Speed Limit Review – Beaver Road (Bombay)

The speed limit on Beaver Road, between State Highway 1 and 1340m west of State Highway 1 (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	Beaver Road is classified as a Secondary Collector road under the one network road classification (ONRC). Beaver Road is a two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Beaver Road.
	This section of Beaver Road connects to State Highway 1 at the eastern end and continues in the Waikato District at the western end. The primary use of the road is to provide access to rural residential properties. This section of Beaver Road is approximately 1.34 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 non-injury and one minor injury crash. Beaver 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 Beaver 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."*

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 218 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 Beaver 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 Beaver Road is 100 km/h between State Highway 1 and 1340m west of State Highway 1
MegaMaps Mean Operating Speed (km/h)	Beaver Road has a mean operating speed in the range of 62 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Beaver Road (west of a point 1340m west of State Highway 1)**: 80 km/h (within Waikato District) • **State Highway 1:** 100 km/h (Waka Kotahi network)

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)	1.34
Annual Daily Traffic	218

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	1.15
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 **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 Beaver Road between State Highway 1 and 1340m west of State Highway 1.

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 60km/h to 80km/ to improve speed limit consistency for road users.

Key information driving this change includes that:

- Beaver Road West has a longer section within the Waikato. Waikato District Council has changed Beaver Road West and its surrounding roads within their district to 80km/h.

To improve road network consistency with the Waikato it is recommended to change the Auckland section to 80km/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 Review – Cable Road (Waimauku)

Cable Road, Waimauku, is divided into two sections as follows: [1]

- Section 1: Cable Road between Valley Road and 560m east of Valley Road
- Section 2: Cable Road between 560m east of Valley Road and Hinau 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.

The speed limit on Cable Road, Waimauku has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary 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:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	Cable Road connects to Valley Road to the west and Hinau Road to the east. This road provides access to residential properties.	
	This section is approximately 0.56 km in length. It is classified as a Secondary Collector road under the one network road classification (ONRC).	This section is approximately 1.03 km in length. It is classified as an Access road under the one network road classification (ONRC).
	This section 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.	This section is a two-way, unsealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crash between 2016 and 2020. Therefore, there are no Death	WK NZTA's Crash Analysis System (CAS) records zero crash between 2016 and 2020. Therefore, there are no Death

[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	**Section 2**
	and Serious Injury (DSI) crashes.	and Serious Injury (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Cable Road were determined using a combination of site drive-over footage, on-site information 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)**: High	• **Road stereotype**: Unsealed • **Road alignment**: Tortuous • **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 on-site information 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 on-site information 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, on-site information and geomaps information:	
	• **Intersection density**: <1 intersections per km • **Access density**: 10 to <20 accesses per km	• **Intersection density**: 1 to <2 intersections per km • **Access density**: 10 to <20 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 196 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 185 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 will be presented to the Local Board via email in October/November. Responses will be considered for investigation.	

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

Table 2: Additional Relevant Factors

AT also had regard to	Section 1	Section 2
Current speed limit	The existing speed limit is 80 km/h.	The existing speed limit is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	This section has a mean operating speed of 42 km/h.	This section has a mean operating speed of 34 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Valley Road**: 80 km/h (proposed 60 km/h) • **Hinau Road**: 80 km/h (proposed 60 km/h)	

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data	
	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)	0.56	1.03
Annual Daily Traffic	196	185

- 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	Risk Score	Category	Risk Score
Road stereotype	Two-lane undivided	3.70	Unsealed	10.00
Road alignment	Straight	1.00	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	High	2.28
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	<1	1.00	1 to <2	1.15
Access density (per km)	10 to <20	1.10	10 to <20	1.10
Traffic volume (vpd)	<1000	1.00	<1000	1.00

- Section 1
    - The Infrastructure Risk Rating Score is 1.45. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2
    - The Infrastructure Risk Rating Score is 2.72. 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 for the first section of Cable Road is 80 km/h.

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide for the second section of Cable Road is <80 km/h.

Step 5: Conclusion

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

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 40km/h to 60km/ for the full length of the road to improve speed limit consistency for road users.

Speed Limit Review – Cowes Bay Road (Waiheke Island)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cowes Bay Road connects to Man O War Bay Road to the north and Orapiu Road to the south. This road provides access to residential properties, beach accesses and vineyard.
	Cowes Bay Road is approximately 6.3 km in length. Cowes Bay Road is classified as an Access road under the one network road classification (ONRC).
	Cowes Bay Road is a two-way, unsealed road. There are no footpaths, cycle lanes or on-street parking provided along this road.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records 2 crashes between 2016 and 2020: 0 fatal, 0 serious, 0 minor and 2 non-injury crashes. This resulted in 0 Death and Serious Injury (DSI) crashes. 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 Cowes Bay Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Tortuous • **Carriageway width**: Narrow lane and Very narrow shoulder • **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 and the MegaMaps tool. 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:

Requirement	Comments
	• **Intersection density**: <1 intersections per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from traffic surveys as 82 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.
(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 Waiheke Local Board via meetings on 11th August 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes. During public consultation, the local community expressed a desire for a higher speed limit along this road and Man o Way Bay Road.

In addition to the factors outlined in Table 1, further relevant information was 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 Cowes Bay Road is 80km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Cowes Bay Road has a mean operating speed in the range of 34.75 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Man O War Bay Road**: 80km/h (proposed 60km/h) • **Orapiu Road**: 80km/h (proposed 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 (m)	6300
Annual Daily Traffic (vpd)	82

The Collective Risk score is 0 and the Personal Risk score is 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	Tortuous	6
Carriageway width	Narrow, Very narrow	2.01
Roadside hazards (in both directions)	Severe	2.8
Adjacent land use	Remote rural	1
Intersection density (per km)	<1	1
Access density (per km)	5 to <10	1.06
Traffic volume (vpd)	82	1

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 <80km/h.

Step 5: Conclusion

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

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 40km/h to 60km/ in order to:

- improve likelihood of driver compliance with the new limit
- improve speed limit consistency for road users

Key information driving this change includes that:

1) consultation feedback received highlighted that some drivers on Cowes Bay Road are traveling at speeds higher than 40km/h on some straight sections
2) it has been assessed that a 60km/h speed limit would be more consistent with nearby roads, and
3) a self-explaining road will likely lead to greater compliance plus reduce the number of signs and speed changes along the road length.

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 – Coxhead Road (Manurewa)

The speed limit on Coxhead 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:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Coxhead Road connects to Weymouth Road to the North and Mahia Road to the South. This road provides access to residential properties and is approximately 1.17 km in length.
	Coxhead Road is classified as a Primary Collector road under the one network road classification (ONRC). Coxhead Road is a two-lane, undivided road. There are pedestrian amenities and on-street parking. There are no cyclist amenities along this road.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records 21 crash between 2016 and 2020: four minor and 17 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 Coxhead Road were determined using desktop information assessment. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Wide lane (>3.5 m) and very narrow shoulder (<0.5m) • **Roadside hazards**: 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.*"
(g) the number of intersections and property accessways; and	From desktop information assessment: • **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 8,119 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.
(i) any planned modification to the road; and	Modification/Engineering measures for the area are planned, details of the measures are still under investigation.
(j) the views of interested persons and groups.	Potential changes to a speed limit of 30km/h in this area were presented to the Local Board meeting on 30/09/21. 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)	Coxhead Road has a mean operating speed in the range of 45-49km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Mahia Road**: 50 km/h • **Weymouth Road**: 50 km/h

Step 2: Determine the road safety metrics and IRR score

From the desktop information assessment, **Coxhead Road** has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low**.
- The Infrastructure Risk Rating Score is 2.2. 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

The speed management guide suggests 40 km/h as the safe and appropriate speed for Coxhead Road.

