

# Kerb Zone Management Framework

A component of the Auckland Parking Strategy

May 2023



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## 1. Introduction

The Kerb Zone Management Framework 2023 (KZMF) outlines how Auckland Transport (AT) will manage the kerb zone space in locations where intervention is necessary to better meet the needs of customers. It explains the kerb zone space, identifies the challenges and needs for this space in Auckland, and sets out a process for intervening, together with a selection of changes which international experience has demonstrated improve the kerb zone space for users. The KZMF is guided by *Room to Move: Tamaki Makaurau Auckland's Parking Strategy 2023* and will primarily be used as a guide when preparing Comprehensive Parking Management Plans (CPMPs) or other design interventions.

### 1.1 What is the kerb zone?

The space on the street between private property boundaries and the first carriageway lane is known as the kerb zone. The kerb zone includes the footpath and parking spaces on the side of the road, and is used for a lot of different purposes, namely:

- Movement of people and goods by vehicle, on foot, bike, or other wheeled devices
- Access to residential properties, local services, employment, and public transport
- Places for the collection of rubbish and recycling
- Pick-up and delivery of goods and access for service providers
- Space for people to meet each other, eat and relax
- Trees and other vegetation to green our city, provide shade, absorb greenhouse gases, and clean the air and water
- Infrastructure, utilities, and services such as drainage, signs, telecommunications, and gas

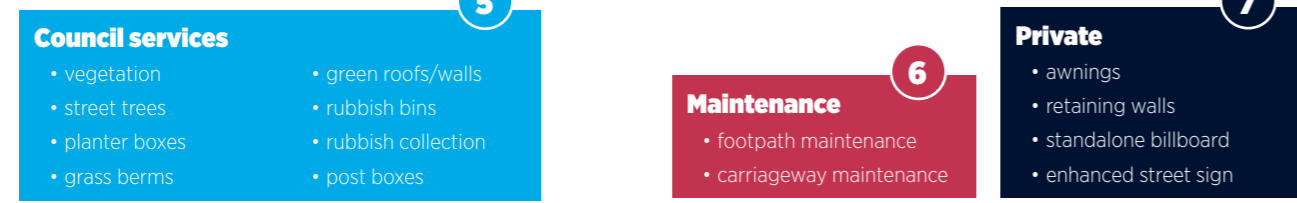
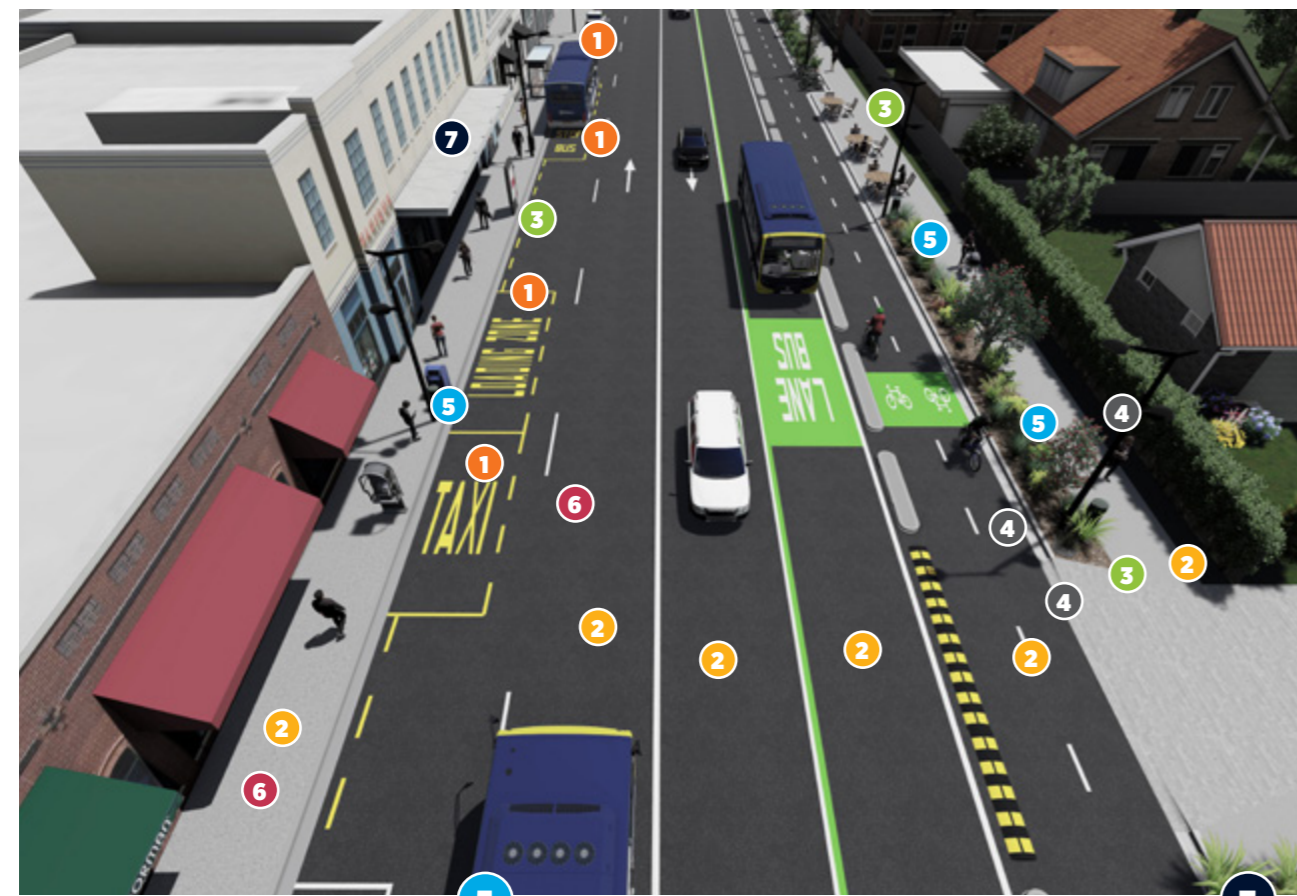
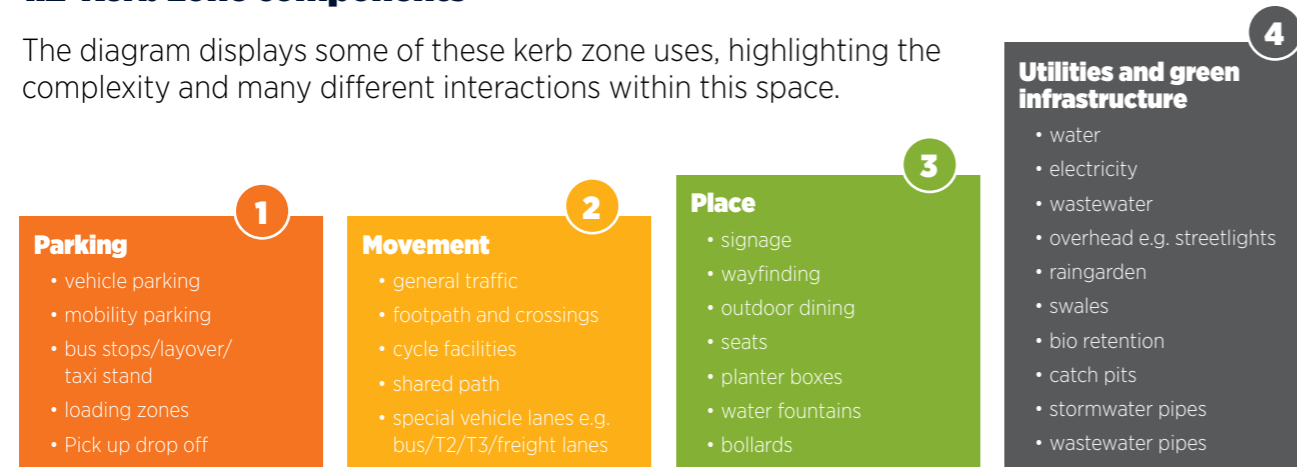
#### The four key kerb zone challenges

