STREET DESIGN MANUAL FOR PALMERSTON NORTH

AUGUST 2013


FAU626

Cuba Street, Palmerston North

Design and Layout: **Print Synergy | Palmerston North City Council**
3D Street Rendering: **Boffa Miskell**
3D Street Models: **Boffa Miskell & MWH**
Photographs: **Palmerston North City Council**
Maps: **Palmerston North City Council**

Introduction

The Street Design Manual is an initiative from the Urban Design Strategy. The Strategy identified priority areas to focus on. These were the city centre, the Manawatū River, street design, structure planning of growth areas, embedding design criteria in the District Plan, and placemaking.

This document consists of three parts:

1. **Introduction and the strategic context**
2. **Setting out the approach to Street Design**
3. **Making it Happen**
4. **Street Design Guidelines**

Background

The Palmerston North street network is widely recognised as having a strong grid layout and wide streets. Less recognised is the historical investment in improving streetscapes - a strong street tree planting programme and the undergrounding of overhead power lines.

Provision of pedestrian footpaths, grass verges and cycling lanes all contribute to the quality of the streetscape.

The Street Design Manual sets out the design philosophy and vision for Palmerston North streets. A set of standard designs will ensure a consistent and coherent network is designed that balances the needs of all street users and aesthetics.

The challenge is to take street design to the next level; streets for people that are context-sensitive, attractive, and financially sustainable.

Aim of this document

To clearly communicate the design vision for Palmerston North streets.

To introduce the road-user hierarchy into street design.

To set out the principles and techniques for a coherent and consistent street network.

The Square, Palmerston North

Status of the Street Design Manual

Palmerston North is well-placed to be a sustainable city, but for the City to be recognised as a vibrant, caring, innovative and sustainable city it needs to change dramatically.

The Sustainable City Strategy sets out a framework that allows this change to happen. The purpose of the Sustainable City Strategy is to ensure linkage between the Council goals in the Long Term Plan, the work of individual units within the Council and the Council's aspiration for Palmerston North to become a sustainable city.

The Strategy identifies key drivers that impact on environmental, economic and social development in the City. The Urban Design Strategy is a significant component of the Sustainable City Strategy. It provides direction to much of the activity in the City, such as the design of public places, new subdivisions and redevelopment of unused or vacant sites. In addition, the Urban Design Strategy supports co-ordinated action on public transport, climate change and other multifaceted action areas.

Other strategies are integrated with the Urban Design Strategy through the strategic framework. The Street Design Manual will deliver action that is directly related to the Cycle Action Plan, and the Manawatu Active Transport, Active Recreation, Safe City, Recreation, Biodiversity, Economic Wellbeing, Social, and Parking Strategies. The Street Design Manual is one of eight urban design initiatives.

The Street Design Manual translates strategy outcomes into a cohesive vision that will be integrated into asset management, and prioritised and funded through Long Term Plans. It will also inform the District Plan Review, and Review of the Engineering Standards for Land Development.

This manual provides design vision for Palmerston North streets. It does not take the place of NZTA standards or requirements, or other technical standards (NZ/A Standards, or Austroads).

Pioneer Highway, Palmerston North

Strategy Framework

COUNCIL VISION
vibrant | caring | innovative | sustainable city

Sustainable City Strategy

Identify Outcomes & Focus Areas

Urban Design Strategy

Other Strategies

Translate Strategy to Action

- UDS Initiatives
- City Centre Framework
- Manawatū River Master Plan
- Street Design Manual
- Placemaking
- Structure Plans
- District Plan Design Criteria
- Delivering Change
- Urban Design Tools

Other Strategic Initiatives

Manage

Asset Management Plans

Prioritise & Fund

Long Term Plan

Identify Outcomes & Focus Areas

Translate Strategy to Action

Urban Design Strategy

Street Design Manual

Approach to Street Design

- STREETS FOR PEOPLE
- MOVEMENT AND PLACE
- NATURE IN THE CITY

Informs design and redesign of street environments

Making it Happen

Street Design Guidelines

- CITY CENTRE ENVIRONMENT
- COMMERCIAL ENVIRONMENT
- RESIDENTIAL ENVIRONMENT
- INDUSTRIAL ENVIRONMENT
- RURAL ENVIRONMENT

Illustrates the physical qualities of the street environments

WHEN THE SDM WILL BE USED

- Private Development
- Council Projects
- Resource Consents
- Street Renewals & Upgrades
- Placemaking
- Asset Management Plans
- Long Terms Plans

WHO SHOULD USE THE SDM?

- Property Developers
- Property & Land Owners
- Consultant & Council Engineers, Designers & Planners
- Asset Managers
- Retailers & Businesses
- NZ Transport Agency
- Safety Advisory Board
- Destination Manawatu & Vision Manawatu

George Street, Palmerston North

Delivering on the Urban Design Strategy

The Urban Design Strategy presents a vision for the physical development of Palmerston North to transform the city into a vibrant, caring, innovative, and sustainable city.

The Sustainable City Strategy, Urban Design Strategy, Manawatu Active Transport Strategy, and Cycle Action Plan all recognise that streets are not just about the efficiency of movement.

The Urban Design Strategy sets out the objectives for the Street Designs Initiative:

- For the City's main entrances and routes to create a good impression
- To provide a catalyst to move away from car-dominated streets and provide a balance for all street users and aesthetics.

The Cycle Action Plan sets out the aspiration for Palmerston North to be the best place to ride a bike in New Zealand. The Street Design Manual delivers on the Plan by introducing the Road-User Hierarchy in Council strategy.