Therefore, we have determined 40km/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 – Fisher Road Waiheke Island

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Fisher Road connects to Waiheke Road to the east. This road provides access residential properties.
	Fisher Road is approximately 0.17 km in length. Fisher Road is classified as an "No information available" road under the one network road classification (ONRC).
	Fisher Road is a two-way, unsealed road. There are no pedestrian footpaths or cycle lanes provided along this road.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records 0 crashes between 2016 and 2020. Therefore, there are no Death and Serious Injury (DSI) crashes. 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 Fisher Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Unsealed • **Road alignment**: Curved • **Carriageway width**: Narrow lanes and very narrow shoulders • **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 and the 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."*

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	No average daily traffic (ADT) was available for this 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 Waiheke Local Board via meetings on 11th August 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes. During public consultation, the local community suggested a consistent speed limit of 60km/h with nearby road.

In addition to the factors outlined in Table 1, further relevant information was 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 Fisher Road is 80km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Fisher Road has no data available for the mean operating speed.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Waiheke Road:** 50km/h (proposed 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 (m)	170
Annual Daily Traffic (vpd)	n/a

The Collective Risk score is 0**,** and a Personal Risk score is 0. For Rural areas this corresponds to a Collective Risk band of **Low** and the Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10
Road alignment	Curved	1.8
Carriageway width	Narrow, Very narrow	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural residential	1.5
Intersection density (per km)	5 to <10	2.6
Access density (per km)	10 to <20	1.1
Traffic volume	n/a	1

The Infrastructure Risk Rating Score is 2.3. 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 <80km/h.

Step 5: Conclusion

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

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 40km/h to 60km/ to improve speed limit consistency for road users.

Key information driving this change includes that:

1) consultation feedback received highlighted that Fisher Road is a short paper road (170 meter long),
2) it has been assessed that a 60km/h speed limit would be more consistent with nearby road, and
3) a self-explaining road will likely lead to greater compliance plus reduce the number of signs on the road.

Speed Limit Review – Fourth Avenue (Onetangi)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Fourth Avenue connects to The Strand to the north and Onetangi Road / Waiheke Road to the south. This road provides access to the local shops. Fourth Avenue is approximately 0.25 km in length.
	Fourth Avenue is classified as an Secondary Collector road under the one network road classification (ONRC). Fourth Avenue is a two-lane undivided road. There are pedestrian footpaths and perpendicular on-street parking provided along this road. There are no cycle lanes provided. Two bus stops are provided along this road.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records 2 crashes between 2016 and 2020: 0 fatal, 0 serious, 1minor and 1 non-injury crashes. There are no Death and Serious Injury (DSI) crashes. 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 Fourth Avenue were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lanes and very narrow shoulders • **Roadside hazards (in both directions)**: High
(f) adjacent land use; and	The adjacent land use is classified as Urban residential using the drive over footage and the MegaMaps tool. The IRR defines Urban residential as *"Urban residential area 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	Average daily traffic (ADT) was determined from MegaMaps as 1,029 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and the traffic survey (1,029vpd).
(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 Waiheke Local Board via meetings on 11th August 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 on Fourth Avenue is 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Fourth Avenue has a mean operating speed in the range of 30 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **The Strand:** 50 km/h (proposed 30 km/h) • **Onetangi Road**: 50 km/h (proposed 50 km/h) • **Waiheke Road**: 50 km/h (proposed 40 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 (m)	250
Annual Daily Traffic (vpd)	1,029

The Collective Risk score is 0 and the Personal Risk score is 0. 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	Medium, Very narrow	1.79
Roadside hazards (in both directions)	High	2.28
Adjacent land use	Urban residential	3
Intersection density (per km)	5 to <10	2.6
Access density (per km)	10 to <20	1.1
Traffic volume	1029	1.4

The Infrastructure Risk Rating Score is 2.51. 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 40km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation =

- *50km/h between Onetangi Road and 50m north of Onetangi Road*
- *30km/h between 50m north of Onetangi Road and The Stand*

It is recommended to retain a short section of Fourth Avenue at 50km/h in order to:

- minimise the signage conflict at the Onetangi Road / Waiheke Road / Fourth Avenue intersection and with an existing bus stop
- improve likelihood of driver compliance with the new limit, as the updated speed limit signage location will be more visible to drivers compared to the previous location.
- 50km/h speed limit would be more consistent with nearby roads connecting at this intersection.

Speed Limit Review – Huia Road (Laingholm and Huia)

The section of Huia Road, Laingholm / Huia, between 425m west of Victory Road and Whatipu Road is divided into six sections as follows: [1]

- Section 1: Huia Road between 425m west of Victory Road and 1,020m north of Staley Road
- Section 2: Huia Road between 1,020m north of Staley Road and 90m west of Shirley Road
- Section 3: Huia Road between 90m west of Shirley Road and 630m east of Foster Avenue
- Section 4: Huia Road between 630m east of Foster Avenue and 70m south of Huia Dam Road
- Section 5: Huia Road between 70m south of Huia Dam Road and 1,260m south of Huia Dam Road
- Section 6: Huia Road between 1,260m south of Huia Dam Road and Whatipu Road

These sections are all within the Rural Traffic Area and 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.

The speed limit on the section of Huia Road, Laingholm / Huia between 425m west of Victory Road and Whatipu 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)) – Sections 1, 2 and 3

Requirement	**Comments**		
	Section 1	**Section 2**	**Section 3**
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	Huia Road connects to Titirangi Road to the east and Whatipu Road to the west. This road provides access to rural residential properties.		
	This section is approximately 1.03 km in length. It is classified as an Arterial road under the one network road classification (ONRC).	This section is approximately 1.78 km in length. It is classified as an Arterial road under the one network road classification (ONRC).	This section is approximately 5.37 km in length. It is classified as an Arterial road under the one network road classification (ONRC).

