arterial road under the one network road classification (ONRC). Bairds Road is a two-way, two-lane, undivided road. There are pedestrian amenities and on-street parking along parts of this road. There are no cyclist amenities.
	Bairds Road connects to East Tamaki Road to the south. This road provides access to local businesses, shopping mall and community facilities and is approximately 0.6 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of 60 recorded crashes: three serious crashes, seven minor crashes and 50 non-injury crashes. This resulted in three Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Bairds Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very wide shoulder (>2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: <1 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 22787 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Bairds Road has a mean operating speed in the range of 35-39 km/h. Prior to the speed limit review, speed calming measures were installed to achieve a lower operating speed than the Megamaps Mean Operating Speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **East Tamaki Road**: 60 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Bairds Road has the following information:

- Collective Risk band of **High**, and a Personal Risk band of **High**
- The Infrastructure Risk Rating Score is 1.85 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 50 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Bairds Road, engineering measures have been implemented with the intention of achieving an operating speed of less than 33km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Cordoba Court (Ōtara)

The speed limit on Cordoba Court, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cordoba Court is classified as an access road under the one network road classification (ONRC). Cordoba Court is a two-lane undivided road. There is pedestrian amenities and on-road parking along this road. There are no cyclist amenities along this road.
	Cordoba Court connects to Bairds Road to the south. This road provides access to local businesses and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crashes: one non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cordoba Court were determined using site observations. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using site observation. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From site observation: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was estimated from MegaMaps as 150 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Cordoba Court has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bairds Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From calculation Cordoba Court has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.4 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Cordoba Court, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Hayman Street (Ōtara)

The speed limit on Hayman Street, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hayman Street is classified as a secondary collector road under the one network road classification (ONRC). Hayman Street is a divided-traversable road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities.
	Hayman Street connects to Bairds Road to the east. This road provides access to local businesses and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crashes: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hayman Street were determined using MegaMaps tool. • **Road stereotype**: Divided - traversable • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very wide shoulder (>2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial Big Box/Industrial using MegaMaps tool. The IRR defines Commercial Big Box/Industrial as "*shops and/or industry/factories with intermittent large accessways and intersections leading to large car parking areas. Regular intersections and smaller accesses are also likely to be present. Some pedestrian and cyclist activity may be present.*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 10+ intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1757 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Hayman Street has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bairds Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Hayman Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 2.17 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 50 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Hayman Street, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Kelpie Lane (Ōtara)

The speed limit on Kelpie Lane, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kelpie Lane is classified as an access road under the one network road classification (ONRC). Kelpie Lane is a two-lane undivided road. There are no pedestrian amenities and cyclist amenities along this road. There are on-street parking on parts of this road.
	Kelpie Lane connects to Bairds Road to the west. This road provides access to local businesses and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Kelpie Lane were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very wide shoulder (>2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial Big Box/Industrial using MegaMaps tool. The IRR defines Commercial Big Box/Industrial as "*shops and/or industry/factories with intermittent large accessways and intersections leading to large car parking areas. Regular intersections and smaller accesses are also likely to be present. Some pedestrian and cyclist activity may be present.*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 384 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Kelpie Lane has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bairds Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Kelpie Lane has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.84 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Kelpie Lane, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Kew Lane (Ōtara)

The speed limit on Kew Lane, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kew Lane is classified as an access road under the one network road classification (ONRC). Kew Lane is a two-lane undivided road. There are no pedestrian amenities and cyclist amenities along this road. There is a carpark along this road.
	Kew Lane connects to Bairds Road to the east. This road provides access to local businesses, shopping mall and community facilities and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Kew Lane were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 m to <1.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial Big Box/Industrial using MegaMaps tool. The IRR defines Commercial Big Box/Industrial as "*shops and/or industry/factories with intermittent large accessways and intersections leading to large car parking areas. Regular intersections and smaller accesses are also likely to be present. Some pedestrian and cyclist activity may be present.*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: <1 intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 52 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Kew Lane has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bairds Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Kew Lane has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.94 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Kew Lane, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Lovegrove Crescent (Ōtara)

The speed limit on Lovegrove Crescent, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Lovegrove Crescent is classified as an access road under the one network road classification (ONRC). Lovegrove Crescent is a two-lane undivided road. There are pedestrian amenities and on-street parking along this road. There are no cyclist amenities along this road.
	Lovegrove Crescent connects to Kelpie Lane and Thurso Lane to the west. This road provides access to local businesses and is approximately 0.8 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of two recorded crashes: two non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Lovegrove Crescent were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very wide shoulder (>2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial Big Box/Industrial using MegaMaps tool. The IRR defines Commercial Big Box/Industrial as "*shops and/or industry/factories with intermittent large accessways and intersections leading to large car parking areas. Regular intersections and smaller accesses are also likely to be present. Some pedestrian and cyclist activity may be present.*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 384 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Lovegrove Crescent has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Thurso Lane**: 50 km/h • **Kelpie Lane**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Lovegrove Crescent has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.84 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Lovegrove Cres, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Newbury Street (Ōtara)

The speed limit on Newbury Street, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Newbury Street is classified as a secondary collector road under the one network road classification (ONRC). Newbury Street is a two-lane undivided road. There are pedestrian amenities on one side of the road and a car park along this road. There are no cyclist amenities along this road.
	Newbury Street connects to Bairds Road to the north and East Tamaki Road to the south. This road provides access to local businesses and is approximately 0.4 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of seven recorded crashes: one minor crash and two non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Newbury Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial Big Box/Industrial using MegaMaps tool. The IRR defines Commercial Big Box/Industrial as "*shops and/or industry/factories with intermittent large accessways and intersections leading to large car parking areas. Regular intersections and smaller accesses are also likely to be present. Some pedestrian and cyclist activity may be present.*"