The following Urban Design Strategy drivers and sub-drivers are most relevant to the Street Design Manual.

DRIVER	SUB-DRIVER
PUBLIC REALM	Making places people-friendly and inviting
	Ensuring coherency in design
	Actively managing and maintaining the City's public spaces
	Welcoming and memorable entrances to the City
	Creating a vibrant city centre
DIVERSITY	Promoting a mix of uses
	Vibrancy – lots of things going on
	Vitality – people on the streets
	Versatile and adaptable buildings and spaces
	Providing choices of living spaces and lifestyles
CONNECTIVITY	Well-connected multipurpose streets and spaces
	Easy way finding
	Easy access to transport and facilities
CHARACTER	Creative city making
	Expression of Rangitane culture in the City
	Strengthening the City's identity and culture
	Active promotion of heritage, key buildings and places
	Celebrating iconic architecture
ENVIRONMENTAL	Investing in biodiversity and green infrastructure
	Low-impact urban drainage systems

The Urban Design Strategy identifies these specific sub-drivers for street design.

Sub-Driver

Welcoming and memorable entrances to the City

Sidewalk of Rodeo Drive at night, Los Angeles, California, USA.

The four main avenues into the City and the urban ring-road create a good first impression through:

- **private development contributing high quality frontages to the avenues and boulevards**
- **street tree planting and varied shrub planting**
- **lighting**
- **public art**
- **street furniture**
- **provision for all users**

The airport, bus facilities, and rail station and routes to these City entrances create a good first impression.

Sub-Driver

Well-connected multipurpose streets and spaces

Commercial Street in Grasse Provence, France.

Streets fit their context

Streets within neighbourhoods form an interconnected network, and are well-linked to other neighbourhoods.

Street design creates attractive living environments for residential areas.

People are prioritised over cars in street designs.

Streets and places in the urban area cater to all users through 'universal design'.

Street design contributes to a healthy population by creating invitations for people to use active transport.

Approach to Street Design

CONTEXT

Street design is about more than cars, parking and getting from 'point a to point b' as quickly as possible.

The approach to street design in Palmerston North is summarised by three design objectives:

STREETS FOR PEOPLE: introducing a road-user hierarchy approach;

A MOVEMENT AND PLACE APPROACH: context-specific design; and

NATURE IN THE CITY: streetscapes that contribute to the aesthetics and biodiversity of the city.

The Urban Design Strategy makes reference to drivers, changes to be made, and urban design initiatives. These highlight the importance of our street network in the City. Not only do streets serve as important movement corridors for vehicles, public transport, cyclists and pedestrians, but they also play a crucial role in creating a vibrant, caring, innovative and sustainable city.

This approach is in keeping with current best practice (for example the UK Manual for Streets, the City of Chicago Complete Streets Guide, and New Zealand Standard NZS4404:2010 Land Development and Subdivision Infrastructure, and recent movements in street design (including Living Streets, Complete Streets, Context Sensitive Street Design, and Reclaiming Streets).

The above objectives encapsulate the overarching design intent; however there are other design constraints that will always be considered. These include:

- The role of the street as a utility corridor and the needs of network utility operators;
- The status of existing infrastructure and good asset management principles; and
- Previous design decisions, for example varying carriageway widths.

The overarching design objectives do not replace the various technical standards used for street and road design. However, they will deliver a more standardised set of design across the City; Residential collector roads should have a similar design approach.

Paris, France

Approach to Street Design

DESIGN OBJECTIVE 1:
Streets for People

The Street Design Manual introduces a road-user hierarchy approach where people are prioritised over vehicles. Streets designed for people first will create a lively, safe, sustainable and healthy City.

The Urban Design Strategy sets out a clear direction that the approach to street design must provide a catalyst to move away from car-dominated streets and provide a balance for all street users and aesthetics.

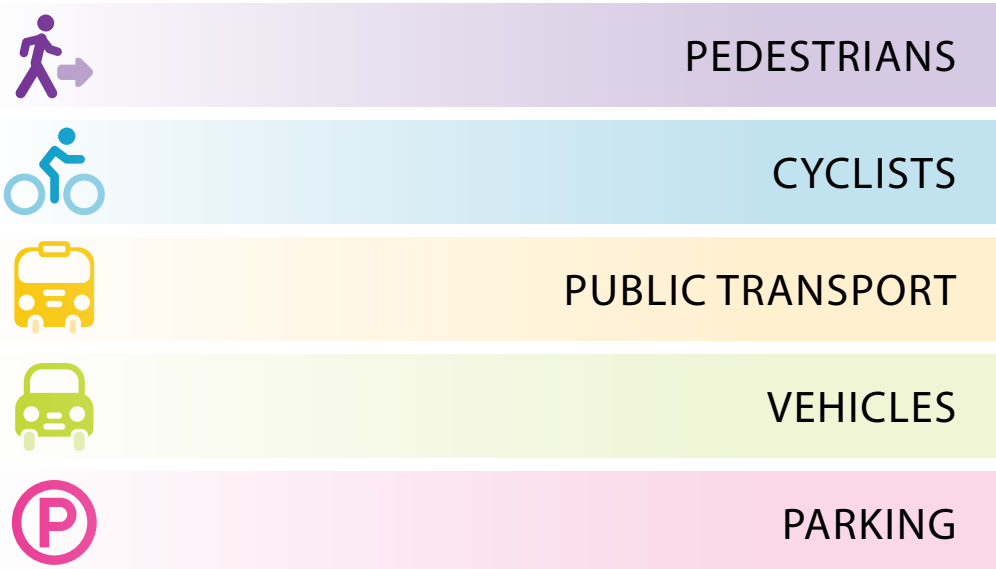
The tool to help achieve this transition is to introduce a road-user hierarchy.