[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	**Section 2**	**Section 3**
	This section is a two-way, two-lane, undivided road. There are no pedestrian or cycle amenities, and no on-street parking is provided along this section.	This section is a two-way, two-lane, undivided road. There is a footpath along sections of this road. There are no cycle amenities, and no on-street parking is provided along this section.	This section is a two-way, two-lane, undivided road. There are no pedestrian or cycle amenities, and no on-street parking is provided along this section.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records 7 crashes between 2016 and 2020: 0 fatal, 1 serious, 0 minor and 6 non-injury crashes. This resulted in 1 Death and Serious Injury (DSI) crashes. This data includes crashes for all road users and therefore crash risk for all road users were considered.	WK NZTA's Crash Analysis System (CAS) records 10 crashes between 2016 and 2020: 0 fatal, 3 serious, 1 minor and 6 non-injury crashes. This resulted in 3 Death and Serious Injury (DSI) crashes. This data includes crashes for all road users and therefore crash risk for all road users were considered.	WK NZTA's Crash Analysis System (CAS) records 11 crashes between 2016 and 2020: 0 fatal, 0 serious, 6 minor and 5 non-injury crashes. Therefore, there were zero Death and Serious Injury (DSI) crashes. This data includes crashes for all road users and therefore crash risk for all road users were considered.
	A part of Huia Road is identified as one of the top 10% DSI saving network sections for New Zealand.		
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Huia Road were determined using a combination of site drive-over footage, on-site information 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)	• **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)	• **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)

Requirement	Comments		
	Section 1	**Section 2**	**Section 3**
	• **Roadside hazards (in both directions)**: High	• **Roadside hazards (in both directions)**: High	• **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using on-site information 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 Town using on-site information and geomaps. The IRR defines Rural Town as: *"Rural town with a 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 Remote Rural using on-site information 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."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive-over footage, on-site information and geomaps information:		
	• **Intersection density**: <1 intersections per km • **Access density**: 2 to <5 accesses per km	• **Intersection density**: 2 to <3 intersections per km • **Access density**: 10 to <20 accesses per km	• **Intersection density**: <1 intersections per km • **Access density**: 1 to <2 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 3,344 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.	Average daily traffic (ADT) was determined from MegaMaps as 1,966 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.	Average daily traffic (ADT) was determined from MegaMaps as 1,671 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.

Requirement	Comments		
	Section 1	**Section 2**	**Section 3**
(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 will be presented to the Local Board via email in October/November. Responses will be considered for investigation.		

Table 2: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2)) – Sections 4, 5 and 6

Requirement	Comments		
	Section 4	**Section 5**	**Section 6**
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	Huia Road connects to Titirangi Road to the east and Whatipu Road to the west. This road provides access to rural residential properties.		
	This section is approximately 1.68 km in length. It is classified as a Secondary Collector road under the one network road classification (ONRC).	This section is approximately 1.19 km in length. It is classified as a Primary Collector road under the one network road classification (ONRC).	This section is approximately 1.11 km in length. It is classified as a Primary Collector road under the one network road classification (ONRC).
	This section is a two-way, two-lane, undivided road. There is a footpath on the road. There are no cycle amenities, and no on-street parking is provided along this section.	This section is a two-way, two-lane, undivided road. There are no pedestrian or cycle amenities, and no on-street parking is provided along this section.	This section is a two-way, two-lane, undivided road. There are no pedestrian or cycle amenities, and no on-street parking is provided along this section.

(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records 2 minor injury crashes between 2016 and 2020. Therefore, there are zero Death and Serious Injury (DSI) crashes. This data includes crashes for all road users and therefore crash risk for all road users were considered.	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. Therefore, there are no Death and Serious Injury (DSI) crashes. This data includes crashes for all road users and therefore crash risk for all road users were considered.	WK NZTA's Crash Analysis System (CAS) records 1 minor injury crash between 2016 and 2020. Therefore, there are zero Death and Serious Injury (DSI) crashes. 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 each section of Huia Road were determined using a combination of site drive-over footage, on-site information 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)**: High	• **Road stereotype**: Two lane undivided • **Road alignment**: Winding • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: High	• **Road stereotype: Two lane undivided** • **Road alignment**: Tortuous • **Carriageway width**: Narrow lane (<3.0 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 Town using on-site information and geomaps. The IRR defines Rural Town as: *"Rural town with a 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 Town using on-site information and geomaps. The IRR defines Rural Town as: *"Rural town with a 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 Town using on-site information and geomaps. The IRR defines Rural Town as: *"Rural town with a 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	The following were determined using a combination of site drive-over footage, on-site information and geomaps information:		
	• **Intersection density**: 1 to <2 intersections per km • **Access density**: 10 to <20 accesses per km	• **Intersection density**: <1 intersections per km • **Access density**: 5 to <10 accesses per km	• **Intersection density**: <1 intersections per km • **Access density**: 1 to <2 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 707 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.	Average daily traffic (ADT) was determined from MegaMaps as 440 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.	Average daily traffic (ADT) was determined from MegaMaps as 440 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.
(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 will be presented to the Local Board via email in October/November. Responses will be considered for investigation.		

In addition to the factors outlined in Table 1 and 2, further relevant information was sought as summarised in Table 3 and 4 below.

Table 3: Additional Relevant Factors

AT also had regard to	**Section 1**	**Section 2**	**Section 3**
Current speed limit	The existing speed limit is 70 km/h.	The existing speed limit is 50 km/h.	The existing speed limit is 100 km/h.
MegaMaps Mean Operating Speed (km/h)	This section has a mean operating speed of 56 km/h.	This section has a mean operating speed of 64 km/h.	This section has a mean operating speed of 65 km/h.

Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rauhuia Crescent**: 50 km/h • **Staley Road Crescent**: 50 km/h • **Armour Road**: 50 km/h • **Rauhuia Crescent**: 50 km/h • **Shirley Road**: 50 km/h • **Cornwallis Road**: 100 km/h (proposed 60 km/h) • **Foster Avenue**: 50 km/h • **Upland Road**: 50 km/h • **Huia Dam Road**: 50 km/h • **Whatipu Road**: 70 km/h (proposed 40 km/h)

AT also had regard to	**Section 4**	**Section 5**	**Section 6**
Current speed limit	The existing speed limit is 50 km/h.	The existing speed limit is 70 km/h.	The existing speed limit is 70 km/h.
MegaMaps Mean Operating Speed (km/h)	This section has a mean operating speed of 47 km/h.	This section has a mean operating speed of 38 km/h.	This section has a mean operating speed of 38 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Rauhuia Crescent**: 50 km/h • **Staley Road Crescent**: 50 km/h • **Armour Road**: 50 km/h • **Rauhuia Crescent**: 50 km/h • **Shirley Road**: 50 km/h • **Cornwallis Road**: 100 km/h (proposed 60 km/h) • **Foster Avenue**: 50 km/h • **Upland Road**: 50 km/h • **Huia Dam Road**: 50 km/h • **Whatipu Road**: 70 km/h (proposed 40 km/h)		

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	**Data**		
	Section 1	**Section 2**	**Section 3**
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	1	4	6
DSI crashes during the period	1	3	0
Corridor Length (km)	1.03	1.78	5.37
Annual Daily Traffic	3,344	1,966	1,671

Required Information for safety metrics calculations	Data		
	Section 4	Section 5	Section 6
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	2	0	1
DSI crashes during the period	0	0	0
Corridor Length (km)	1.68	1.19	1.11
Annual Daily Traffic	707	440	440