Requirement	Comments
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 2350 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Newbury Street has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bairds Road**: 50 km/h • **East Tamaki Road**: 60 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Newbury Street has the following information:

- Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium-High**
- The Infrastructure Risk Rating Score is 2.35 For urban areas this corresponds to an IRR band of **Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Newbury Street, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Thurso Lane (Ōtara)

The speed limit on Thurso Lane, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Thurso Lane is classified as an access road under the one network road classification (ONRC). Thurso Lane is a two-lane undivided road. There is on-road parking along this road. There are no cyclist and pedestrian amenities along this road.
	Thurso Lane connects to Bairds Road to the west and Lovegrove Crescent to the east. This road provides access to local businesses and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of zero recorded crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Thurso Lane were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (>2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial Big Box/Industrial using MegaMaps tool. The IRR defines Commercial Big Box/Industrial as "*shops and/or industry/factories with intermittent large accessways and intersections leading to large car parking areas. Regular intersections and smaller accesses are also likely to be present. Some pedestrian and cyclist activity may be present.*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 384 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Thurso Lane has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bairds Road**: 50 km/h • **Lovegrove Crescent**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Thurso Lane has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.84 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Thurso Lane, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Toso Way (Ōtara)

The speed limit on Toso Way, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Toso Way is classified as an access road under the one network road classification (ONRC). Toso Way is a two-lane undivided road. There is pedestrian amenities and on-road parking along this road. There are no cyclist amenities along this road.
	Toso Way connects to Bairds Road to the west and Alexander Crescent to the east. This road provides access to local businesses and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of three recorded crashes: one serious crash and two non-injury crashes. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Toso Way were determined using Megamaps. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 m to <0.5 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	From site observation: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was estimated from MegaMaps as 634 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Toso Way has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bairds Road**: 50 km/h • **Alexander Crescent**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Toso Way has the following information:

- Collective Risk band of **Medium**, and a Personal Risk band of **Medium**
- The Infrastructure Risk Rating Score is 2.49 For urban areas this corresponds to an IRR band of **Medium-High**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Toso Way, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Watford Street (Ōtara)

The speed limit on Watford Street, Ōtara has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Watford Street is classified as a secondary collector road under the one network road classification (ONRC). Watford Street is a two-lane undivided road. There is pedestrian amenities and a car park along this road. There are no cyclist amenities along this road.
	Watford Street connects to Newbury Street to the north and East Tamaki Road to the south. This road provides access to local businesses and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's MegaMaps tool there is a total of one recorded crashes: one non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Watford Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 m to <2.0 m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial Big Box/Industrial using MegaMaps tool. The IRR defines Commercial Big Box/Industrial as "*shops and/or industry/factories with intermittent large accessways and intersections leading to large car parking areas. Regular intersections and smaller accesses are also likely to be present. Some pedestrian and cyclist activity may be present.*"
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: <1 intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1071 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications at this time.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via meeting on the 6th of April. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Watford Street has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Newbury Street**: 50 km/h • **East Tamaki Road**: 60 km/h

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Watford Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**
- The Infrastructure Risk Rating Score is 1.92 For urban areas this corresponds to an IRR band of **Low-Medium**.

Step 3: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 50 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

While the speed management guide suggests 40km/h as the safe and appropriate speed for Watford Street, the actual operating speeds from the MegaMaps tool are between 20-24km/h.

Therefore, we have determined 30km/h to be safer and more appropriate as it will be consistent with the expected operating speed of the road and will have better strategic alignment with national and regional goals including Vision Zero safety outcomes and supporting mode shift to active transport modes for local trips.

Speed Limit Review – Anglesea Street (Freemans Bay)

The speed limit on Anglesea Street, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Anglesea Street is classified as a secondary collector road under the one network road classification (ONRC). Anglesea Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Anglesea Street connects to Ponsonby Road to the west and Hepburn Street to the east. This road provides access to residential properties and is approximately 0.46 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of five recorded crashes, all five crashes are non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Anglesea Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 1200 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Anglesea Street has a mean operating speed in the range of 24-29km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road:** 40 km/h • **Hepburn Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.46
Annual Daily Traffic	1200

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 2.4. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Anglesea Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 25 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows 5 crashes in the last 5 years, no injury crash.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Anglesea Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Attwood Road (Paremoremo)

The speed limit on Attwood Road, Paremoremo (Paremoremo Road to 45m southwest of Paremoremo Road) has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Attwood Road is classified as a secondary collector road under the one network road classification (ONRC). Attwood Road is an two-way two lane road. There are no cyclist amenities **or** pedestrian crossing amenities.
	This section of Attwood Road connects to Paremoremo Road at the north. This road provides access to residential properties and is approximately 0.045 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Attwood Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Medium lane (3.0 to 3.5 m) and narrow shoulder (0.5 to 1.0 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Town using MegaMaps tool. The IRR defines Rural Residential as "*Rural town with mixture of residential and some shops. Some intersections and accesses are present. Some pedestrian and cyclist activity may also be present.*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1164 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 1: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	Attwood Road has a mean operating speed in the range of 35-39 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Paremoremo Road**: 60 km/h

Step 2: Determine the road safety metrics and IRR score

Required information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.045
Annual Daily Traffic	1164

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Medium lane, narrow shoulder	1.45
Roadside hazards	Moderate	1.43
Adjacent land use	Rural Towns	2.5
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 2.2. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 50 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 50 km/h

The Megamaps free-flow speed for Attwood Road is 36.83km/hr which is below the posted speed limit of 80 km/h. The rest of Attwood Road's speed limit is 50 km/h and the adjoining Paremoremo Road speed limit is 60 km/h. Crash history from NZTA's CAS database shows zero crashes in the last 5 years.