- Use of the kerb zone does not align with strategic direction for land use or transport
- Lack of access for goods, services, and passenger pick-ups/drop offs
- The need to rapidly reduce greenhouse gas emissions from transport
- Insufficient space for people on our streets.

# 1. Introduction cont.

## 1.2 Kerb zone components

The diagram displays some of these kerb zone uses, highlighting the complexity and many different interactions within this space.



Function	Location in the kerb zone	Assets	Approval process
<b>1. Parking</b>	Bicycle parking	Footpath/ Carriageway	Bicycle parking racks/hoops
	Scooter parking	Footpath/ Carriageway	Scooter parking stands
	Vehicle parking	Carriageway	Signage/ markings Parking meters
	Mobility parking	Carriageway	Signage/ markings
	Bus stop	Carriageway	
	Bus layover	Carriageway	
	Taxi stands	Carriageway	
Loading bay/ zone	Carriageway		
<p>1. The decision to allocate space to these uses is based on an identified need, including through:</p> <ul style="list-style-type: none"> <li>• Business case</li> <li>• AT minor project (e.g., Road Safety, Traffic Engineering, Parking Design, AT Metro)</li> <li>• Notice of Requirement</li> <li>• Comprehensive Parking Management Plan</li> <li>• Land use application (resource consent, plan change)</li> <li>• TCC Resolution Report</li> </ul> <p>2. Physical changes to the size of the road reserve (e.g., kerbs), or that changes that affect drainage need to receive Engineering Plan Approval (EPA), which is granted by AC.</p> <p>3. Normally at the same time as EPA, all kerb zone uses/assets need to be legalised through a Resolution, approved by the Traffic Control Committee.</p>			
<b>2. Movement</b>	Footpaths and crossings	Footpath	Tactile Ground Surface Indicators (TGSi)
	Shared path	Footpath	Signage/ markings
	Cycle path	Footpath	
	Cycle lane	Carriageway	
	Bus lane/transit lane/freight lane /tram lane	Carriageway	
	Bus way	Separated Carriageway	
	Clearway	Carriageway	
General traffic lane	Carriageway		
Enforcement	Footpath	Enforcement cameras	
<p>1. The allocation of space to these different movement modes is predominantly historical – in that it was just the way they were made. The decision to repurpose the space is based on an identified need, including through:</p> <ul style="list-style-type: none"> <li>• Business case</li> <li>• AT minor project (e.g., Road Safety, Traffic Engineering, AT Metro) or major infrastructure project</li> <li>• Notice of Requirement</li> <li>• Comprehensive Parking Management Plan</li> <li>• Land use application (resource consent, plan change)</li> <li>• TCC Resolution Report</li> </ul> <p>2. Physical changes to the size of the road reserve (e.g., kerbs), or that changes that affect drainage need to receive Engineering Plan Approval (EPA), which is granted by AC.</p> <p>3. Normally at the same time as EPA, all kerb zone uses/assets need to be legalised through a Resolution, approved by the Traffic Control Committee.</p>			
<b>3. Place</b>	Seating	Footpath	Seats
	Dining	Footpath	Outdoor dining (seats, tables, benches)
	Street furniture	Footpath	Water fountains, bollards, planter boxes
	Signage	Footpath	Placemaking signs
	Information	Footpath	wayfinding signs
<p>AT approves.</p> <p>AC approves under the AT bylaw; licensed premises are subject to AC's bylaws as well in which serving an outdoor dining space would need to have an uninterrupted access to the premise.</p> <p>Water fountains, bollards, planter boxes are approved by encroachment licence or authorisation letter.</p> <p>Internal AT signage approval report or external encroachment approval letter</p> <p>AT signage approval report.</p>			

Function	Location in the kerb zone		Assets	Approval process
<b>4. Utilities and green infrastructure</b>	Storm water treatment/green infrastructure and drainage	Footpath/ Carriageway	Raingarden	Raingardens AT own and approve under Engineering Plan Approval
			Swales	
			Bio-retention planting	Stormwater – AC Healthy Waters
			Catch-pits	AT own and approve under Engineering Plan Approval.
			Storm wastewater pipes	Utilities are subject to an AT approval process under their individual acts.
	Overland flow path	Overland flow paths are identified in the Auckland Unitary Plan. Activities that impact an overland flow path may require a resource consent.		
Utilities trenches	Footpath	Underground utility services	Utilities are subject to an AT approval process under their individual acts.	
		Overhead utility services	Utilities are subject to an AT approval process under their individual acts.	
<b>5. Council services</b>	Rubbish collection	Footpath	Permanent rubbish bins	AT approves.
			Weekly/ fortnightly collection bins	AT Traffic Bylaw allows for this. AC Waste Bylaw resolutions can impose conditions.
	Vegetation	Footpath/ Carriageway	Street trees/tree pits	AC arborist approves tree, AT approves tree pit.
			Planter boxes	Approved by encroachment licence or authorisation letter.
			Grass berm	AT approves under Engineering Plan Approval
			Green roofs/ green walls	In the near future, these will be permitted on AT facilities such as bus shelters. AT owns and approves these uses.
Post boxes	AT approves			
<b>6. Maintenance</b>	Access to utilities and drainage, rubbish collection, vegetation and green infrastructure	Footpath/ Carriageway	Assets as listed above.	Approval processes as listed above.
<b>7. Private</b>	Construction	Footpath	Awnings	AT approves under Encroachment License
			Retaining walls	AT approves under Encroachment License
	Advertising billboard	Footpath or berm	Standalone billboard	AT approves under Encroachment License. AC may also approve under a resource consent.
			Enhanced street sign	AT signage approval report

## 2. Challenges and needs

Historically, kerb zone space has been used for pedestrians and car parking by default. But as the needs of Aucklanders change, and the number of ways we use kerb zone space increases, we need to more actively and dynamically manage this space to ensure the best use of the area for Auckland as a whole. Four key challenges have been identified:

- Use of the kerb zone does not align with strategic direction for land use or transport
- Lack of access for goods, services, and passenger pick-ups/drop offs
- The need to rapidly reduce greenhouse gas emissions from transport
- Insufficient space for people on our streets.