This approach means designing for people first; including the most vulnerable; children, the elderly and people with disabilities.

The road-user hierarchy also gives cyclists a high priority. This ensures that Council achieves its goal for the Manawatū to be the best place in New Zealand to ride a bike.

This design approach recognises that most streets must accommodate a range of users, who often have conflicting requirements. Identifying, understanding and working to incorporate and balance the needs of all road-users at the beginning of the process is critical.

Road-User Hierarchy



DESIGN OBJECTIVE 2: A Movement and Place Approach

The Urban Design Strategy drivers and sub-drivers state that streets should provide for easy way finding and streets fit their context. This requires a categorisation of the street network to ensure a consistent and coherent approach.

A different design response is needed depending on whether the street is a local road, collector or arterial route, and depending on its spatial location. This may be the city centre, an industrial area or a residential neighbourhood.

Implementing this approach presents its own set of challenges as streets cut through different city environments. An example is College Street which traverses through both residential areas and the Pitama Road shops.

In cases where a street forms a 'boundary' between environments (for example residential and industrial zone properties) the more sensitive environment should be used as a start point for design.

Consistency in Street Design

The SDM consists of design principles and techniques for street types that are sensitive to the land use context. These are categorised as:

CITY ENVIRONMENT	STREET TYPE
CITY CENTRE	Place (2 Street Types) Place/Movement Movement (Ring Road)
COMMERCIAL	Arterial Collector Local
RESIDENTIAL	Arterial Collector Local
INDUSTRIAL	Arterial Collector Local
RURAL	Rural

Approach to Street Design

DESIGN OBJECTIVE 3: Nature in the City

The third design objective necessary to give effect to the Urban Design Strategy is to focus on the aesthetic side of street design. While this includes street lighting and furniture, the priority is around street tree planting, recognising the significant contribution this makes to the overall aesthetics of the City.

The City has benefited from a dedicated street tree planting program over the years. Yet not all streets have vegetation, including some of the major and minor arterial routes and main entrances.

Retaining, enhancing and adding to the city's green infrastructure has a number of benefits. Street trees and vegetation provide an important visual and ecological resource, moderating climate, creating shade and giving scale to mediate between human and built environments. Street trees may also help mitigate the effect of different land use activities.

At the same time, planting within the road reserve presents its own set of challenges, particularly managing the impact of tree roots on the functioning of underground utility networks and the durability of street surfaces.

The choice and design of planting will vary depending on the street environment – whether city centre, residential or a rural location.

However, the main elements of planting in the street corridor include:

- Street Trees
- Shrub and small scale planting
- Informal vegetation
- Grassed berms

A Biodiversity Strategy was approved in 2013 that will lead to increased planting around the city, continue and increase pest control, actively promote biodiversity, and protect and restore the city's terrestrial and aquatic biodiversity. An important outcome of the strategy is the development of a city-wide vegetation framework.

Low Impact Design & Hydrology

The Urban Design Strategy also places priority on low impact methods of stormwater management. This approach is of significance to street design as the network has a high percentage of impermeable surfaces, presenting both challenges and opportunities. The network also often has the function of a secondary stormwater system in times of flooding.

In addition to vegetation, hydrology (and the way we manage it) plays an important role in the street network. The quality and quantity of stormwater runoff and inundation directly affects the function of street network and indirectly the Manawatū River.

Development (particularly in the city centre) provides opportunities to integrate stormwater management systems within landscape and urban design objectives.

Stormwater design should seek to reduce and treat stormwater runoff, while also raising awareness of naturally occurring processes in the catchment.

It is anticipated that low impact design approaches in the developed landscape will contribute significantly to the amenity of the built environment and help create a unique sense of place.

Street Design | Summary

Arterial

City Centre

1. City Centre Movement Street
2. City Centre Movement / Place Street
3. City Centre Place Street 1
4. City Centre Place Street 2

Commercial

1. Commercial Collector
2. Commercial Local

Residential

1. Residential Collector
2. Residential Local

Industrial

1. Industrial Collector
2. Industrial Local

Rural

Making it Happen

IMPLEMENTATION ACTIONS

- **Engineering Standards for Land Development**
- **2nd generation District Plan**
- **Current LTP-funded Council projects**
- **Review of Asset Management Plans**
- **Funding and prioritising catalyst projects through next LTP**
- **Future LTPs**

This document provides the vision for design of streets. Making it happen means changes to plans, standards, and how projects are funded.

The Palmerston North street network has developed over the last 150 years. Road assets have a design life of 80 to 100 years, and therefore implementing the Street Design Manual will take place incrementally. Progress will largely be dictated by the timing of asset renewals and available funding. Implementing the Street Design Manual is the responsibility of Council (renewals and upgrades to the existing street network), and private development (new subdivisions and constructing new streets). The Street Design Manual establishes a shift in thinking about Street Design. These changes now need to be embedded in Council Plans and projects.

Engineering Standards for Land Development

The Engineering Standards for Land Development is the technical manual that sets out the minimum design and construction standards for roads. This includes both Council projects and private new development. A review of the Engineering Standards will ensure these are aligned to the design approach of the Street Design Manual.