Therefore we have determined 50 km/h to be safer and more appropriate as it will be consistent with the surrounding road and expected operating speed of the road.

Speed Limit Review – Aviemore Drive (Highland Park)

The speed limit on Aviemore Drive, Highland Park has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Aviemore Drive is classified as an arterial road under the one network road classification (ONRC). Aviemore Drive is a two-way, Divided-traversable road. There is footpath along this road. There are no cyclist amenities.
	Aviemore Drive connects to Bucklands Beach Road to the north and Cascades Road to the south. This road provides access to shops and residential properties. It is approximately 1.915 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of 58 recorded crashes, two fatal crashes, six serious injury crashes, seventeen minor injury crashes and thirty-three non-injury crash. This resulted in eight Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Aviemore Drive were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Divided-traversable • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity are also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 16385 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	Engineering treatment planned on Aviemore Drive to reduce the operating speed.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 60 km/h.
MegaMaps Mean Operating Speed (km/h)	Aviemore Drive has a mean operating speed in the range of 50-54km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bucklands Beach Road**: 50 km/h • **Cascades Road:** 60km/h • **Pakuranga Road:** 60km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**23**
DSI crashes during the period	**8**
Corridor Length (km)	1.915
Annual Daily Traffic	16385

The Collective Risk score is 0.836, the Personal Risk score is 13.97. For urban areas this corresponds to a Collective Risk band of **High,** and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Divided-traversable	3.0
Road alignment	Straight	1.0
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	High	2.28
Adjacent land use	Urban residential	3.00
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	>12000	3.00

The Infrastructure Risk Rating Score is 2.9. For urban areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 50 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 50 km/h

This section of Aviemore Drive is an arterial road with high movement of vulnerable users. There is a total of 58 recorded crashes, 2 fatal crashes, 6 serious injury crashes, 17 minor injury crashes and 33 non-injury crash. This resulted in 8 Death and Serious Injury (DSI). Amongst all recorded crashes, 11 of them are speed related crashes.

It is recommended to reduce the speed limit of Aviemore Drive to 50 km/h. Engineering measures are proposed to be implemented with the intention of achieving a safer operating speed. Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Barrie Street (Freemans Bay)

The speed limit on Barrie Street, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Barrie Street is classified as an access road under the one network road classification (ONRC). Barrie Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Barrie Street connects to Picton Street to the north and Hepburn Street to the east. This road provides access to residential properties and is approximately 0.16 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Barrie Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 156 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Barrie Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Picton Street:** 50 km/h • **Hepburn Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.16
Annual Daily Traffic	156

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Barrie Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Barrie Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Bayard Street (Ponsonby)

The speed limit on Bayard Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Bayard Street is classified as an access road under the one network road classification (ONRC). Bayard Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Bayard Street connects to Pompallier Terrace to the north and Ponsonby Terrace to the south. This road provides access to residential properties and is approximately 0.145 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Bayard Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 156 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Bayard Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Pompallier Terrace:** 50 km/h • **Ponsonby Terrace**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.145
Annual Daily Traffic	156

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Bayard Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Bayard Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Beresford Street Central (Freemans Bay)

The speed limit on Beresford Street Central, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Beresford Street Central is classified as a low volume road under the one network road classification (ONRC). Beresford Street Central is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or formal pedestrian crossing amenities.
	Beresford Street Central is a cul de sac connects to Howe Street to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of one recorded non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Beresford Street Central were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0- 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 5 to < 10 intersections per km • **Access density**: 10 to <20 accesses per km
(h) traffic volume; and	As Beresford Street Central is a short cul de sac, there is no Annual Average Daily Traffic (AADT) data available from Megamaps. The traffic volume estimate from site visit is less than 1000 vehicle per day (vpd), which is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
Operating Speed (km/h)	Based on site drive-over footage of Beresford Street Central the operating speed is in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Howe Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.1
Annual Daily Traffic	N/A

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	5 to <10	2.60
Access density (per km)	10 to <20	1.10
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 1.90. For rural areas this corresponds to an IRR band of **Low-Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Beresford Street Central operating speed observed during site visit was 20-30 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows 1 non-injury crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Beresford Street Central to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Beresford Street West (Freemans Bay)

The speed limit on Beresford Street West, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Beresford Street West is classified as an access road under the one network road classification (ONRC). Beresford Street West is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Beresford Street West is a cul de sac connects Hepburn Street to the west. This road provides access to residential properties and is approximately 0.27 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Beresford Street West were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 156 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Beresford Street West has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hepburn Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.27
Annual Daily Traffic	156

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Beresford Street West operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows no report crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Beresford Street West to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Blake Street (Ponsonby)

The speed limit on Blake Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Blake Street is classified as a secondary collector road under the one network road classification (ONRC). Blake Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Blake Street connects to Jervois Road to the north and Sheehan Street to the south. This road provides access to residential properties and is approximately 0.2 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Blake Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 1040 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Blake Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Jervois Road:** 50 km/h • **Sheehan Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.2
Annual Daily Traffic	1040

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.6. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Blake Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Blake Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Clarence Street (Ponsonby)