These are explored further below.

### 2.1 Our city is growing and becoming more dense

Auckland’s population is expected to reach two million in the early 2030s, with the population expected to increase by 720,000 people over the next 30 years. To accommodate this growth, housing in Auckland is changing, with more infill development, townhouses and apartments being built. This density places greater demand on our street space, from:

- increased loading and servicing demands,
- infrastructure to facilitate more space-efficient modes of transport,
- more rubbish and recycling bins on the street,
- more vehicle crossings and upgrading of utility services, and greater demand for public transport services and on-street parking.

### 2.2 Our travel behaviour is changing, and will need to change more in the future

Over the last 20 years our choice of transport mode has been steadily changing. The *Auckland Plan 2050* directs that in future Aucklanders will need to walk, cycle, and use public transport more to get around and in recent years we have seen far more diversity of modes for all sorts of trips, concentrated around key centres. Furthermore, we will need to change how we travel to meet our climate change targets. The *Climate Change Response (Zero Carbon) Amendment Act 2019* legally binds the New Zealand Government to reach net zero carbon emissions by 2050. Climate change is one of the most significant challenges the transport sector faces. *Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan* targets overall 64 percent reduction in emissions from the transport sector from 2016 levels by 2030. To meet these targets Aucklanders will need to drive less, use sustainable transport modes more, and shift to using electric vehicles (EVs).

### 2.3 People need to be safe when using our streets

AT has adopted *Vision Zero*, stating that no death of serious injury is acceptable on our streets. In 2022 there were 648 deaths and serious injuries on Auckland’s roads (including motorways). Travel behaviours are changing, including increasing numbers of people walking, riding a bike, or using scooters to get around. People travelling by these modes of transport are more vulnerable to injury if they are involved in a crash. The kerb zone is the part of the street that people travelling in these ways often use to get around. These changing travel choices, along with increasing demands for loading, servicing and property access is leading to conflicts within the kerb zone.

## 2. Challenges and needs cont.

### 2.4 The kerb zone should be accessible to all users

There are currently a number of barriers in the built environment which reduce access to the kerb zone for people with mobility needs. Accessible features like smooth pavements; safe, obvious and step-free crossings; legible road layouts; tactile pavers; accessible bus stops; and fit-for-purpose mobility car parks are not available consistently across Auckland. These features allow for more comfortable trips by people pushing prams, people using mobility aids, blind and low vision people and people who have difficulty walking. In many cases, these features eliminate barriers so that trips can occur. These features can also make trips safer for children who may have less understanding of road rules. The need for universally accessible kerb zones will only increase as Auckland's population ages and the number of people who have difficulty walking increases. In particular, given the more frequent changes to the kerb zone in coming years, it is critical that these changes always ensure full accessibility.

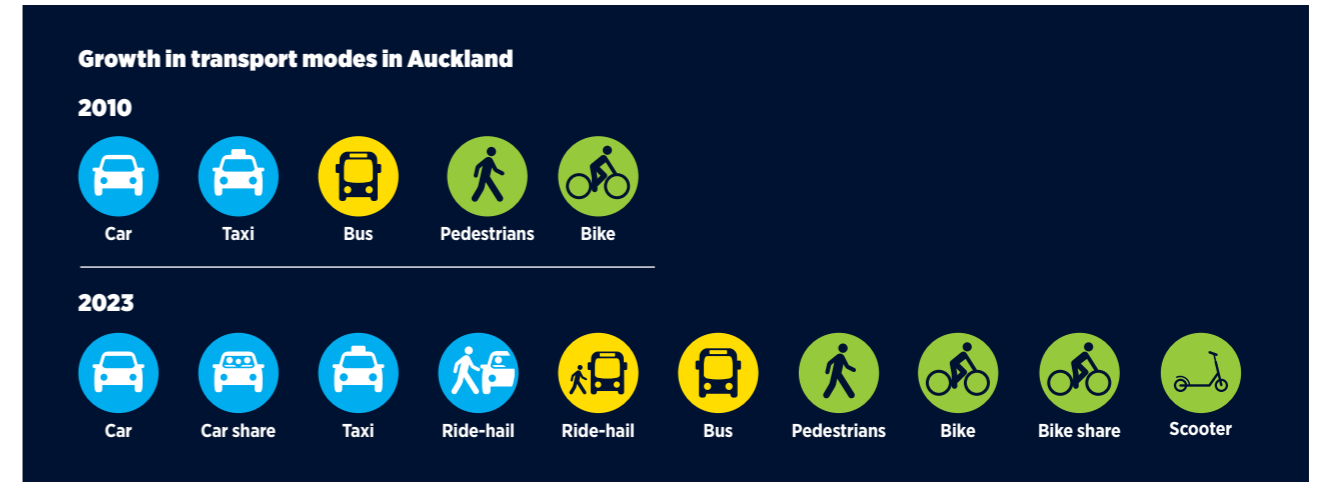


### 2.5 On-demand and shared transport is a rapidly growing part of the transport system

Shared transport options are becoming a greater part of the transport system. Car share schemes provide vehicles that can be hired by the hour, allowing more flexibility for the user, and support lower car ownership. In the last ten years Auckland has gone from one car share operator to multiple, with over 200 vehicles available - including several electric options.

Shared scooters and bikes are already a significant part of the urban transport system. Shared bikes have been operating in Auckland for several years and shared e-scooter and e-bike services were introduced from 2018. On average, there are over 100,000 e-scooter trips and around 7,000 e-bike trips on shared mobility platforms each month. These new modes of transport have placed new demands on how our streets are used.

There has been a huge increase in Aucklanders using on-demand ride-hail services such as Uber and Ola, effectively taking significant share away from historical use of taxis. Some ride-hail providers are exploring new offerings such as car-pool to further expand their portfolio of transport options. Auckland Transport has developed AT Local, an on-demand service to connect public transport customers in the first or last leg of their journey.



### 2.6 How we shop and eat is changing

More people are shopping online and there are over 120,000 courier deliveries per day in Auckland. This has seen a change in business operations for some large retailers in the city centre, who now use their high street stores as distribution centres for online orders. This has increased the amount of goods being picked up and dropped off within the city centre, with much of this activity occurring in the kerb zone. Similarly, food delivery services are becoming more popular, leading to high demand for kerb space near restaurants and cafes, and apartments.