District Plan

The Engineering Standards are being reviewed in conjunction with the District Plan to ensure these two documents align. The Sectional District Plan Review includes a review of the Subdivision and Transportation sections that specifically relate to street design. Where Structure Plans are created these should make reference and give effect to the Street Design Manual.

Current LTP-funded Council projects

A number of major roading projects are outlined in the 2012 Long Term Plan (LTP). Opportunities exist with these to test and trial the vision of the Street Design Manual and identify cost and funding implications.

Review of Asset Management Plans

The Asset Management Plan (AMP) process provides an interim step between the Street Design Manual and the LTP. This has implications for the next AMP in terms of the significance placed on pedestrians and cyclists and street aesthetics. The Street Design Manual also enables the standardising of street design in Palmerston North, and an opportunity to illustrate renewal and upgrade projects.

Funding and prioritising Catalyst projects through next LTP

Funding and prioritisation of projects will take place through the next LTP. The financial position of the Council is a major driver in how quickly the catalyst projects will be delivered. The Urban Design Strategy prioritises the major entrances as needing improvement. The opportunity exists to target funding to key projects that will have significant public impact - for example street tree planting of Featherston Street.

Future LTPs

Over the 10 to 20-year horizon the future LTPs will be able to react to further implement the Street Design Manual as streets come up for renewal and upgrade opportunities. Review and update of the Street Design Manual will be a critical part of keeping the Manual live and relevant.

The Square, Palmerston North

Street Design Guidelines

This section of the Street Design Manual provides design guidance for the different street environments.

Palmerston North's street network has been summarised into street environments in line with the Movement and Place design objective.

The street environments are not templates, but provide a reference point for the start of any project involving street design.

These guidelines should be used when:

- Designing a new street
- Evaluating priorities between street users when responding to complaints and requests.
- When infrastructure requires renewal or replacement.

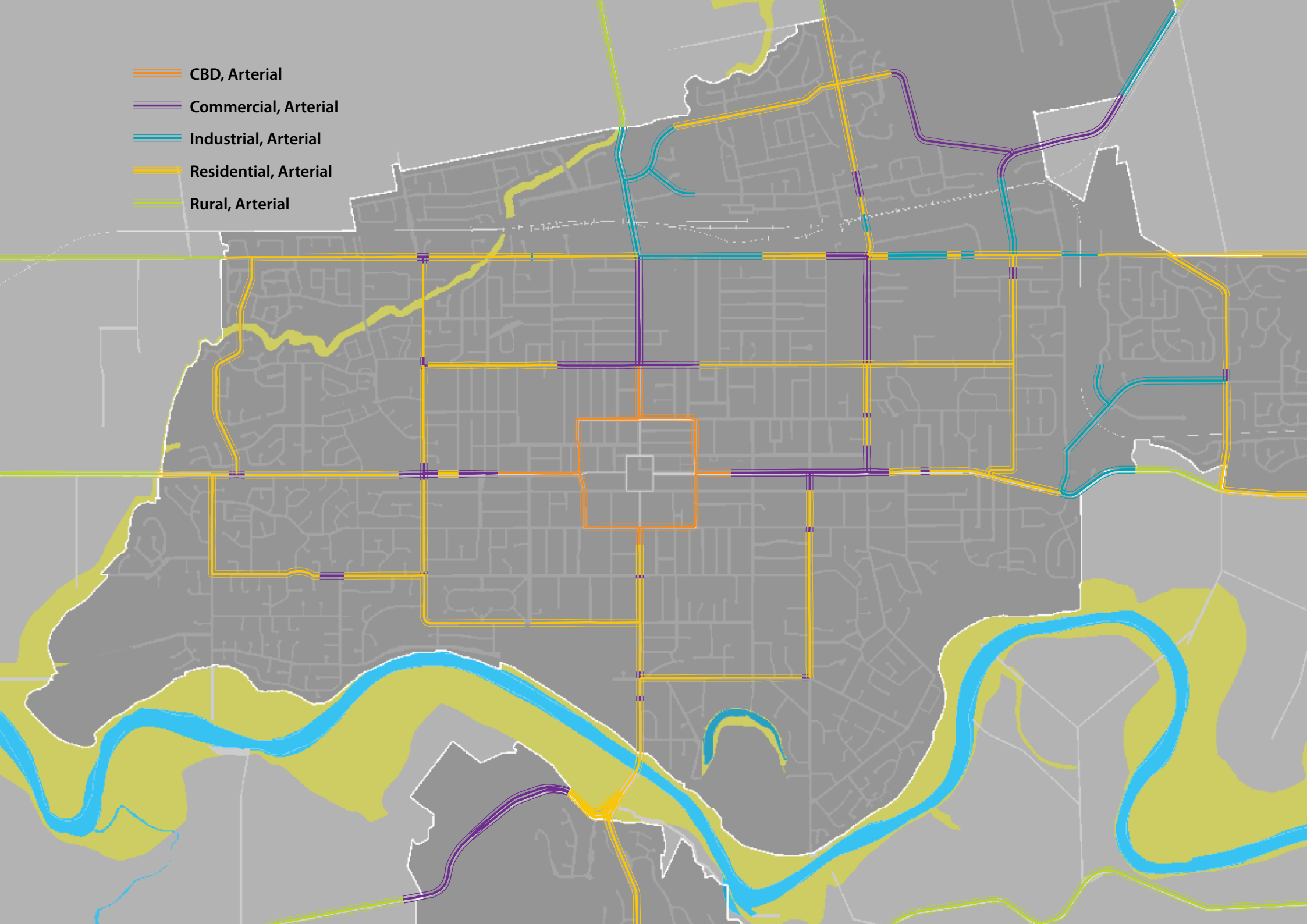
To help convey the design intent, each street environment contains:

1. **Introductory text, oblique 3D image and a quick reference table**
2. **Network image showing where in Palmerston North the design applies**
3. **Plan and section view**

   Images of the street environment help illustrate the design outcomes. The images show one way of giving effect to the overarching design objectives and the specific purpose and principles of the street environment.
4. **Design Principles and Techniques table**

   Recommended principles and techniques table for achieving the overaching design objectives.