The speed limit on Clarence Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Clarence Street is classified as a secondary collector road under the one network road classification (ONRC). Clarence Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Clarence Street connects to Jervois Road to the north and O'Neill Street to the south. This road provides access to residential properties and is approximately 0.71 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of five non-injury recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Clarence Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 1165 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Clarence Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Jervois Road:** 50 km/h • **O'Neill Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.71
Annual Daily Traffic	1165

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.4. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Clarence Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 23.29 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows five non-injury crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Clarence Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Colin Shaw Lane (Freemans Bay)

The speed limit on Colin Shaw Lane, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Colin Shaw Lane is classified as an access road under the one network road classification (ONRC). Colin Shaw Lane is a two-way, two-lane, undivided road. There is parking along this road. There are no cyclist amenities or pedestrian amenities.
	Colin Shaw Lane connects to Picton Street to the west and Hepburn Street to the east. This road provides access to residential properties and is approximately 0.212 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Colin Shaw Lane were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 104 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Colin Shaw Lane has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Picton Street:** 50 km/h • **Hepburn Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.21
Annual Daily Traffic	104

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 2.5. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Colin Shaw Lane operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 23.86 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows no report crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Colin Shaw Lane to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Collingwood Street (Freemans Bay)

The speed limit on Collingwood Street, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Collingwood Street is classified as a secondary collector road under the one network road classification (ONRC). Collingwood Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Collingwood Street connects to Ponsonby Road to the west and Wellington Street to the east. This road provides access to residential properties and is approximately 0.43 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of three recorded crashes: one minor injury crash and two non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Collingwood Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 778 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	Technical urbanism near its intersection of Ponsonby Road and Wellington Street to reduce crossing distance and turing speed.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Collingwood Street has a mean operating speed in the range of 30-34km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road:** 40 km/h • **Wellington Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	0
Corridor Length (km)	0.43
Annual Daily Traffic	778

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Collingwood Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 33.43 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows 3 crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Collingwood Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Cowan Street (Ponsonby)

The speed limit on Cowan Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cowan Street is classified as a secondary collector road under the one network road classification (ONRC). Cowan Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Cowan Street connects to Clarence Street to the west and Ponsonby Road to the east. This road provides access to residential properties and is approximately 0.38 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of two non-injury crashes recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Cowan Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 812 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Cowan Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Clarence Street:** 50 km/h • **Ponsonby Road**: 40 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.38
Annual Daily Traffic	812

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Cowan Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20.18 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows two non-injury reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Cowan Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Grattan Place (Freemans Bay)

The speed limit on Grattan Place, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Grattan Place is classified as an access road under the one network road classification (ONRC). Grattan Place is a two-way, two-lane, undivided road. There is on-street parking but no cyclist amenities, footpath or pedestrian crossing amenities.
	Grattan Place is a cul de sac connects to Wellington Street to the south. This road provides access to residential properties and is approximately 0.108 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Grattan Place were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 200 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Grattan Place has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wellington Street:** 50 km/hr

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.11
Annual Daily Traffic	200

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 2.5. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Grattan Place operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Grattan Place to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Hayden Street (Freemans Bay)

The speed limit on Hayden Street, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hayden Street is classified as an access road under the one network road classification (ONRC). Hayden Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Hayden Street is a cul de sac connects to Howe Street to the west. This road provides access to residential properties and is approximately 0.12 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of four recorded crashes: all four crashes are non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hayden Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 156 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Hayden Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Howe street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.12
Annual Daily Traffic	156

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Hayden Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows 4 crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Hayden Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Heke Street (Freemans Bay)

The speed limit on Heke Street, Freemans Bay (between Collingwood Street to Anglesea Street) has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Heke Street is classified as a secondary collector road under the one network road classification (ONRC). Heke Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Heke Street connects to Anglesea street south. This section of Hake Street provides access to residential properties and is approximately 0.08 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Heke Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 78 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Heke Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Anglesea Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.08
Annual Daily Traffic	78

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Heke Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 21 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Heke Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Hepburn Street (Freemans Bay)

The speed limit on Hepburn Street, Freemans Bay (40m north of Wellington Street to Ponsonby Road) has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hepburn Street is classified as a secondary collector road under the one network road classification (ONRC). Hepburn Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Hepburn Street connects to Ponsonby Road to the south. This road provides access to residential properties and is approximately 0.7 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of eight recorded crashes: one minor injury crash and seven non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hepburn Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 2572 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	Intersection improvement planned at Picton Street and Hepburn Street.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Hepburn Street has a mean operating speed in the range of 30-34km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road: 4**0 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	0
Corridor Length (km)	0.7
Annual Daily Traffic	2572

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.6. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Hepburn Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 31 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows eight reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Hepburn Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Hereford Street (Freemans Bay)

The speed limit on Hereford Street, Freemans Bay (from Hopetoun Street to 35m north of Karangahape Road) has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hereford Street is classified as a secondary collector road under the one network road classification (ONRC). Hereford Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Hereford Street connects to Hopetoun Street to the north. This road provides access to commercial shops and residential properties. It is approximately 0.13 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of two recorded crashes, one serious injury crash and one non-injury crash. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hereford Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: narrow lane (< 3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Commercial big box using MegaMaps tool. The IRR defines Commercial big box as "*Large (big box) shops and/or industry/factories with intermittent large accessways and intersections leading to large car parking areas. Regular intersections and smaller accesses are also likely to be present. Some pedestrian and cyclist activity may be present*."