- Section 1
  - The Collective Risk score is 0.19. For rural areas this corresponds to a Collective Risk band of **High**
  - The Personal Risk score is 15.91. For rural areas this corresponds to a Personal Risk band of **High**
- Section 2
  - The Collective Risk score is 0.97. For urban areas this corresponds to a Collective Risk band of **High**
  - The Personal Risk score is 134.86. For urban 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 urban areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For urban areas this corresponds to a Personal Risk band of **Low**
- Section 5
  - The Collective Risk score is 0.00. For urban areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For urban areas this corresponds to a Personal Risk band of **Low**
- Section 6
  - The Collective Risk score is 0.00. For urban areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For urban areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section 2	
	Category	Risk Score	Category	Risk Score
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Curved	1.80	Winding	3.50
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	High	2.28	High	2.28
Adjacent land use	Rural Residential	1.50	Rural Town	2.50
Intersection density (per km)	<1	1.00	2 to <3	1.25
Access density (per km)	2 to <5	1.03	10 to <20	1.10
Traffic volume (vpd)	1,000 to <6,000	1.40	1,000 to <6,000	1.40

Feature	Section 3		Section 4	
	Category	Risk Score	Category	Risk Score
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Curved	1.80	Winding	3.50
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	High	2.28
Adjacent land use	Remote Rural	1.00	Rural Town	2.50
Intersection density (per km)	<1	1.00	1 to <2	1.15
Access density (per km)	1 to <2	1.01	10 to <20	1.10
Traffic volume (vpd)	1,000 to <6,000	1.40	<1,000	1.00

Feature	Section 5		Section 6	
	Category	Risk Score	Category	Risk Score
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
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 (in both directions)	High	2.28	Severe	2.80
Adjacent land use	Rural Town	2.50	Rural Town	2.50
Intersection density (per km)	<1	1.00	<1	1.00
Access density (per km)	5 to <10	1.06	1 to <2	1.01
Traffic volume (vpd)	<1,000	1.00	<1,000	1.00

- Section 1
  - The Infrastructure Risk Rating Score is 1.77. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 2
  - The Infrastructure Risk Rating Score is 2.12. For urban areas this corresponds to an IRR band of **Medium**.
- Section 3
  - The Infrastructure Risk Rating Score is 1.38. For rural areas this corresponds to an IRR band of **Medium**.
- Section 4
  - The Infrastructure Risk Rating Score is 2.22. For urban areas this corresponds to an IRR band of **Medium**.
- Section 5
  - The Infrastructure Risk Rating Score is 2.15. For urban areas this corresponds to an IRR band of **Medium-High**.
- Section 6
  - The Infrastructure Risk Rating Score is 2.45. 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 2.2 of the Speed Management Guide is:

- Less than 80 km/h (Section 1)
- 50 km/h (Section 2)
- 80 km/h (Section 3)
- 50 km/h (Section 4 and 5)
- Less than 50 km/h (Section 6)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is

- *80 km/h on Huia Road between 90m west of Shirley Road and 630m east of Foster Avenue (Section 3)*

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 60km/h to 80km/ in order to improve likelihood of driver compliance with the new limit.

Key information driving this change includes that:

1. the road has significant straight sections, and
2. engineering measures can be implemented to reduce the roadside risk at curves.

Speed Limit Review – Man O'War Bay Road (Waiheke Island)

Man O'War Bay Road, Waiheke Island has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Man O'War Bay Road connects to Waiheke Road to the southwest and Cowes Bay Road to the southeast. This road provides access to rural residential properties and vineyards. Man O'War Bay Road is approximately 10.190km in length.
	This section of Man O'War Bay Road is classified as an Access road under the one network road classification (ONRC). Man O'War Bay Road is Unsealed. There are no pedestrian and/or cyclist amenities provided.
(d) crash risk for all road users; and	WK 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 9 crashes between 2016 and 2020: 0 fatal, 0 serious, 1minor and 8 non-injury crashes. This resulted in 0 Death and Serious Injury (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for Man O'War Bay Road were determined using a combination of site drive-over footage, on-site information and geomaps information.
	• **Road stereotype**: Unsealed • **Road alignment**: Tortuous • **Carriageway width**: Narrow lane and very narrow shoulder • **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.*

Requirement	Comments
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive-over footage, on-site information and geomaps information:
	• **Intersection density**: <1 • **Access density**: 2 to <5
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 224 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 Waiheke Local Board via meetings on 11th August 2021. Responses were received and considered for investigation. The local board was generally supportive of the speed limit changes. During public consultation, the local community expressed a desire for a higher speed limit along this road and Cowes Bay Road.

In addition to the factors outlined in Table 1, further relevant information was 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 Man O'War Bay Road is 80km/h.
MegaMaps Mean Operating Speed (km/h)	The mean operating speed limit(s) on Man O'War Bay Road is 35.05km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Waiheke Road:** 50km/h (60km/h proposed) • **Orapiu Road:** 80km/h (60km/h proposed) • **Stonybatter Road:** 80km/h (40km/h proposed) • **Cowes Bay Road:** 80km/h (60km/h proposed)

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 (m)	10190
Annual Daily Traffic	224

The Collective Risk score is 0. For Rural areas this corresponds to a Collective Risk band of **Low**. Personal Risk score is 0. A Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Unsealed	10
Road alignment	Tortuous	6
Carriageway width (road lane + shoulder)	Narrow, Very narrow	2.01
Roadside hazards (in both directions)	Severe	2.8
Adjacent land use	Remote rural	1
Intersection density (per km)	<1	1
Access density (per km)	2 to <5	1.03
Traffic volume (vpd)	224	1

The Infrastructure Risk Rating Score is 2.49. 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 <80km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60km/h for the full length of Man O'War Bay Road.

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 40km/h to 60km/ in order to:

- improve likelihood of driver compliance with the new limit
- improve speed limit consistency for road users

Key information driving this change includes that:

1) consultation feedback received highlighted that some drivers on Man O'War Bay Road are traveling at speeds higher than 40km/h on some straight sections
2) the road surface has been improved recently in 2022
3) it has been assessed that a 60km/h speed limit would be more consistent with nearby roads, and
4) a self-explaining road will likely lead to greater compliance plus reduce the number of signs and speed changes along the road length.

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 – Orrs Road (Wiri)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Orrs Road connects to Puhinui Road to the south. This road provides access to residential properties.
	This section is approximately 0.26 km in length. It is classified as an Access Road under the one network road classification (ONRC).
	This section is a two-way, two-lane, unsealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crash between 2016 and 2020. Therefore, there are no Death and Serious Injury (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Orrs Road were determined using a combination of site drive-over footage, on-site information 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)**: 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.*"

Requirement	Comments
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive-over footage, on-site information and geomaps information:
	• **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 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 will be sent to the Local Board via email in October. Responses will be considered for investigation. During the public consultation, the local community expressed a desire for a 60 km/h speed limit which is consistent with all the other side roads in the area.

In addition to the factors outlined in Table 1, further relevant information was 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 100 km/h.
MegaMaps Mean Operating Speed (km/h)	This section has a mean operating speed of 20 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Puhinui Road**: 100 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	140

- 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	Category	Risk Score
Road stereotype	Unsealed	10.00
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)	3 to <5	1.50
Access density (per km)	5 to <10	1.06
Traffic volume	<1000	1.00

The Infrastructure Risk Rating Score is **1.99**. 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.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 60 km/h Orrs Road (Full Length).