Broadway Avenue, Palmerston North


CBD, Arterial
Commercial, Arterial
Industrial, Arterial
Residential, Arterial
Rural, Arterial

Arterial

Arterial

Arterial

Description

Routes of strategic importance to the region.

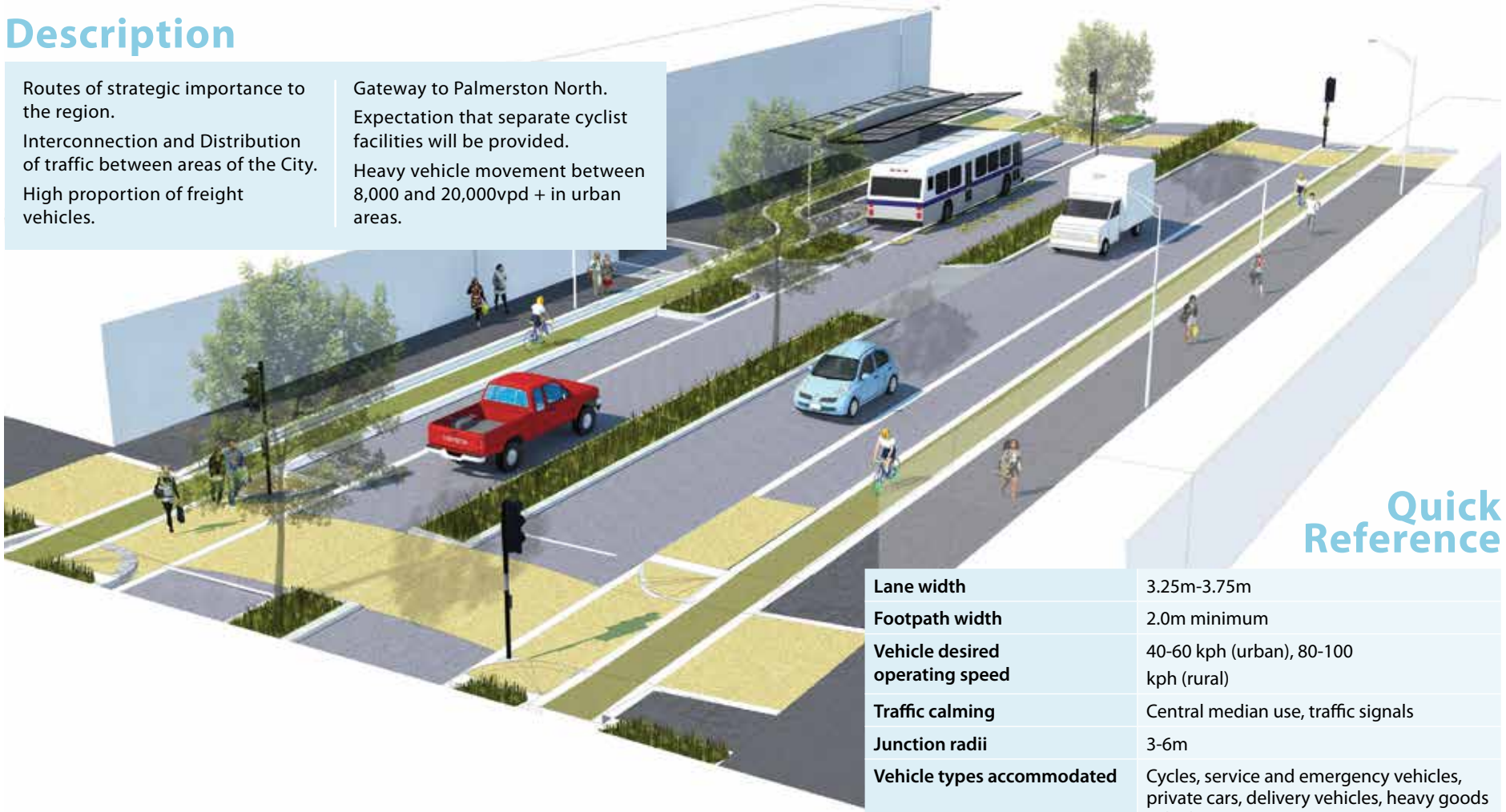
Interconnection and Distribution of traffic between areas of the City.

High proportion of freight vehicles.

Gateway to Palmerston North.

Expectation that separate cyclist facilities will be provided.