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 1040 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Hereford Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hopetoun Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	**1**
Corridor Length (km)	0.13
Annual Daily Traffic	1040

The Collective Risk score is 1.538, the Personal Risk score is 405.285. For urban areas this corresponds to a Collective Risk band of **High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Commercial big box	4.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 2.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Hereford Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 22.25 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is commercial. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows two crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Hereford Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Hopetoun Street (Freemans Bay)

The speed limit on Hopetoun Street, Freemans Bay (30m west of Pitt Street to Ponsonby Road) has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hopetoun Street is classified as an arterial road under the one network road classification (ONRC). Hopetoun Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities.
	Hopetoun Street connects to Ponsonby Road to the west. This road provides access to residential properties. It is approximately 0.762 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of five recorded crashes, one minor injury crash and four non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hopetoun Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: wide lane (> 3.5 m) and narrow shoulder (0.5 to 1.0 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 10984 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Hopetoun Street has a mean operating speed in the range of 40-44km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road:** 40 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	**0**
Corridor Length (km)	0.762
Annual Daily Traffic	10984

The Collective Risk score is 0.00, same as the Personal Risk score. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	wide lane, narrow shoulder	1.18
Roadside hazards	High	2.28
Adjacent land use	Urban residential	3.00
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	6000 to <12000	2.20

The Infrastructure Risk Rating Score is 2.7. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Hopetoun Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 40.45 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows five crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Hopetoun Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Howe Street (Freemans Bay)

The speed limit on Howe Street, Freemans Bay (35 m north of Karangahape Road to Wellington Street) has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Howe Street is classified as an arterial road under the one network road classification (ONRC). Howe Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities.
	This section of Howe Street connects to Wellington Street to the north. This road provides access to residential properties. It is approximately 0.762 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of seventeen recorded crashes, one serious crash, one minor injury crash and fifteen non-injury crash. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Howe Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**:Medium lane (3.0 m to < 3.5 m) and very narrow shoulder (< 0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity are also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 8399 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	Auckland Transport proposed to update the crossing facility on Howe Street to a rasied zebra crossing.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Howe Street has a mean operating speed in the range of 30-34km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wellington Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**2**
DSI crashes during the period	**1**
Corridor Length (km)	0.762
Annual Daily Traffic	8399

The Collective Risk score is 0.308, the Personal Risk score is 10.037. For urban areas this corresponds to a Collective Risk band of **High**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	Moderate	1.43
Adjacent land use	Urban residential	3.00
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	6000 to <12000	2.20

The Infrastructure Risk Rating Score is 2.6. For urban areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Howe Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 33.84 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows seventeen crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Howe Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Islington Street (Ponsonby)

The speed limit on Islington Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Islington Street is classified as a secondary collector road under the one network road classification (ONRC). Islington Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Islington Street connects to Jervois Road to the north and Scott Street to the south. This road provides access to residential properties and is approximately 0.65 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of one non-injury recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Islington Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 1040 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Islington Street has a mean operating speed in the range of 20-25km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Jervois Road:** 50 km/h • **Scott Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.65
Annual Daily Traffic	1040

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.4. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Islington Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 24.26 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows one non-injury crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Islington Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – John Street (Ponsonby)

The speed limit on John Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	John Street is classified as a secondary collector road under the one network road classification (ONRC). John Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	John Street connects to Jervois Road to the north and Lincoln Street to the south. This road provides access to residential properties and is approximately 1.06 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of seven recorded crashes: one minor injury crash and six non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for John Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 845 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	John Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Jervois Road:** 50 km/h • **Lincoln Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	0
Corridor Length (km)	1.06
Annual Daily Traffic	845

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

John Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 23.86 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows 7 crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of John Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – O'neill Street (Ponsonby)

The speed limit on O'neill Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	O'neill Street is classified as an access road under the one network road classification (ONRC). O'neill Street is a one way road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	O'neill Street connects to Ponsonby Road to the east and John Street to the west. This road provides access to residential properties and is approximately 0.54 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of two recorded crashes: one minor injury crash and one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for O'neill Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: One-way • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 568 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	O'neill Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road:** 40 km/h • **John Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	0
Corridor Length (km)	0.54
Annual Daily Traffic	568

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	One-way	1.0
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Low-Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

O'neill Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows two crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of O'neill Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Paget Street (Freemans Bay)

The speed limit on Paget Street, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Paget Street is classified as an access road under the one network road classification (ONRC). Paget Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Paget Street connects to Anglesea Street to the north and Picton Street to the south. This road provides access to residential properties and is approximately 0.16 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Paget Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 156 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Paget Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Anglesea Street:** 50 km/h • **Picton Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.16
Annual Daily Traffic	156

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Paget Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Paget Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Picton Street (Freemans Bay)

The speed limit on Picton Street, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Picton Street is classified as a primary collector road under the one network road classification (ONRC). Picton Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities.
	Picton Street connects to Ponsonby Road to the west and Hepburn Street to the east. This road provides access to residential properties and is approximately 0.354 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of four recorded crashes: one minor injury crash and three non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Picton Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**:High
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 3640 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Picton Street has a mean operating speed in the range of 30-34km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road:** 40 km/h • **Hepburn Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	0
Corridor Length (km)	0.354
Annual Daily Traffic	3640

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	3 to <5	1.50
Access density (per km)	5 to <10	1.06
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Picton Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 32 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows one minor injury crash and three non-injury crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Picton Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Pompallier Terrace (Ponsonby)