### 2.7 Community health is being affected by the transport system

A large proportion of Aucklanders rely on private vehicles to get around the region, for nearly all their trips. In many cases this is due to a lack of travel options or due to land use decisions which place destinations a long way from homes. Our travel by private vehicle is impacting our physical and mental wellbeing, imposing high travel costs, contributing to poor air quality, and creating noisy and uncomfortable street environments, detrimental to the viability of other modes. This is reflected in the fact that significantly fewer children are walking or riding a bike to school compared to previous generations. Travelling by walking, cycling and public transport can contribute to improved health and wellbeing outcomes by increasing the amount of physical activity we get, as well as improving our social interaction with other members of the community and providing mental health benefits. This is recognised in the *Auckland Plan 2050*, which aims to improve the health and wellbeing for all Aucklanders, by ensuring that streets provide a safe and comfortable experience for people so that they choose to walk and ride a bike more often.



## 2. Challenges and needs cont.

### 2.8 Green infrastructure is increasing in importance

Auckland is expected to experience warmer average temperatures and more frequent extreme weather events associated with climate change. Kerb zone green infrastructure such as street trees, raingardens, swales, and green roofs (e.g., on bus shelters) have potential to help mitigate the adverse effects of climate change. Locating this infrastructure in the kerb zone also has a range of associated benefits that are explained in the *Auckland Urban Ngāhere Strategy*. Benefits include reduction of the heat island effect, providing shade and protecting people walking from UV radiation, improving water quality, absorbing CO<sub>2</sub>, and enhancing visual amenity.

### 2.9 How are other cities dealing with these challenges?

We looked at what other cities around the world were doing to address these challenges. Management techniques used in nine cities across the UK, North America and Australia were reviewed. Key findings included:

- Many cities are experiencing challenges associated with balancing demands for access to the kerb zone
- There is a recognition that the kerb zone can be used to promote equity, efficiency, safety, amenity, and accessibility (through allocation of space) and to build climate change resilience (through the use of green infrastructure)

- Most of the techniques used internationally are already used in Auckland (albeit some infrequently or inconsistently)
- Many of the building blocks and tools needed to support strategic decisions are already in place, including the *Roads and Streets Framework* and *Future Connect*
- The surrounding land use is important when considering how to use space in the kerb zone, noting that land use decisions can largely dictate how the kerb zone space will be used
- Some kerb zone management techniques identified from international research are not permitted under current legislation but are useful innovations which should be examined further
- Using the KZMF, as part of Comprehensive Parking Management Plans/precinct planning, could deliver a coordinated approach across an area.

### 3. How AT proposes to manage the kerb zone

#### 3.1 Kerb Zone Management Framework purpose and objectives

The purpose of the KZMF is:

- to provide a process for identifying the techniques appropriate to the local context, and
- to help achieve AT and Auckland Council’s strategic objectives for the transport system, including the need to decarbonise transport.

The KZMF ties in closely with the *Auckland Parking Strategy* and as such shares similar objectives. In addition to the Parking Strategy principles, four objectives were developed for managing the kerb zone:

- Allocation of space (particularly at times of peak demand) supports the provision of transport choices and focusses on maximising utilisation and access.
- Allocation of space in the kerb zone should support the transition to a low carbon transport system.
- The kerb zone must be safe for all users and changes to the kerb zone should reflect AT’s *Vision Zero* approach to safety.
- The use of the kerb zone should reflect the place value of a location and recognise the role and needs of adjacent land uses.

#### 3.2 The Framework

The KZMF provides guidance on which techniques are appropriate for different contexts. To do this, the KZMF first identifies the particular problem in an area, for example:

- safety issues present for active transport users
- high demand for street parking
- loading and servicing modal priority not reflected in the kerb zone.

The KZMF also identifies the type of land use in that area, for example:

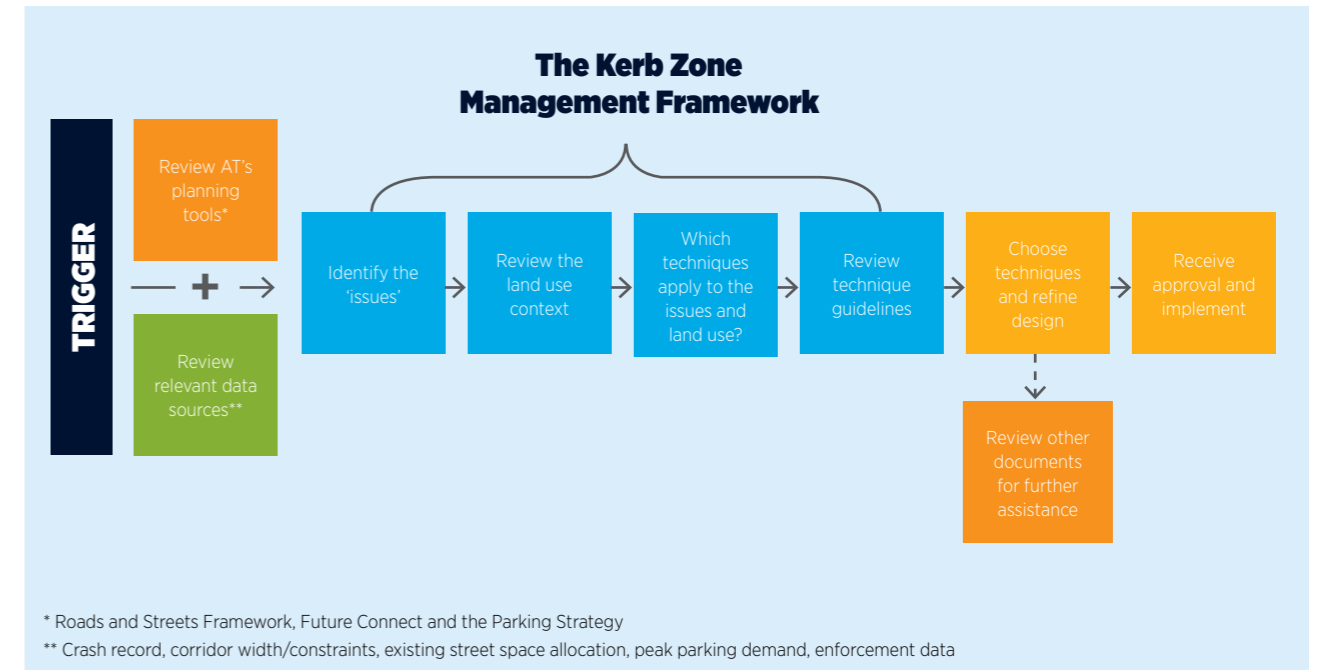
- City Centre/Metro Centre
- High density residential
- Rural.

Each of the techniques is assigned a weighting for how effective they are at addressing each problem and how appropriate they are for each different land use types.

When these are combined, they filter the techniques to show which are the most effective for the particular combination of problem and land use.

Planners and designers will then be able to include space for the appropriate techniques in their street designs to get better use out of our limited kerb zone space.

The following diagram shows the steps in the process.





### 3. How AT proposes to manage the kerb zone cont.

#### 3.3 When would the KZMF be used?

Eight key triggers have been identified which would result in the need to follow the KZMF. The key triggers are shown in the table below.