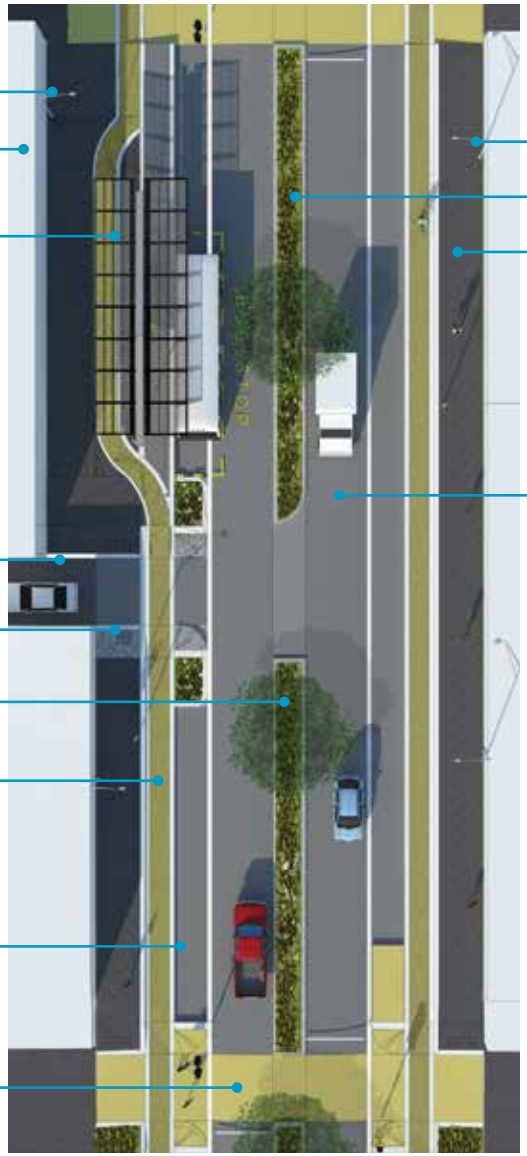
Heavy vehicle movement between 8,000 and 20,000vpd + in urban areas.

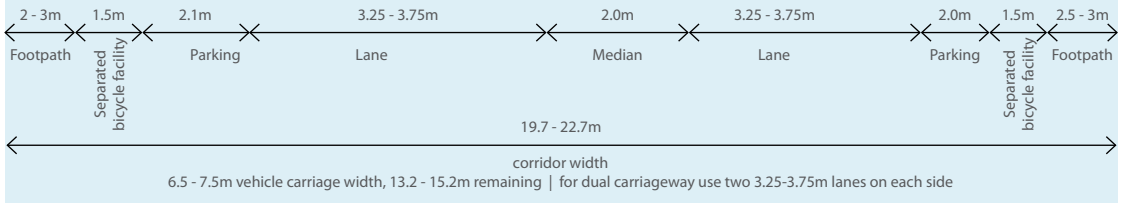


Quick Reference

Lane width	3.25m-3.75m
Footpath width	2.0m minimum
Vehicle desired operating speed	40-60 kph (urban), 80-100 kph (rural)
Traffic calming	Central median use, traffic signals
Junction radii	3-6m
Vehicle types accommodated	Cycles, service and emergency vehicles, private cars, delivery vehicles, heavy goods vehicles
On-street parking	2.1m wide parallel parking in bays to both sides of the street where achievable.
Street trees	On both sides of the street

Plan & Cross Section





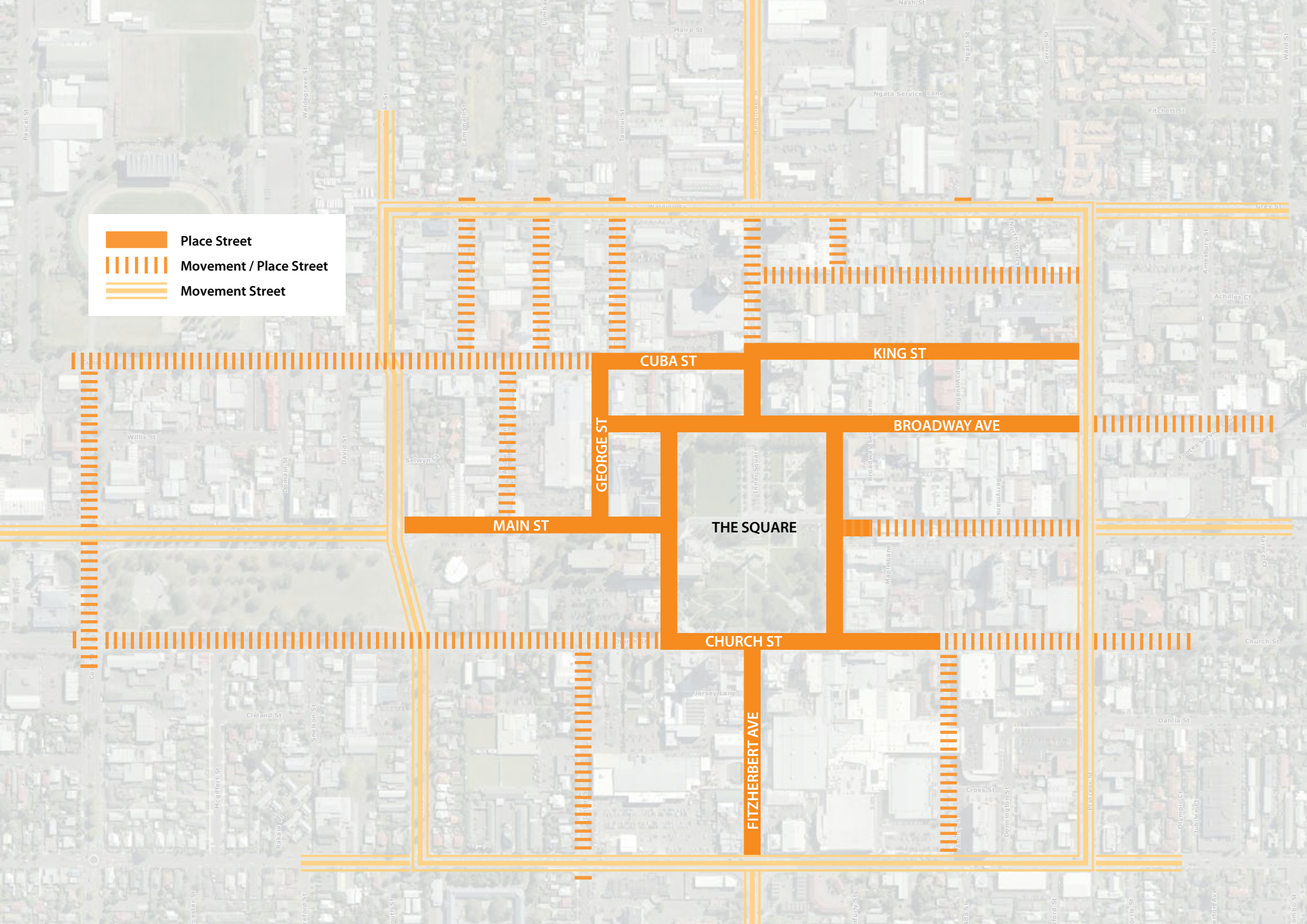
Illustrative of possible outcome. All designs will be subject to appropriate design standards.