The speed limit on Pompallier Terrace, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pompallier Terrace is classified as a primary collector road under the one network road classification (ONRC). Pompallier Terrace is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities.
	Pompallier Terrace connects to Ponsonby Road to the east and Ardmore Road to the west. This road provides access to residential properties and is approximately 0.58 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of five recorded crashes: two minor injury crashes and three non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Pompallier Terrace were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 3640 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	Intersection improvement at Pompallier Terrace and Ponsonby Road intersection currenty under investigation.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Pompallier Terrace has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road:** 40 km/h • **Ardmore Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.65
Annual Daily Traffic	1040

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.4. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Pompallier Terrace operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 23.51 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows five reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Pompallier Terrace to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Ponsonby Terrace (Ponsonby)

The speed limit on Ponsonby Terrace, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ponsonby Terrace is classified as a secondary collector road under the one network road classification (ONRC). Ponsonby Terrace is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Ponsonby Terrace is a cul de sac connects to Ponsonby Road to the east. This road provides access to residential properties and is approximately 0.35 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of two non-injury crashes recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Ponsonby Terrace were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 520 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Ponsonby Terrace has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road**: 40 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.35
Annual Daily Traffic	520

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Ponsonby Terrace operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows two non-injury reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Ponsonby Terrace to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Pratt Street (Freemans Bay)

The speed limit on Pratt Street, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pratt Street is classified as an access road under the one network road classification (ONRC). Pratt Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Pratt Street is a cul de sac connects to Wellington Street to the north. This road provides access to residential properties and is approximately 0.13 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of one recorded crash: one non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Pratt Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 5 to <10 intersections per km • **Access density**: 10 to <20 accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 100 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Pratt Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Wellington Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.13
Annual Daily Traffic	100

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	5 to <10	2.60
Access density (per km)	10 to <20	1.10
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.2. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Pratt Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/hr which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows one crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Pratt Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Prosford Street (Ponsonby)

The speed limit on Prosford Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Prosford Street is classified as a secondary collector road under the one network road classification (ONRC). Prosford Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Prosford Street connects to Provost Street to the west and Redmond Street to the east. This road provides access to residential properties and is approximately 0.32 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of one non-injury crash recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Prosford Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 520 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Prosford Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Provost Street**: 50 km/h • **Redmond Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.32
Annual Daily Traffic	520

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Prosford Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows one non-injury reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Prosford Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Provost Street (Ponsonby)

The speed limit on Provost Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Provost Street is classified as an access road under the one network road classification (ONRC). Provost Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Provost Street is a cul de sac connects to Jervois Road to the north. This road provides access to residential properties and is approximately 0.15 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero crash recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Provost Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 75 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Provost Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Jervois Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.15
Annual Daily Traffic	75

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Provost Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Provost Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Quarry Road (Waitoki)

The speed limit on Quarry Road, Waitoki has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Quarry Road is classified as an access road under the one network road classification (ONRC). Quarry Road is an unsealed road. There are no footpath, cyclist amenities **or** pedestrian crossing amenities.
	Quarry Road is a cul de sac and connects to Kahikatea Flat Road at the west. This road provides access to residential properties and is approximately 0.535 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Quarry Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using MegaMaps tool. The IRR defines Rural Residential as "*Rural area with accesses present to private dwellings and farms. There may be the occasional industry/factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersections per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 95 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 1: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Quarry Road has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kahikatea Flat Road**: 80 km/h

Step 2: Determine the road safety metrics and IRR score

Required information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.535
Annual Daily Traffic	95

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	**Category**	**Risk Score**

Road stereotype	Unsealed	10
Road alignment	Straight	1.0
Carriageway width	Medium lane, very narrow shoulder	1.79
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.5
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 60 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h

The Megamaps free-flow speed for Quarry Road is 20km/hr which is below the posted speed limit of 100 km/h. The road is unsealed and link to Kahikatea Flat Road which has a speed limit of 80 km/h. Crash history from NZTA's CAS database shows zero crashes in the last 5 years.

Lowering the speed limit to 40 km/h improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Quarry Road to 40 km/h.

Speed Limit Review – Rapson access Road (Waitoki)

The speed limit on Rapson access Road, Waitoki has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Rapson access Road is classified as an access road under the one network road classification (ONRC). Rapson access Road is an unsealed road. There are no footpath, cyclist amenities **or** pedestrian crossing amenities.
	Rapson access Road is a cul de sac and connects to Kahikatea Flat Road at the west. This road provides access to residential properties and is approximately 0.24 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Rapson access Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using MegaMaps tool. The IRR defines Rural Residential as "*Rural area with accesses present to private dwellings and farms. There may be the occasional industry/factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersections per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 17 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 1: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Rapson access Road has a mean operating speed in the range of 20-24 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kahikatea Flat Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.24
Annual Daily Traffic	17

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	**Category**	**Risk Score**

Road stereotype	Unsealed	10
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.5
Intersection density (per km)	1 to <2	1.15
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.9. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 60 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 40 km/h

The Megamaps free-flow speed for Rapson access Road is 20km/hr which is below the posted speed limit of 100 km/h. The road is unsealed and link to Kahikatea Flat Road which has a speed limit of 50 km/h. Crash history from NZTA's CAS database shows zero crashes in the last 5 years.

Lowering the speed limit to 40 km/h improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Rapson access Road to 40 km/h.