Orrs Road is a self-explaining road as the mean operating speeds are below or near, the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Orrs 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 Orrs Road due to multitude of factors. These being the narrow lane width, very narrow shoulder width, high roadside hazards and low mean operating speeds. All of these factors contribute to the road's '**Medium-High'** IRR score, making it a high-risk road.

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

The proposed safe and appropriate speed limit is 60 km/h which is aligned with the recommended safe and appropriate 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 limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Victoria Road (Devonport)

The speed limit on Victoria Road, Devonport between 110m north of Calliope Road and the southern end of Victoria 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	Victoria Road connects to Queens Parade to the south, and Calliope Street, Clarence Street, Fleet Street to the west, and King Edward Parade, Flagstaff Terrace, Rattray Street, Kerr Street to the east. This road provides access to commercial properties and is approximately 0.54 km in length.
	Victoria Road is classified as an Arterial road under the one network road classification (ONRC). Victoria Road is a two-way, two-lane, undivided road. There is pedestrian and cyclist amenities and on-street parking along this road.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 20 crashes between 2016 and 2020: one serious, six 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. Victoria Road is identified as one of the top 10% DSI saving network sections for New Zealand.
(e) the characteristics of the road and roadsides; and	The following characteristics for Victoria Road were determined using desktop information assessment. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Wide lane (>3.5m) and very narrow shoulder (<0.5m) • **Roadside hazards:** Moderate
(f) adjacent land use; and	The adjacent land use is classified as Commercial Strip Shopping using MegaMaps tool. The IRR defines Commercial Strip Shopping 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*

Requirement	Comments
	to and from the road. Regular intersections and accesses will also be present.".
(g) the number of intersections and property accessways; and	From desktop information assessment: • **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 9864 vehicles per day (vpd). This level of traffic volume is consistent with the nature of the road and traffic survey.
(i) any planned modification to the road; and	Modification/Engineering measures for the area are planned, details of the measures are still 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 meeting on 10/08/21. 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 Victoria Road has a mean operating speed in the range of 25-29 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Queens Parade**: 50 km/h (proposed 30 km/h) • **Calliope Street**: 50 km/h (proposed 30 km/h) • **Clarence Street**: 50 km/h (proposed 30 km/h) • **Fleet Stree**t: 50 km/h (proposed 30 km/h) • **King Edward Parade**: 50 km/h (proposed 30 km/h) • **Flagstaff Terrace**: 50 km/h (proposed 30 km/h) • **Rattray Street**: 50 km/h (proposed 30 km/h) • **Kerr Street**: 50 km/h (proposed 30 km/h)

Step 2: Determine the road safety metrics and IRR score

From desktop information assessment, Victoria Road has the following information:

- Collective Risk band of **High,** and Personal Risk of **High.**
- The Infrastructure Risk Rating Score is 3.0. For urban areas this corresponds to an IRR band of **High**.
- High risk road[1]

[1] A road is high risk if either the Personal Risk, Collective Risk, or Infrastructure Risk Rating is Medium-High or 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 30 km/h.

Step 4: Conclusion

Proposed safe and appropriate speed limit recommendation: 30km/h

We have determined 30km/h to be safer and more appropriate and align with the recommended speed by the Speed Management Guide. This 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 – Waitakere Road (Waitakere)

Waitakere Road, Waimauku, is divided into two sections as follows: [1]

- Section 1a: Waitakere Road between 220m south of Township Road and 150m west of Kay Road
- Section 1b: Waitakere Road between 150m west of Kay Road and Swanson 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.

The speed limit on Waitakere Road, Waitakere has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary 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 1a	**Section 1b**
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The WK 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 Waitakere Road connects to Swanson Road at the eastern end and Bethells Road at the western end. This road provides access to residential properties.	
	This section is approximately 2.32 km in length. It is classified as an arterial road under the one network road classification (ONRC).	This section is approximately 0.26 km in length. It is classified as an arterial road under the one network road classification (ONRC).
	This section 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.	This section 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.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records 16 crashes between 2016 and 2020, 1 fatal, 1 serious, 6 minor and 8 non-	NZTA's Crash Analysis System (CAS) records 5 crashes between 2016 and 2020, 0 fatal, 0 serious, 1 minor and 4 non-

[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 1a	**Section 1b**
	injury crashes. This resulted in 2 Death and Serious Injury (DSI) crashes. This data includes crashes for all road users and therefore crash risk for all road users were considered.	injury crashes. This resulted in 0 Death and Serious Injury (DSI) crashes. 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 each section of Waitakere Road were determined using a combination of site drive-over footage, on-site information 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)**: High	• **Road stereotype**: Unsealed • **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
(f) adjacent land use; and	The adjacent land use is classified as Rural residential using on-site information 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 on-site information 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, on-site information and geomaps information:	
	• **Intersection density**: <1 intersections per km • **Access density**: 2 to <5 accesses per km	• **Intersection density**: <1 intersections per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 5,384 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 5,384 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 currently.	

Requirement	Comments	
	Section 1a	**Section 1b**
(j) the views of interested persons and groups.	Potential changes to the speed limit in this area will be presented to the Local Board via email in October/November. Responses will be considered for investigation.	

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

Table 2: Additional Relevant Factors

AT also had regard to	Section 1a	Section 1b
Current speed limit	The existing speed limit is 80 km/h.	The existing speed limit is 80 km/h.
MegaMaps Mean Operating Speed (km/h)	This section has a mean operating speed of 66 km/h.	This section has a mean operating speed of 66 km/h.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Waitakere Road (between 190m north of Bethells Road and 220m south of Township Road)**: 70 km/h (SAAS:60km/h) • **Northfield Road (between Waitakere Road and 35m north of Waitakere Road): 80km/h** (SAAS: 60km/h) • **Swanson Road**: 80 km/h (SAAS:60km/h)	

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data	
	Section 1a	**Section 1b**
Crash Analysis Period (years)	5	5
Total injury crashes during period	16	5
DSI crashes during the period	2	0
Corridor Length (km)	2.32	0.26
Annual Daily Traffic	5384	5384

- Section 1a
  - 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 8.8. For rural areas this corresponds to a Personal Risk band of **Medium-High**
- Section 1b
  - 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 1a		Section 1b	
	Category	Risk Score	Category	Risk 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, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
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	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03
Traffic volume (vpd)	1,000 to <6,000 vpd	1.40	1,000 to <6,000 vpd	1.40

- Section 1a
  - The Infrastructure Risk Rating Score is 1.77. For rural areas this corresponds to an IRR band of **Medium-High**.
- Section 1b
  - The Infrastructure Risk Rating Score is 1.77. 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 for the section 1a of Waitakere Road is <80 km/h.

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide for the section 1b of Waitakere Road is <80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation is

- *Section 1a: No change: 80 km/h on Waitakere Road between 220m south of Township Road and 150m west of Kay Road*
- *Section 1b: 60 km/h on Waitakere Road between 150m west of Kay Road and Swanson Road*

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 60km/h to 80km/ for section 1a in order to improve likelihood of driver compliance with the new limit

Key information driving this change includes that:

1. the road has significant straight sections, and

2. engineering measures can be implemented to reduce the roadside risk at curves.