Arterial

	Purpose and Principles	Techniques
 PEDESTRIANS	Pedestrians are low to moderate users of arterial streets. Arterial streets provide access between collector and state highways and are dominated by vehicle movement. The design of the street should facilitate safe, easy pedestrian movement and provide safe access and connectivity between key land uses, e.g. house and school and shops. Passive surveillance of the street is important. Pedestrian amenity should be of moderate to high value, the streetscape needs to be in keeping with the context of the surrounding environment and land uses. Connectivity between streets, local services and surrounding features shall be encouraged. There is a need to provide regular, safe and controlled crossings. Discourage crossing the arterial road in places other than controlled crossings.	Relatively wide footpaths (2m minimum) shall be used on both sides of the street. Surfaces shall be even, stable, durable, slip resistant, non-glare, well lit, and be of a colour that provides a background setting to the street. Network utility infrastructure should be located to the edges or off the footpath. Footpaths shall be tidy and free of signage, street furniture and other obstacles that overly impedes the passive surveillance of pedestrians. Kerbs and channels shall be used to delineate the footpath area. At grade controlled crossing with pedestrian signals and traffic control shall be used. Crossings shall include three courses of red blister tactile paving units and a 'tail' extending across the width of the footpath. All controlled crossings shall have pedestrian signals and traffic control. Pram crossings should be located at no greater than 100m apart on longer pedestrian routes.
 CYCLISTS	Cyclists are heavy users. There is a need to encourage and provide for safe and efficient cyclist usage. Cyclists should be separate from pedestrians and have a dedicated facility. Some visible, efficient cycle parking could be provided to assist with end of trip.	Separated Bicycle Facilities shall be provided. Separated Bicycle Facilities shall be: • For the exclusive use of cyclists; • Physically separated from other users; • At a continuous grade with either the footpath or lane; • Separated from the carriageway; • Located between the footpath and any parking areas; • Provided with a buffer area (e.g. 500mm – 600mm) to ensure that people opening car doors etc. within parking areas do not impede the movement of cyclists; • Prioritised at accessways and intersections; • Of colour contrast with footpaths, parking bays and carriageways; • Either one lane of at least 1.5m width, either way on both sides of the corridor or two lanes of at least 3m width (total) on one side of the corridor. At intersections, corners, and where identified in cycling strategy, cyclist priority techniques (e.g. advanced stops, cycle lane marking and bicycle lane separators at intersections) shall be used to delineate cycle space. Incorporate free-standing stands that are easy to lock a bike to.

Arterial

	Purpose and Principles	Techniques
VEHICLES	Users are encouraged by street design to travel at the speed limit. Arterial roads may be preferred thoroughfares for heavy vehicles. Needs of emergency and service vehicles are to be accommodated. Provide for safe and convenient access for freight transport, courier vans and articulated trucks. Provide for safe and convenient access to short and long term parking in properties. Provide safe and convenient movement and access for private vehicle users. Frequent bus stops shall be provided.	Carriage widths should be between 3.25 and 3.75 metres. Maintain driver sight lines. Desired operating speed shall be 40-60kph in urban areas and 80-100kph in rural areas. Turning radii at intersections should be 3 - 10m (to be confirmed by engineering design). Consultation with emergency and service vehicle providers shall be undertaken during the design and construction process to ensure requirements are provided for. Access to the rear of properties shall be provided for staff parking, longer-term customer parking, delivery and pick-up. Some predominantly short term 30-120 minute parking should be provided on-street. Parallel parking at the sides of the carriageway should be 2.0m wide. Bus Stops shall include road marking, shelters and relevant signage in conjunction with lighting along public transport routes. Raised kerbs, electronic displays, lockable cycle shelters are examples of other features that could be provided.
STREET FURNITURE & SOFT LANDSCAPING	Use street tree planting to promote streetscape values, character, provide amenity, shade and shelter. Trees add important greening to urban streets. Promote the use of low planting to provide storm water infiltration and bio-retention functions. Street furniture should contribute to streetscape quality. Street furniture needs to be comfortable, usable and located well. Street furniture needs to be positioned to promote safe and convenient movement and access for all street users. Provide functional and aesthetic street lighting to benefit the carriageway and footway.	Clear stem (1.5m) street trees shall be planted in the central raised median to provide relief on long stretches. Locations shall fit with existing services, accesses and safety guidelines. Trees should be planted at 8-20m centres. Low ground cover and shrub species should be planted in tree pits and, where space allows as bio-retention and infiltration areas. These are to be developed with assistance from Environmental Engineers and Landscape Architects. Trees shall have adequate ventilation and watering systems. Seating, bins, bollards, trip rails, light standards and lanterns, cycle stands etc. shall match the character of the street. Seating should facilitate interaction. There shall be a hard surface space adjacent to the seat of 0.9m wide to allow for wheel chair, pram or mobility scooter parking space. Facilities provided for people waiting at bus stops should ensure a pleasant experience (e.g. shelter from rain, comfortable seating etc.). Projecting or suspended hazards (e.g. signage, shelters, branches of street trees) shall not be lower than 2.1m. All vertical obstructions shall be designed to be detectable for visually impaired users. Provide street lighting in keeping with street scale and character at regular intervals, generally at 40m apart, depending on specifications. Lighting is to illuminate the entire corridor. Use LED white light range. Designs are to be developed with a Lighting Engineer.