Speed Limit Review – Rapson Road (Waitoki)

The speed limit on Rapson Road, Waitoki has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Rapson Road is classified as a secondary collector road under the one network road classification (ONRC). Rapson Road is a two-lane undivided road and section of Rapson Road is unsealed. There is no footpath, cyclist amenities **or** pedestrian crossing amenities.
	Rapson Road is a cul de sac and connects to Kahikatea Flat Road at the west. This road provides access to residential properties and is approximately 3.537 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Rapson Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: two-lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using MegaMaps tool. The IRR defines Rural Residential as "*Rural area with accesses present to private dwellings and farms. There may be the occasional industry/factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements.*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersections per km • **Access density**: 2 to <5 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 252 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 1: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Rapson Road has a mean operating speed in the range of 35-39 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Kahikatea Flat Road**: 80 km/h

Step 2: Determine the road safety metrics and IRR score

Required information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	3.537
Annual Daily Traffic	252

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	**Category**	**Risk Score**

Road stereotype	two-lane undivided	3.7
Road alignment	Winding	3.5
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Rural Residential	1.5
Intersection density (per km)	2 to <3	1.25
Access density (per km)	2 to <5	1.03
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.0. For rural areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 60 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h

Rapson Road is a self-explaining road as the Megamaps free-flow speed for Rapson Road is 37.34km/h which is already below the proposed safe and appropriate speed, despite the existing 100 km/h posted speed limit.

Lowering the speed limit to 60 km/h improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Redmond Street (Ponsonby)

The speed limit on Redmond Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Redmond Street is classified as an arterial road under the one network road classification (ONRC). Redmond Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities.
	Redmond Street connects to Jervois Road to the north and Pompallier Terrace to the south. This road provides access to residential properties and is approximately 0.175 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of nine crashes recorded: one minor injury and eight non-injury crashes. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Redmond Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: One-way • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial strip shopping using MegaMaps tool. The IRR defines Urban Residential as "*Characterised by numerous shops facing the streetfront with high levels of activity, particularly pedestrians, cyclists and high occupancy on-street parking resulting in many vehicle movements to and from the road. Regular intersections and accesses will also be present*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 10322 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Redmond Street has a mean operating speed in the range of 25-29km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Jervois Road**: 50 km/h • **Pompallier Terrace:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	0
Corridor Length (km)	0.175
Annual Daily Traffic	10322

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	One-way	1.0
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Commercial strip shopping	5.00
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	6000 to <12000	2.20

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Redmond Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 26 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is commercial shops. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows nine reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Redmond Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Scott Street (Ponsonby)

The speed limit on Scott Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Scott Street is classified as an access road under the one network road classification (ONRC). Scott Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Scott Street is a cul de sac connects to Clarence street to the east. This road provides access to residential properties and is approximately 0.09 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero crash recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Scott Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 78 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Scott Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Clarence street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.09
Annual Daily Traffic	78

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	**Category**	**Risk Score**

Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Scott Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Scott Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Sheehan Street (Ponsonby)

The speed limit on Sheehan Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sheehan Street is classified as an access road under the one network road classification (ONRC). Sheehan Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Sheehan Street is a cul de sac connects to Redmond Street to the east. This road provides access to residential properties and is approximately 0.185 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of one minor injury crash recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Sheehan Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 234 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Sheehan Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Redmond Street**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	0
Corridor Length (km)	0.185
Annual Daily Traffic	234

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Sheehan Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows one reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Sheehan Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Smith Street (Freemans bay)

The speed limit on Smith Street, Freemans bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Smith Street is classified as an access road under the one network road classification (ONRC). Smith Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Smith Street is a cul de sac and connects to Hepburn Street to the west. This road provides access to residential properties and is approximately 0.08 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Smith Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 5 to <10 accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 75 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Smith Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hepburn Street:** 50 km/h

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Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.08
Annual Daily Traffic	75

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0

Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	3 to <5	1.5
Access density (per km)	5 to <10	1.06
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Low-Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Smith Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Smith Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Summer Street (Ponsonby)

The speed limit on Summer Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Summer Street is classified as an access road under the one network road classification (ONRC). Summer Street is a two-way two-lane undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Summer Street connects to Ponsonby Road to the east and John Street to the west. This road provides access to residential properties and is approximately 0.535 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of three recorded crashes: one minor injury crash and two non-injury crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Summer Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 832 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Summer Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road:** 40 km/h • **John Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**1**
DSI crashes during the period	0
Corridor Length (km)	0.535
Annual Daily Traffic	832

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	High	2.28
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.5. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Summer Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows three crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Summer Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Tahuna Street (Freemans bay)

The speed limit on Tahuna Street, Freemans bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Tahuna Street is classified as an access road under the one network road classification (ONRC). Tahuna Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Tahuna Street is a cul de sac connects to Hepburn Street to the west. This road provides access to residential properties and is approximately 0.1 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded crash. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Tahuna Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 3 to <5 intersections per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 75 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Tahuna Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Hepburn Street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.1
Annual Daily Traffic	75

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	3 to <5	1.5
Access density (per km)	5 to <10	1.06
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 1.7. For rural areas this corresponds to an IRR band of **Low-Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Tahuna Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero crashes in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Tahuna Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Tole Street (Ponsonby)

The speed limit on Tole Street, Ponsonby has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Tole Street is classified as an access road under the one network road classification (ONRC). Tole Street is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Tole Street is a cul de sac connects to Ponsonby Road to the east. This road provides access to residential properties and is approximately 0.16 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of three non-injury crashes recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Tole Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 200 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area were presented to the Local Board via email on 31 March 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Tole Street has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ponsonby Road**: 40 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.16
Annual Daily Traffic	200

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Tole Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows three non-injury reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Tole Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Vale Road (St Heliers)