Section 1b is short section near this intersection with Swanson Road therefore the recommended speed limit is still 60km/h which is aligned with safe and appropriate speed from Speed Management Guild. The speed limit is also consistent with Swanson 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 – Albert Street (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Albert Street connects to Seatoun Avenue to the east. This road provides access to residential properties and is approximately 0.26km in length.
	Albert Street is classified as an Access road under the one network road classification (ONRC). Albert 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Albert Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 3 to <5 per km • **Access density**: 10 to <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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Albert Street has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Seatoun Avenue: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Albert Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 1.81. 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = variable 30km/h and 40km/h.

While we find 30km/h to be the safe and appropriate speed on Albert Road, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS) with a variable speed limit that aligns with the SAAS. Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Variable speed limits are proposed to be implemented with electronic variable signs on approaches to the school.

Speed Limit Review – Barrier View Road (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Barrier View Road connects to Cotterell Street to the north and Wonderview Road to the west. This road provides access to residential properties and is approximately 0.55km in length.
	Barrier View Road is classified as an Access road under the one network road classification (ONRC). Barrier View 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Barrier View Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Barrier View Road has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Cotterell Street: 50km/h (proposed 40km/h) • Wonderview Road: 50km/h (proposed 40km/h) • Kyle Street: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Barrier View Road 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Barrier View Road, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Cotterell Street (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cotterell Street connects to Hill Street to the north and Barrier View Road to the south. This road provides access to residential properties and is approximately 0.29km in length.
	Cotterell Street is classified as an Access road under the one network road classification (ONRC). Cotterell 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Cotterell Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Cotterell Street has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Hill Street: 50km/h (proposed 40km/h) • Barrier View Road: 50km/h (proposed 40km/h) • Penguin Street: 50km/h (proposed 40km/h) • Totara Road: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Cotterell Street 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Cotterell Street, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Cumberland Street (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Cumberland Street connects to Kowhai Terrace to the east and Pakiri Road to the west. This road provides access to residential properties and is approximately 0.54km in length.
	Cumberland Street is classified as an Access road under the one network road classification (ONRC). Cumberland 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Cumberland Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5m) and narrow shoulder (0.5m to <1.0m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 10+ per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 411 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Cumberland Street has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Kowhai Terrace: 50km/h (proposed 40km/h) • Pakiri Road: 50km/h (proposed variable 30km/h and 40km/h) • Seatoun Avenue: 50km/h (proposed variable 30km/h and 40km/h) • Puriri Avenue: 50km/h (proposed 40km/h) • Hauraki Road: 50km/h (proposed variable 30km/h and 40km/h) • Hill Street: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Cumberland Street has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 2.19. 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = variable 30km/h and 40km/h.

While we find 30km/h to be the safe and appropriate speed on Cumberland Street, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS) with a variable speed limit that aligns with the SAAS. Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

The variable speed limit is only proposed on the section of Cumberland Street between Pakiri Road and Hill Street, this has been determined as the section of this road that is near Leigh School. The underlying permanent speed limit is proposed on the full length of Cumberland Street. Variable speed limits are proposed to be implemented with electronic variable signs on approaches to the school.

Speed Limit Review – Ferndale Avenue (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Ferndale Avenue connects to Harbour View Road to the east and Puriri Avenue to the south. This road provides access to residential properties and is approximately 0.19km in length.
	Ferndale Avenue is classified as an Access road under the one network road classification (ONRC). Ferndale 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Ferndale Avenue were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5m) and narrow shoulder (0.5m to <1.0m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 10+ per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 411 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Ferndale Avenue has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Harbour View Road: 50km/h (proposed 40km/h) • Puriri Avenue: 50km/h (proposed 40km/h) • Hauraki Road: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Ferndale Avenue has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 2.19. 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Ferndale Avenue, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Harbour View Road (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Harbour View Road connects to Ferndale Avenue to the west and Hill Street to the south. This road provides access to residential properties and is approximately 0.42km in length.
	Harbour View Road is classified as an Access road under the one network road classification (ONRC). Harbour View 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Harbour View Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Harbour View Road has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Ferndale Avenue: 50km/h (proposed 40km/h) • Hill Street: 50km/h (proposed 40km/h) • Hauraki Road: 50km/h (proposed variable 30km/h and 40km/h) • Kowhai Terrace: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Harbour View Road 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Harbour View Road, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Hauraki Road (Leigh)

The speed limit on Hauraki Road, Leigh, between Wonderview Road and north of Hauraki 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:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hauraki Road connects to Ferndale Avenue to the north and Leigh Road to the south. This road provides access to residential properties and is approximately 1.17km in length.
	Hauraki Road is classified as a Primary Collector road under the one network road classification (ONRC). Hauraki 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Hauraki Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5m) and wide shoulder (1.0m to <2.0m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 10+ per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1599 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Hauraki Road has a mean operating speed in the range of 30-34km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Ferndale Avenue: 50km/h (proposed 40km/h) • Leigh Road: 50km/h (no proposed change) • Wonderview Road: 50km/h (proposed 40km/h) • Totara Road: 50km/h (proposed variable 30km/h and 40km/h) • Cumberland Street: 50km/h (proposed variable 30km/h and 40km/h) • Harbour View Road: 50km/h (proposed 40km/h) • Seatoun Avenue: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Hauraki Road has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 2.43. 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = variable 30km/h and 40km/h.

While we find 30km/h to be the safe and appropriate speed on Hauraki Road, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS) with a variable speed limit that aligns with the SAAS. Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

The variable speed limit is only proposed on the section of Hauraki Road between 170m east of Wonderview Road and Cumberland Street, this has been determined as the section of this road that is near Leigh School. The underlying permanent speed limit is proposed between Wonderview Road and the northern end of Hauraki Road. Variable speed limits are proposed to be implemented with electronic variable signs on approaches to the school.

Speed Limit Review – Hill Street (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hill Street connects to Harbour View Road to the north and Cotterell Street to the south. This road provides access to residential properties and is approximately 0.20km in length.
	Hill Street is classified as an Access road under the one network road classification (ONRC). Hill 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Hill Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Hill Street has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Harbour View Road: 50km/h (proposed 40km/h) • Cotterell Street: 50km/h (proposed 40km/h) • Totara Road: 50km/h (proposed variable 30km/h and 40km/h) • Cumberland Street: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Hill Street 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Hill Street, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Kowhai Terrace (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kowhai Terrace connects to Cumberland Street to the north. This road provides access to residential properties and is approximately 0.10km in length.
	Kowhai Terrace is classified as an Access road under the one network road classification (ONRC). Kowhai 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Kowhai Terrace were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Kowhai Terrace has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Cumberland Street: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Kowhai Terrace 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Kowhai Terrace, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Kowhai Terrace (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kowhai Terrace connects to Harbour View Road to the south. This road provides access to residential properties and is approximately 0.06km in length.
	Kowhai Terrace is classified as an Access road under the one network road classification (ONRC). Kowhai Terrace is a two-way, Unsealed 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	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Kowhai Terrace were determined using MegaMaps tool. • **Road stereotype**: Unsealed • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 10+ per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(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 nature of the road.
(i) any planned modification to the road; and	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Kowhai Terrace has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Harbour View Road: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Kowhai Terrace has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 2.77. 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Kowhai Terrace, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Kyle Street (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Kyle Street connects to Barrier View Road to the north. This road provides access to residential properties and is approximately 0.07km in length.
	Kyle Street is classified as an Access road under the one network road classification (ONRC). Kyle 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Kyle Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Kyle Street has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Barrier View Road: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Kyle Street 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Kyle Street, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Lax Crescent (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Lax Crescent connects to Wonderview Road to the east. This road provides access to residential properties and is approximately 0.36km in length.
	Lax Crescent is classified as an Access road under the one network road classification (ONRC). Lax 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Lax Crescent were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Lax Crescent has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Wonderview Road: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Lax Crescent has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 2.26. 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Lax Crescent, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Pakiri Road (Leigh)