One key use of the KZMF will be in the development of CPMPs. This will combine it with the existing parking management techniques (e.g. pricing and time restrictions) and together provide a more complete picture of the possibilities for use of the kerb zone space.

Trigger	How is the KZMF used?
<b>CPMP required for an area</b>	The KZMF will be applied as part of the CPMP process. Designer to review KZMF and identify suitable techniques for CPMP.
<b>Place function of a street increases</b>	Designer reviews whether kerb zone changes are needed to support increased 'Place' importance (allocation to public realm, street vegetation).
<b>Peak vehicle parking occupancy exceeds 85%</b>	Designer uses KZMF to see what techniques can be applied as part of a parking management plan or parking project.
<b>A large-scale development is lodged (per the Service Level Agreement with Council for reviewing resource consent applications)</b>	Developer/applicant to use the KZMF to identify kerb zone techniques that will support alternative modes for new residents and reduce parking impacts.
<b>Plan Change is lodged</b>	Developer/applicant to use the KZMF for all plan changes to assist in kerb space allocation to align with strategic objectives.
<b>Enforcement issues (e.g. Number of infringements issued)</b>	Designer to review KZMF and identify any suitable techniques.
<b>Increasing surface area of carriageway</b>	Designers review KZMF and ensure space is allocated for green infrastructure.
<b>Project to repurpose road space</b>	Designers review KZMF and identify suitable techniques that could help achieve the project objectives and AT's strategic outcomes.

### 4. The kerb zone management techniques

The kerb zone management techniques that have been developed by this project and are used in the KZMF are:

- Greening the street
- Loading zone management
- Raised loading zones
- Shared mobility hubs
- Bicycle and scooter parking
- Parklets and placemaking
- Outdoor dining
- Pick-up/drop-off (PUDO) zones
- Widened footpaths
- Repurposing of parking space to install modal priority space
- Waste storage.

This is not an exhaustive list of possible uses of kerb zone space but it is a list of techniques that address some of the common problems and are suitable for application in Auckland. The framework is flexible and can accommodate new techniques as required. Some of these techniques will require further work to develop design standards or to update regulations to enable them.

This section provides further information on each of the kerb zone management techniques to explain their benefits, where they would be most appropriate and summarises the approval processes required to implement the techniques.

#### 4.1 Greening the street

Urban vegetation makes cities more attractive and can make streets more comfortable for people to walk or ride a bike along, or spend time in. Studies show that streets with vegetation and nature present have an uplifting effect and support improved physical and mental health.

Urban vegetation also has the potential to mitigate the impacts of climate change. Auckland is expected to experience warmer than average temperatures and more frequent extreme weather events resulting from climate change. The urban heat island effect will exacerbate these warmer average temperatures, as heat becomes trapped in buildings and roads. Large impermeable areas such as roads and carparks also reduce resilience to flooding events.

Green infrastructure is an approach that uses natural ecosystem functions to provide benefits to people. Kerb zone green infrastructure such as street trees, raingardens, swales, and green roofs (e.g. on bus shelters) can improve the appearance of our streets, reduce the heat island effect, treat stormwater run-off, and encourage people to use active transport by offering shade and comfort. The redesign of streets within the Wynyard Quarter is a great example of using the kerb zone to 'green the street'.

## 4. The kerb zone management techniques



### What are the benefits?

More green infrastructure:

- reduces the heat island effect
- provides shade and protects from UV
- improves water quality
- supports biodiversity
- promotes carbon sequestration
- enhances visual amenity
- encourages people to walk longer distances to local amenities, schools, and public transport (PT)<sup>1</sup>.

### Where is this approach most appropriate?

Applying green infrastructure is most appropriate in these areas:

- City Centre and town centres
- Residential areas.

The table below explains the suitability of green infrastructure in different land use typologies.

	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Green infrastructure	High	High	High	High	Med	Med

## 4.2 Loading zone management

This section is about applying better management of loading zones by using prices or the ability to book space in advance. The next section (**Raised loading zones**) is about the design of loading zones to allow the space to be used by people walking when the loading zone is not in use.

A growing number of people are shopping online and there are over 120,000 courier deliveries per day in Auckland<sup>2</sup>. Similarly, food delivery services are becoming more popular leading to higher demand for kerb space near restaurants and cafes, and housing areas. Planning rule changes brought about by the *National Policy Statement on Urban Development (NPS-UD)* have reduced the requirements for onsite parking and loading in new developments. All of this is leading to increased demand for space on our streets for deliveries.

Loading zones are effective tools for providing space at the kerb to facilitate deliveries. The demand for on-street loading space is very high in places like the Auckland City Centre, and there is a need to explore different ways to support the delivery of goods rather than always using on-street loading zones. Some cities are pricing loading zones to improve management of this resource and recoup some of the cost of providing this resource.



Trucks delivering goods on Chancery Street (Source: MRCagney)

## 4. The kerb zone management techniques cont.

Washington D.C. conducted a pilot programme that introduced pricing on several loading zones. The loading zones were in prime spots and have no time restriction so people can use the loading zones for as long as they need. They have also used technology to show real-time visibility of loading zone occupancy. In addition to pricing loading zones, Washington D.C. have also implemented a system where loading zones can be booked in advance by delivery drivers through a third-party system. Although the proposal to charge commercial vehicles for use of loading zones was initially met with resistance, the city government found that delivery companies were willing to pay for the reliability that the real-time app provides, given the time savings (as drivers do not have to ‘circle the block’ looking for a space) and reduction in parking infringements.



This approach could be applied in Auckland, where better management of loading zones is needed to provide fairness and certainty to courier companies. If possible, these loading zones would be longer in length (25-30 metres) and in duration of stay. Enforcement would be important and technology for enforcement would need to be built in. The system could also be connected to existing technology solutions.

Commercial Bay and Westfield Newmarket have introduced booking systems for their loading docks. This enables them to manage deliveries to ensure that demand is spread across the day. They use an online booking system and Licence Plate Recognition (LPR) cameras to control entry to the loading dock. Consequently, some delivery companies in Auckland are accustomed to the practice of booking their delivery times.

### What are the benefits?

Better loading zone management means:

- Better parking options for delivery drivers
- Safer streets.

### Where is using this approach most appropriate?

The table below explains the suitability of loading zone management in different land use typologies.