The speed limit on Vale Road (between Tamaki Drive and Clarendon Road), St Heliers has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Vale Road is classified as an arterial road under the one network road classification (ONRC). Vale Road is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities.
	This section of Vale Road connects to St Heliers Road at the west and Clarendon Road at the east. This road provides access to residential properties and is approximately 0.26 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of two non-injury crashes recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Vale Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 2310 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	The request of speed review was coming from residents' petition after tranche 1 Safe Speed programme. Residents in support of the speed limit change.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Vale Road has a mean operating speed in the range of 35-39km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Tamaki Dr**: 50 km/h (30 km/h start in effect at 30/06/2021) • **Clarendon Road:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.26
Annual Daily Traffic	2310

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 2.4. For rural areas this corresponds to an IRR band of **Medium-High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Vale Road operating speed observed during site visit was 30 km/hr, The Megamaps free-flow speed is 37 km/h which is below the posted speed limit of 50 km/h. The road is close to the St Heliers Village and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows 2 crashes in the last 5 years. The speed limit on adjacent streets has already been proposed to be reduced.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Vale Road to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Wellington Street (Freemans Bay)

The speed limit on Wellington Street, Freemans Bay (35 m east of Franklin Road to 20 m west of Union Street) has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wellington Street is classified as an arterial road under the one network road classification (ONRC). Wellington Street is a two-way, multi-lane undivided road. There is footpath along this road. There are no cyclist amenities.
	Wellington Street connects to Franklin Road to the west and Union Street to the east. This road provides access to residential properties. It is approximately 0.612 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of 23 recorded crashes, one serious injury crash, five minor injury crashes and seventeen non-injury crash. This resulted in one Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wellington Street were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Multi-lane undivided • **Road alignment**: Straight • **Carriageway width**: wide lane (> 3.5 m) and narrow shoulder (0.5 to 1.0 m) • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity are also likely to be present, particularly at certain times of the day*"

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 15930 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	Engineering treatment planned on Wellington Street to reduce the operating speed.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Wellington Street has a mean operating speed in the range of 35-39km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Franklin Road:** 30 km/h • **Union Street:** 30 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	**Data**
Crash Analysis Period (years)	5
Total injury crashes during period	**6**
DSI crashes during the period	**1**
Corridor Length (km)	0.612
Annual Daily Traffic	15930

The Collective Risk score is 0.327, the Personal Risk score is 5.62. For urban areas this corresponds to a Collective Risk band of **High,** and a Personal Risk band of **Medium**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Multi-lane undivided	3.4
Road alignment	Straight	1.0
Carriageway width	wide lane, narrow shoulder	1.18
Roadside hazards	High	2.28
Adjacent land use	Urban residential	3.00
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	>12000	3.00

The Infrastructure Risk Rating Score is 2.8. For urban areas this corresponds to an IRR band of **High**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Wellington Street operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 35 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows 23 crashes in the last 5 years, including 3 speed related. The speed limit on adjacent streets like Franklin street has already been reduced.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Wellington Street to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.

Speed Limit Review – Winn Road (Freemans Bay)

The speed limit on Winn Road, Freemans Bay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool • Auckland Transport Vision Zero Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Winn Road is classified as an access road under the one network road classification (ONRC). Winn Road is a two-way, two-lane, undivided road. There are on-street parking and footpath along this road. There are no cyclist amenities or pedestrian crossing amenities.
	Winn Road is a cul de sac connects to Anglesea Street to the north. This road provides access to residential properties and is approximately 0.09 km in length.
(d) crash risk for all road users; and	From NZTA's Crash Analysis System (2016-2020) tool there is a total of zero recorded. This resulted in zero Death and Serious Injury (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Winn Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Urban Residential using MegaMaps tool. The IRR defines Urban Residential as "*dominated by housing with frequent driveways and on street parking. Regular intersections and accesses are present. Pedestrian and cyclist activity is also likely to be present, particularly at certain times of the day*"
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 10+ intersections per km • **Access density**: 20+ accesses per km

Requirement	Comments
(h) traffic volume; and	Annual Average Daily Traffic (ADT) was determined from Megamaps as 75 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road.
(i) any planned modification to the road; and	There are no planned modifications currently.
(j) the views of interested persons and groups.	Residents and Local Board generally in support of the proposed speed reductions. Residents raised their concerns and requested speed limit review during Tranche 1 consultation period.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit is 50 km/h.
MegaMaps Mean Operating Speed (km/h)	Winn Road has a mean operating speed in the range of 20-24km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Anglesea street:** 50 km/h

Step 2: Determine the road safety metrics and IRR score

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	**0**
DSI crashes during the period	0
Corridor Length (km)	0.09
Annual Daily Traffic	75

The Collective Risk score is 0.00, as is the Personal Risk. For urban areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score

Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.0
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards	Moderate	1.43
Adjacent land use	Urban Residential	3.0
Intersection density (per km)	10+	5.00
Access density (per km)	20+	1.30
Traffic volume	<1000	1.40

The Infrastructure Risk Rating Score is 2.3. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 30 km/h

Winn Road operating speed observed during site visit was 20-30 km/hr, The Megamaps free-flow speed is 20 km/h which is below the posted speed limit of 50 km/h. The road is close to the city centre and land use is urban residential. The number of local trips generation are likely to be work-related, recreational and for educational purposes, and there will be reasonable number of vulnerable and active mode travellers. Crash history from NZTA's CAS database shows zero reported crash in the last 5 years.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

It is recommended to reduce the speed limit of Winn Road to 30 km/hr to be in alignment with Auckland Transport Vision Zero as this is the survival impact speed for a vulnerable road user crash.