The speed limit on Pakiri Road, Leigh, between Seatoun Avenue and 240 metres west of Seatoun Avenue, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Pakiri Road connects to Seatoun Avenue to the east and Whangaripo Valley Road to the west. This road provides access to residential properties and is approximately 0.65km in length.
	Pakiri Road is classified as an Arterial road under the one network road classification (ONRC). Pakiri 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Pakiri Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Curved • **Carriageway width**: Medium lane (3.0 to 3.5m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: High and Moderate
(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.*".

Requirement	Comments
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 1 to <2 per km • **Access density**: 5 to <10 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 nature of the road.
(i) any planned modification to the road; and	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Pakiri Road has a mean operating speed in the range of 50-54km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Seatoun Avenue: 50km/h (proposed variable 30km/h and 40km/h) • Whangaripo Valley Road: 50km/h (no proposed change) • Cumberland Street: 50km/h (proposed variable 30km/h and 40km/h) • Matakana Valley Road: 50km/h (no proposed change) • Rahuikiri Road: 50km/h (no proposed change) • Manunui Road: 50km/h (no proposed change) • Pakiri River Road: 50km/h (no proposed change) • Bathgate Road: 50km/h (no proposed change) • M Greenwood Road: 50km/h (no proposed change) • J Greenwood Road: 50km/h (no proposed change) • Rodney Road: 50km/h (no proposed change) • Goat Island Road: 50km/h (no proposed change) • Old School Road: 50km/h (no proposed change)

	• Tenetahi Road: 50km/h (no proposed change)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Pakiri Road has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 1.61. 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 80km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = variable 30km/h and 40km/h.

The speed management guide suggests 80km/h as the safe and appropriate speed for Pakiri Road, however this is due to the section of Pakiri Road which is classified as an Arterial Road and is not the intended function of this section of Pakiri Road.

While we find 30km/h to be the safe and appropriate speed on this section of Pakiri Road, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS) with a variable speed limit that aligns with the SAAS. Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

The variable speed limit is only proposed on the section of Pakiri Road between 20m west of Seatoun Avenue and Seatoun Avenue, this has been determined as the section of this road that is near Leigh School. The underlying permanent speed limit is proposed between 240m west of Seatoun Avenue and Seatoun Avenue. Variable speed limits are proposed to be implemented with electronic variable signs on approaches to the school.

Speed Limit Review – Panama Road (Mt Wellington)

Panama Road, Mt Wellington, is divided into two sections as follows:

- Section 1: Panama Road between Niall Burgess Road and Carbine Road
- Section 2: Panama Road between Carbine Road and Kealy Road
- Section 3: Panama Road between Kealy Road and 65 metres west of the southern end of McLennan 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.

The speed limit on Panama Road, Mt Wellington, has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary 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**	**Section 3**
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	Panama Road connects to Niall Burgess Road to the west and is a cul-de-sac at its southern end. This road provides access to residential properties and is approximately 3.09km in length.		
	This section is approximately 0.93 km in length. It is classified as a Primary Collector road under the one network road classification (ONRC). Panama 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.	This section is approximately 1.26 km in length. It is classified as a Secondary Collector road under the one network road classification (ONRC). Panama 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.	This section is approximately 0.90 km in length. It is classified as an Access road under the one network road classification (ONRC). Panama 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.

Requirement	Comments		
	Section 1	**Section 2**	**Section 3**
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records twenty nine crashes between 2016 and 2020: one fatal crash, two serious crashes, six minor crashes and twenty non-injury crashes. This resulted in three Death and Serious Injuries (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.	WK NZTA's Crash Analysis System (CAS) records seven crashes between 2016 and 2020: one minor crash and six non-injury crashes. This resulted in zero Death and Serious Injuries (DSI). This data includes crashes for all road users and therefore crash risk for all road users were considered.	WK NZTA's Crash Analysis System (CAS) records five crashes between 2016 and 2020: two minor crashes and three non-injury crashes. This resulted in zero Death and Serious Injuries (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 Panama Road were determined using MegaMaps tool.		
	• **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5m) and very wide shoulder (> 2.0m) • **Roadside hazards (in both directions)**: Severe and Moderate	• **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5m) and wide shoulder (1.0m to < 2.0m) • **Roadside hazards (in both directions)**: Severe and Moderate	• **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5m) and very wide shoulder (1.0m to < 2.0m) • **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 are also likely to be present, particularly at certain times of the day*".		

Requirement	Comments		
	Section 1	**Section 2**	**Section 3**
(g) the number of intersections and property accessways; and	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 20+ accesses per km	From MegaMaps tool: • **Intersection density**: 3 to <5 per km • **Access density**: 20+ accesses per km	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 20+ accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 6623 vehicles per day (vpd).	Average daily traffic (ADT) was determined from MegaMaps as 4441 vehicles per day (vpd).	Average daily traffic (ADT) was determined from MegaMaps as 4441 vehicles per day (vpd).
(i) any planned modification to the road; and	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.		
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities"		

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

Table 2: Additional Relevant Factors

AT also had regard to	Secion 1	Section 2	Section 3
Current speed limit	The existing speed limit is 50km/h.	The existing speed limit is 50km/h.	The existing speed limit is 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Panama Road has a mean operating speed in the range of 40-44km/h	This section of Panama Road has a mean operating speed in the range of <30km/h	This section of Panama Road has a mean operating speed in the range of <30km/h
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Niall Burgess Road: 50km/h (no proposed change) • Mount Wellington Highway: 50km/h (no proposed change) • Ryburn Road: 50km/h (no proposed change) • Tahuhu Road: 50km/h (no proposed change) • Sophia Close: 50km/h (no proposed change) • Hillside Road: 50km/h (no proposed change) • Mclennan Road: 50km/h (proposed 30km/h)		

	• Carbine Road: 50km/h (no proposed change) • Jolson Road: 50km/h (proposed 30km/h) • Kealy Road: 50km/h (proposed 30km/h) • Bernard Street: 50km/h (proposed 30km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Panama Road has the following information:

- Section 1
  - Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium.**
  - The Infrastructure Risk Rating Score is 2.13. For urban areas this corresponds to an IRR band of **Medium**.
- Section 2
  - Collective Risk band of **Low**, and a Personal Risk band of **Low-Medium.**
  - The Infrastructure Risk Rating Score is 1.81. For urban areas this corresponds to an IRR band of **Low-Medium**.
- Section 3
  - Collective Risk band of **Low-Medium**, and a Personal Risk band of **Medium.**
  - 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

- Section 1

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 50km/h

- Section 2

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40km/h

- Section 3

The safe and appropriate speed recommended by Table 2.1 of the Speed Management Guide is 40km/h

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation is:

- *50km/h on Panama Road between Niall Burgess Road and Carbine Road*
- *30km/h on Panama Road between Carbine Road and Kealy Road*
- *30km/h on Panama Road between Kealy Road and 65 metres west of the southern end of McLennan Road*

Section 1

The proposed safe and appropriate speed limit of 50km/h is aligned with the recommended safe and appropriate speed.