Technique	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Loading zone management	High	High	Med	Low	Med	Low

### 4.3 Raised loading zones

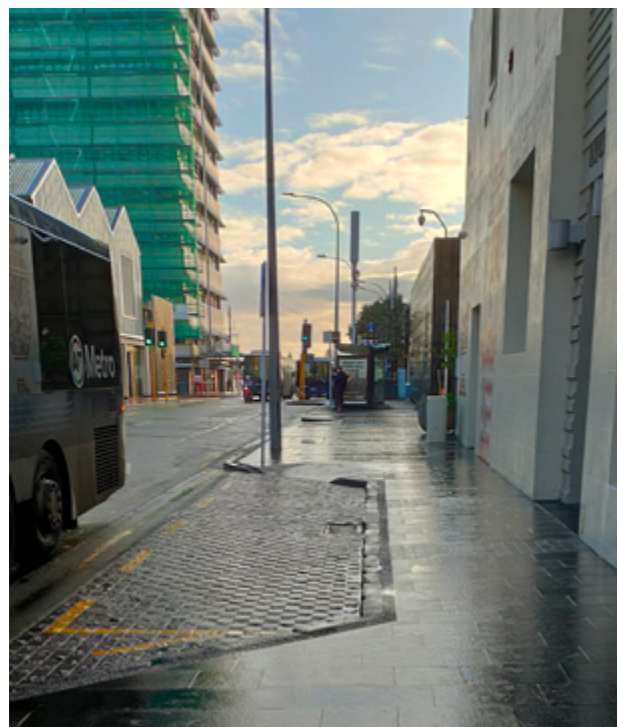
This section is about the design of loading zones to allow the space to be used by people walking when the loading zone is not in use. The previous section (**Loading zone management**) is about applying better management of loading zones by using prices or the ability to book space in advance.

As our city grows, there will be increasing numbers of people walking on streets. Delivery of goods, services and food is also growing, with much of this occurring at the kerbside. This creates conflict between space for people walking and space for deliveries which often results in illegal parking, as can be seen in places like High Street or Fanshawe Street.

Traditionally, loading zones are located alongside the kerb, where regular vehicle parking is located. When parking is removed to make way for bus or cycle lanes, loading zone space is often reduced also. Loading zones are critical for the operation of the city, therefore we need to be innovative in the ways we allocate space for this activity.

## 4. The kerb zone management techniques cont.

A raised loading zone is a loading zone that is level with the footpath pavement, not the carriageway. The loading zone operates during periods of high demand and at other times the loading zone space becomes part of the footpath. In the picture below (left), the loading zone in an indented parking bay on Commerce Street, would be suitable as a raised loading zone. Additional footpath space would be created on this busy street outside of loading zone hours. This type of flexible approach to the use of kerb zone space is sometimes called a “flex-zone”.



Commerce Street, Auckland City Centre showing an opportunity for a raised loading zone. (Source: MRCagney)

Raised loading zones sometimes need bollards or some design element to stop the delivery vehicle from parking on the footpath space, as can be seen in the Brisbane example below (right). It would be preferable to not have yellow line marking in raised loading zones as this may be confusing for people walking when the space is being used as a footpath, although it is recognised that this is required under the *Traffic Control Devices (TCD) Rules*.



Raised loading zone in Brisbane. Between 4pm – 6pm this loading zone becomes footpath. (Source: MRCagney)



Illegal parking on the footpath, Fanshawe Street. (Source: MRCagney)



Raised loading zone in Seattle. (Source: Seattle Department of Transportation)

### What are the benefits?

Raised loading zones would:

- Allow for more loading zone space in areas that have constrained parking
- Allow for more footpath space during busy times for people walking.

### Where is using this approach most appropriate?

The table below explains the suitability of loading zone management in different land use typologies.

Technique	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Raised loading zones	High	High	Med	Low	Med	Low

## 4. The kerb zone management techniques cont.

### 4.4 Shared mobility hubs

The *Auckland Plan 2050* directs that in the future, Aucklanders will need to walk, cycle and use public transport more to get around. In the last 10 years, multiple different transport options have become available to people. These include shared systems offering electric bikes, electric scooters and car sharing. Many of these services are stored or accessed in the kerb zone. Shared scooters and bikes have proved very popular and have become a significant part of the urban transport system. On average there are over 100,000 e-scooter trips and around 7,000 e-bike trips on shared mobility platforms each month<sup>3</sup>. These new modes of transport are aligned with AT's strategic direction and should be allocated space within the kerb zone to encourage the public to use them.



Scooter parking created in a vehicle parking bay on Galway Street, 2021. (Source: MRCagney)

Mobility hubs are dedicated areas for the storing of shared transport options such as bikes, scooters, and cars. Ideally mobility hubs are located near key transport routes so that they can support the uptake of sustainable transport and multi-modal travel. This also allows devices to be stored in a consolidated space, reducing the potential for them to clutter the footpath. By integrating with public transport, they can serve the first leg/last leg component of a trip.

Mobility hubs can also include car share vehicles to give users a wide range of travel options. It is preferable that any car share provided should be electric.

Mobility hubs can range in size, from a small parking space of a few square metres to a larger length of kerb zone space suitable for locating several bikes, scooters, and cars. Mobility hubs can also be located on council owned sites such as public transport stations or car park sites. These hubs may provide information about other transport services (e.g. real-time public transport information).

Mobility hubs should be developed in collaboration with shared mobility providers such as scooter, bicycle, and car share companies. They can also provide useful information on where public demand is for shared mobility devices.

### What are the benefits?

Mobility hubs:

- Support and accelerate better travel choices
- Reduce clutter on the footpath
- Provide first leg/last leg connections to public transport.



## 4. The kerb zone management techniques cont.

### Where is this approach most appropriate?

The table below explains the suitability of mobility hubs in different land use typologies. They are also appropriate outside public transport interchanges.

	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Mobility Hubs	High	High	Med	Low	Low	Low

### 4.5 Bicycle and scooter parking

Aucklanders tell us that a majority of them either cycle, or would cycle if the conditions were right. Electric bicycle (e-bike) sales have been increasing year on year and have extended the range that people are willing to commute by bike. E-bikes are also used for a wider range of activities, including supermarket shopping, due to the assistance they give with heavier loads<sup>4</sup>. Electric scooters have also increased in popularity and are often used as a first and last leg travel option. There needs to be suitable bicycle and scooter parking facilities in all town centres in Auckland to encourage local trips. The focus on addressing climate change will mean that cycling and micro-mobility as a form of transport is likely to increase in Auckland.



Double decker cycle parking in Wellington City Centre (Grey Street). Wellington City Council and advertising company paid half each for install and split advertising revenue by half. (Source: MRCagney)

Bicycle and scooter parking can be located either on the carriageway side or footpath side of the kerb. In areas where the footpath is constrained, space currently allocated for private vehicle parking could be repurposed to bicycle and scooter parking. Bicycle parking is a much more efficient use of space compared to car parking as can be seen in the figure below, where space for 50 bicycles is in the place of two on-street car parks.