Section 2 and 3

While the speed management guide suggests 40km/h as the safe and appropriate speed for Panama Road, the mean operating speeds for these section of Panama Road is less than 30km/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 – Penguin Street (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Penguin Street connects to Cotterell Street to the north. This road provides access to residential properties and is approximately 0.13km in length.
	Penguin Street is classified as an Access road under the one network road classification (ONRC). Penguin 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Penguin Street were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Penguin Street has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Cotterell Street: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Penguin Street 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Penguin Street, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Puriri Avenue (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Puriri Avenue connects to Ferndale Avenue to the north and Cumberland Street to the south. This road provides access to residential properties and is approximately 0.09km in length.
	Puriri Avenue is classified as an Access road under the one network road classification (ONRC). Puriri 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Puriri Avenue were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5m) and narrow shoulder (0.5m to <1.0m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 10+ per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 411 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Puriri Avenue has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Ferndale Avenue: 50km/h (proposed 40km/h) • Cumberland Street: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Puriri Avenue has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 2.19. 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Puriri Avenue, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Speed Limit Review – Sea View Road (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Sea View Road connects to Seatoun Avenue to the east. This road provides access to residential properties and is approximately 0.24km in length.
	Sea View Road is classified as an Access road under the one network road classification (ONRC). Sea View 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Sea View Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 3 to <5 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 124 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Sea View Road has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Seatoun Avenue: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Sea View Road has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 1.76. 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = variable 30km/h and 40km/h.

While we find 30km/h to be the safe and appropriate speed on Sea View Road, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS) with a variable speed limit that aligns with the SAAS. Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Variable speed limits are proposed to be implemented with electronic variable signs on approaches to the school.

Speed Limit Review – Seatoun Avenue (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Seatoun Avenue connects to Pakiri Road to the north and Hauraki Road to the south. This road provides access to residential properties and is approximately 0.28km in length.
	Seatoun Avenue is classified as an Arterial road under the one network road classification (ONRC). Seatoun 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Seatoun Avenue were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 to 3.5m) and wide shoulder (1.0m to <2.0m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 10+ per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 815 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Seatoun Avenue has a mean operating speed in the range of 35-39km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Pakiri Road: 50km/h (proposed variable 30km/h and 40km/h) • Hauraki Road: 50km/h (proposed variable 30km/h and 40km/h) • Albert Street: 50km/h (proposed variable 30km/h and 40km/h) • Sea View Road: 50km/h (proposed variable 30km/h and 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Seatoun Avenue has the following information:

- Collective Risk band of **Low**, and a Personal Risk band of **Low.**
- The Infrastructure Risk Rating Score is 2.03. 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 50km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = variable 30km/h and 40km/h.

While we find 30km/h to be the safe and appropriate speed on Seatoun Avenue, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS) with a variable speed limit that aligns with the SAAS. Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Variable speed limits are proposed to be implemented with electronic variable signs on approaches to the school.

Speed Limit Review – Totara Road (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK 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 connects to Hill Street to the east and Hauraki Road to the west. This road provides access to residential properties and is approximately 0.44km in length.
	Totara Road is classified as an Access road under the one network road classification (ONRC). Totara 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Totara Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 332 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Totara Road has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Hill Street: 50km/h (proposed 40km/h) • Hauraki Road: 50km/h (proposed variable 30km/h and 40km/h) • Cotterell Street: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Totara Road 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 40km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = variable 30km/h and 40km/h.

While we find 30km/h to be the safe and appropriate speed on Totara Road, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS) with a variable speed limit that aligns with the SAAS. Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.

Variable speed limits are proposed to be implemented with electronic variable signs on approaches to the school.

Speed Limit Review – Wonderview Road (Leigh)

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

Step 1: Determine the base information

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

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• Waka Kotahi New Zealand Transport Agency (WK NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • WK 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 WK NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wonderview Road connects to Hauraki Road to the north and Lax Crescent to the west. This road provides access to residential properties and is approximately 0.31km in length.
	Wonderview Road is classified as a Secondary Collector road under the one network road classification (ONRC). Wonderview 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.
(d) crash risk for all road users; and	WK NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020. This resulted in zero Death and Serious Injuries (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 Wonderview Road were determined using MegaMaps tool. • **Road stereotype**: Two lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0m) and very narrow shoulder (0m to <0.5m) • **Roadside hazards (in both directions)**: Severe and Moderate
(f) adjacent land use; and	The adjacent land use is classified as rural towns using MegaMaps tool. The IRR defines rural towns 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	From MegaMaps tool: • **Intersection density**: 5 to <10 per km • **Access density**: 10 to <20 accesses per km

Requirement	Comments
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 495 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	Modification/Engineering measures for the area are planned, details of the measures for this road are still under investigation.
(j) the views of interested persons and groups.	Central government policy is to implement 30km/h speed limits adjacent to urban schools. Key stakeholders have indicated general support for implementing 30km/h speed limits around urban schools. A recent survey of Auckland residents shows 78% support for "reduced speed limits near schools, kindergartens and community facilities" During public consultation, the local community expressed a desire for a variable speed limit around the school and retention of a 50km/hr speed limit away from the school.

In addition to the factors outlined in Table 1, further relevant information was 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 50km/h.
MegaMaps Mean Operating Speed (km/h)	This section of Wonderview Road has a mean operating speed in the range of <30km/h.
	Speed calming measures will be installed area wide to achieve a low operating speed.
Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • Hauraki Road: 50km/h (proposed variable 30km/h and 40km/h) • Lax Crescent: 50km/h (proposed 40km/h) • Barrier View Road: 50km/h (proposed 40km/h)

Step 2: Determine the road safety metrics and IRR score

From MegaMaps Wonderview Road 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 50km/h.

Step 4: Conclusion

Existing speed limit: 50km/h

Proposed safe and appropriate speed limit recommendation = 40km/h.

While we find 30km/h to be the safe and appropriate speed on Wonderview Road, with consideration of feedback from the local community we are taking steps towards this vision by proposing a permanent speed limit that is closer to the safe and appropriate speed (SAAS). Over time, we will work with the community and explore the right time to consult on further speed limit changes that meet the SAAS.