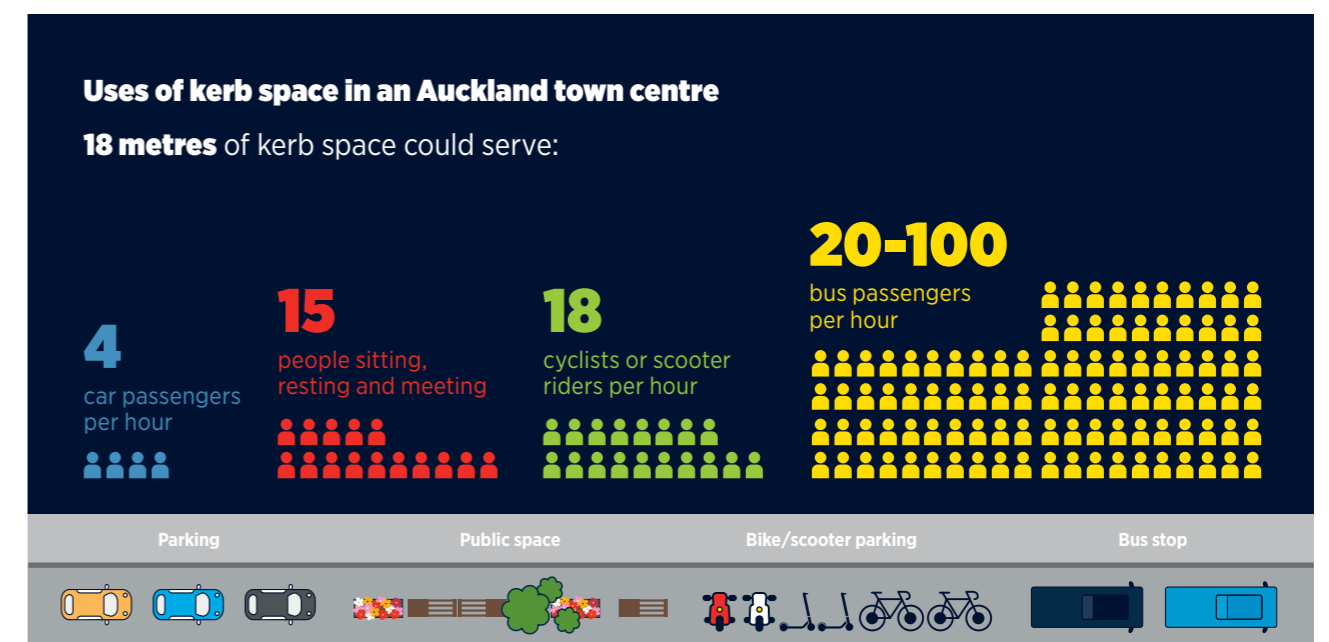


Cycle parking in place of vehicle parking on Ponsonby Road. (Source: Alison Lee Consulting)

### What are the benefits?

Cycle and scooter parking help:

- Support the uptake of active modes especially for short local trips
- Make more efficient use of space.



Graphic showing the potential number of people that can utilise different uses of kerb zone space.

## 4. The kerb zone management techniques cont.

### Where is this approach most appropriate?

The table below explains the suitability of bicycle and scooter parking in different land use typologies.

	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Bicycle and Scooter parking	High	High	Med	Low	Low	Low

### 4.6 Parklets and placemaking

Auckland’s population is expected to reach two million in the early 2030s. A large proportion of this growth is expected to be in existing urban areas, through more infill development with townhouses and apartments. This will increase the number of people on our streets, placing further demands on public space in the kerb zone. Parklets and placemaking, where parking space is repurposed to create more people space by widening the public realm to bring more life and vibrancy to the street, will be an important tool to manage these demands.

Parklets are small public spaces created by repurposing on-street parking space to other uses. Parklets often consist of a raised floor so that the space is level with the footpath. The parklet space usually has seating so that it can be used for people to rest, eat lunch, or meet up with others. Often there will be added elements like vegetation or design features to add visual interest. Parklets often begin as temporary interventions that sometimes lead to more permanent solutions after a trial period. The Lorne Street parklet shown to the right is a good example of



Parklet space on Lorne Street. This was a repurposed parking space that has been in place for many years and is now an important place for people eating, meeting, and resting. (Source: MRCagney)

this, and has become a much-loved part of the streetscape. Parklets need to have appropriate separation from vehicles and are best suited to low-speed environments. A safety audit should be carried out prior to approval.



Modular design parklet in Dunedin City Centre. (Source: Wellington City Council)

Some New Zealand cities, including Wellington and Hamilton, have begun trialling modular parklets that can be moved around the city to test demand in different areas. Hamilton is trialling bike parking parklets, while Wellington is trialling outdoor dining and recreation space. The first step is to develop design guidance for parklets that meet the various requirements for drainage, maintenance etc. The parklets can then be deployed in different centres where they are needed, either as a trial or on a permanent basis.

### What are the benefits?

Parklets:

- Provide additional space for people and an improved public realm
- Reduce congestion on footpaths
- Create more vibrant streets
- Provide the ability for site-specific benefits such as:
  - Increase bike parking capacity
  - Allow for more public seating
  - Increase greenery.

## 4. The kerb zone management techniques cont.

### Where is this approach most appropriate?

The table below explains the suitability of parklets in different land use typologies.

	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Parklets and placemaking	High	High	Med	Low	Low	Low

### 4.7 Outdoor dining

Outdoor dining for cafes, restaurants and bars is an important ingredient in making streets appealing and vibrant. Outdoor dining is associated with many of the world’s great cities, from Paris to Bangkok. Removing on-street parking space to create space for outdoor dining is nothing new in Auckland. The shared space streets in the City Centre achieved this on Fort Street and O’Connell Street. The most notable example is Mission Bay, where local businesses recognised a conflict between the high numbers of people walking, and space for outdoor dining. The predominant land use along the strip of Tamaki Drive is hospitality venues with views across the road to the Waitematā Harbour and Rangitoto. In a joint partnership between AT, Ōrākei Local Board and local businesses, 14 parking spaces were removed, and the footpath was widened to accommodate more greenery and outdoor dining for local venues while retaining space for people to walk. Local businesses saw more value in the kerb zone space as outdoor dining than parking for vehicles.



Repurposing of parking space on Tamaki Drive in Mission Bay. (Source: Ruth Lawton Photography)

During the COVID pandemic many cities around the world have rapidly repurposed parking space to create outdoor people places to help with social distancing. Many of these cities have retained the outdoor dining after the COVID restrictions were lifted after support from the public and businesses. In San Francisco, restaurants and cafes could apply for a permit to take over parking spaces and convert them to outdoor dining. They were also permitted to construct structures to make the space weatherproof and more appealing.

Many streets in Auckland have constrained space on footpaths that limits the opportunity for outdoor dining. Repurposing parking space is one relatively simple way to provide for outdoor dining and could be done as a temporary measure to test the effectiveness and gauge public opinion before becoming a permanent solution.

Removing parking for more outdoor dining should be complemented by measures to improve parking management on surrounding streets and other public parking assets. The *AT Parking Strategy 2023* provides guidance on this.

### What are the benefits?

Outdoor dining spaces bring:

- Added vibrancy and character to the street
- An improved public realm
- Better economic opportunities for local businesses
- Opportunities for creating more greenery on the street.

### Where is this approach most appropriate?

The table below explains the suitability of bicycle and scooter parking in different land use typologies.

	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Outdoor dining	High	High	Med	Low	Low	Low



## 4. The kerb zone management techniques cont.

### 4.8 Pick-up/drop-off zones

There has been a significant increase in Aucklanders using on-demand ride-hail services since their introduction in 2013. These services offer improved customer convenience compared to traditional taxi services, through technology and app features. This is increasing demands on kerb space in busy areas. Safety concerns have also arisen due to customers' expectations of being picked up from anywhere. Because this type of activity is often highly localised and time-period focused, good data is essential to understand the peak demand periods.

A pick-up/drop-off (PUDO) zone is a dedicated on-street parking area which allows for pick-up and drop-off activity for the public, taxis, and on-demand ride hail services. There is no parking allowed (longer than required for pick up or drop off) in a PUDO zone, unlike a taxi stand that allows vehicles to wait for passengers. The location of these zones is important and they should be near busy areas, but not on main pedestrian streets. They should be informed by a transport network plan that manages general traffic away from key pedestrian areas. AT should work with the ride-hail companies to limit pick-ups and drop-offs on key pedestrian streets.

PUDO restrictions can be activated for specific times of the day or days of the week to respond to periods of high demand. Kerb space that is used for loading in the morning might be repurposed to PUDO in the evening.

PUDO zones should have clear signage to inform people where to go and the purpose and function of the area. PUDO areas can also be designated by numbers or names which can be shown in the ride-hail apps. Other design elements can include:

- Shade, shelter, and seating
- Lighting, especially for night-time areas
- CCTV coverage.

Enforcement is important and ideally CCTV cameras are used to allow for 24/7 remote enforcement of the zone. Consideration should be given to Total Mobility services and how they can access kerbside parking near where people want to travel to.

#### What are the benefits?

PUDO zones provide:

- Improved safety by allocating more parking space for this activity and reducing vehicles parking illegally
- Reduced traffic on streets with high numbers of people walking
- More certainty for drivers as to where they can pick-up or drop-off passengers
- More certainty for passengers that they will have a safe place to catch a ride or be dropped off.

### Where is this approach most appropriate?

The table below explains the suitability of PUDO zones in different land use typologies. They are also appropriate outside public transport interchanges and major attractions.

	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
PUDO	High	High	High	Low	Med	Low

### 4.9 Widened footpaths

As Auckland grows and becomes denser, demand for kerb zone space will increase. Many parts of Auckland have inadequate walking infrastructure or space provision in key locations (like in centres or to schools). This particularly impacts younger and older people, and people with disabilities. A symptom of this is the declining rates of children using active modes to get to school, and many people choosing to drive for short trips that can easily be done by walking.

Strategic direction supports mode share to shift towards more sustainable modes. However, the attractiveness and safety of using active modes is diminished by insufficient space being allocated to them.

Local trips to shops and schools are relatively easy to convert from car travel to active mode travel as they are short distances in streets that are familiar to people. Parking lanes could be repurposed on routes through town centres or to schools to create space for:

- Kerb buildouts at intersections to reduce crossing distances
- Extending footpath widths
- More trees or vegetation (people walk further when the street is greened and has shade).

Removing parking outside schools also reduces traffic, making streets safer, and encouraging parents to walk to the school or park further away and walk their children. AT is already doing this in some areas. This also helps to reduce emissions outside schools.

## 4. The kerb zone management techniques cont.



Repurposing of parking space outside Grey Lynn Primary School as part of the Safe School Speeds pilot programme. (Source: Auckland Transport)

### What are the benefits?

Repurposing parking space to improve walking:

- Encourages sustainable mode shift for shorter local trips
- Improves health and wellbeing
- Improves community bonds.

### Where is this approach most appropriate?

The table below explains the suitability of repurposing parking lanes to widen footpaths in different land use typologies. They are also appropriate outside schools.

Technique	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Widened footpaths	Med	High	High	High	Low	Low



## 4. The kerb zone management techniques cont.

### 4.10 Repurposing of parking lanes to install modal priority lanes

Increasing the number of modal priority lanes (such as bus lanes, cycle lanes, freight lanes and T2/T3 lanes) in Auckland will improve the frequency and reliability of our transport network and help AT meet its commitment to reducing Auckland’s carbon emissions. Installing more modal priority lanes on the network in the kerbside lane to replace car parking means that flow of traffic will be prioritised over private car storage. This will make travelling by these modes faster and more reliable, and therefore more desirable. This in turn will increase the number of people using these modes and decrease the number of people using their cars, which has positive impacts for all travellers.

Note that modal priority lanes can be installed on a timed basis, so that when they are not needed other uses can occur, like parking - making the kerb zone more dynamic and fit for purpose.

#### What are the benefits?

Repurposing parking space:

- Makes movement for other modes faster, safer and more reliable, encouraging mode shift
- Reduces time AT buses, bicycles and other modes spend sitting in traffic
- Allows for higher frequency bus services because faster buses can complete more trips in a day.

#### Where is this approach most appropriate?

The table below explains the suitability of modal priority in different land use typologies.

	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Modal priority space	High	High	Medium	Low	Low	Low

### 4.11 Waste storage

Rubbish, recycling, and food waste collection usually occurs on the footpath. Auckland is rapidly intensifying, which will result in more rubbish, recycling and food waste bins on suburban streets. This growth also increases the amount of people walking, cycling, and using micro-mobility transport options, increasing the conflicts between people and private bins on the footpath. In our town centres, some rubbish and recycling collection is managed by private companies who pick up from the footpath. This creates considerable impediments for people walking or using mobility devices, and is often unsightly. Bin storage can also conflict with passengers waiting at bus stops.



Rubbish left on the footpath on High Street. (Source: MRCagney)



Narrow, constrained footpath on St Georges Bay Road, Parnell. (Source: MRCagney)

Rather than utilising footpath space, on-street parking space can be repurposed to locate waste and recycling ready for pick up. In commercial areas, this could be through designs where rubbish and recycling can be left in a container bin located in a repurposed parking space, rather than scattered on the footpath, as shown in image from High Street (above). In dense residential areas, this could be done through repurposing on-street parking space to install a platform where waste and recycling bins can be left. New high density developments should manage their waste and recycling systems onsite. However, in areas where subdivision is common, bin storage is often difficult for collection companies due to the number of bins and high numbers of vehicles parking on the street. Vehicle parking is also a problem for street cleaning services.

## 4. The kerb zone management techniques cont.



### What are the benefits?

- Improved walking environment by relocating rubbish and recycling bins and bags from narrow footpaths.
- Improved street amenity by removing unsightly and smelly rubbish from the street.
- Improved accessibility for people with mobility needs
- Fewer obstacles and safer walking and cycling on shared paths.

Narrow, constrained footpath on St Georges Bay Road, Parnell. (Source: MRCagney)

### Where is this approach most appropriate?

The table below explains the suitability of waste storage in different land use typologies

	City Centre and Metro Centres	Other Centres and Mixed Use	High Density Residential	Low Density Residential	Industrial	Rural
Kerb zone waste storage	High	High	High	Low	Low	Low