Place Street
Movement / Place Street
Movement Street
CUBA ST
KING ST
BROADWAY AVE
GEORGE ST
MAIN ST
THE SQUARE
CHURCH ST
FITZHERBERT AVE

City Centre

City Centre

1. City Centre Movement Street
2. City Centre Movement / Place Street
3. City Centre Place Street 1
4. City Centre Place Street 2

City Centre | Movement Street

Description

Through movement for pedestrians, cyclists and vehicles.

Long-term vehicular movement function.

Multiple connections to other category streets provided and enhanced.

Less active edges and a smaller range of uses, a higher proportion of which are vehicle-based (e.g. car-parking building entrances).

Coarser grain built form limits contribution of building frontage to 'sense of place'.

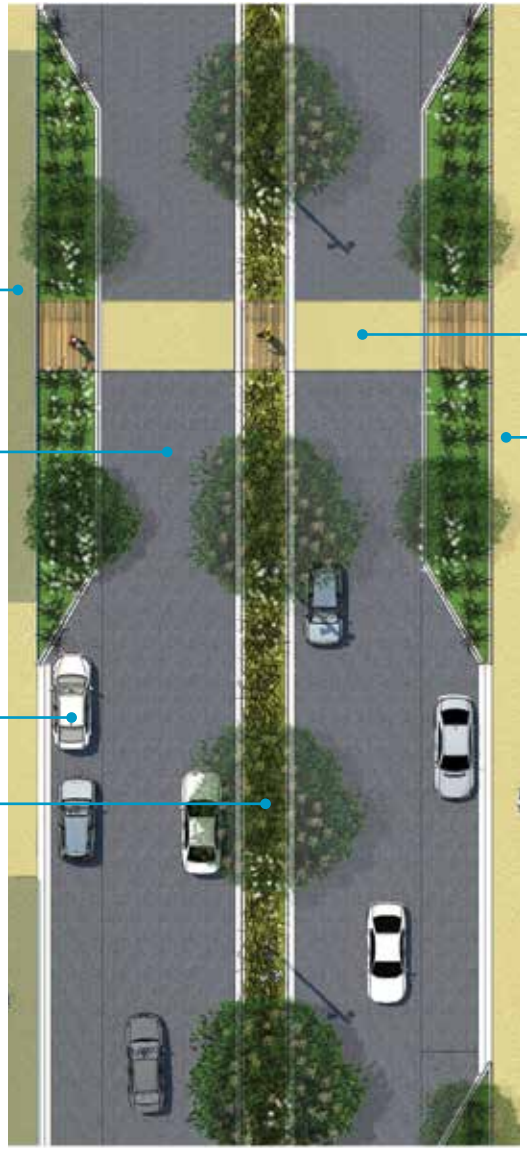
Limited potential to develop more pedestrian space for amenity without compromising essential pedestrian / cyclist / vehicular movement function.

Quick Reference

Building frontages	Must be oriented to the street and corners
Carriage width	Generally 30m wide
Footpath width	Min 2.5m next to building frontages
Traffic calming	Appropriate use of conventional traffic calming measures, eg horizontal and vertical deflection in conjunction with clearly defined pedestrian crossing points

Junction radii	3-6m
Vehicle types accommodated	Cycles, service vehicles, emergency vehicles, public transport and private motor vehicles
On-street parking	Yes, where appropriate
Street trees	In conjunction with City-wide Vegetation Framework

Plan & Cross Section



Illustrative of possible outcome. All designs will be subject to appropriate design standards.

City Centre | Movement Street

	Purpose and Principles	Techniques
 PEDESTRIANS	Movement Streets are typically key movement corridors around the city centre (e.g. the Ring Road). Movement Streets generally have lower activity on the edges of buildings. Movement Streets are designed to the human scale. Pedestrian conditions are suitable for people of all levels of mobility. Areas for pedestrian comfort are important, especially for disabled people and older people. Pedestrians feel safe after daylight hours. Movement provide clear delineation between pedestrian, cyclist and vehicular movement corridors. Pedestrian conditions are suitable for people of all levels of mobility.	Provide designated pedestrian footpaths on both side of the street. Provide an accessible route to provide for pedestrian movement. Investigate opportunities to consolidate street furniture to minimise street clutter. Utilise quality street furniture and materials. Consider uncontrolled and controlled crossing points. Provide obstacle free accessways and doorways into building frontages. Users of the street and adjoining land / business owners are involved in the design process. Pedestrian level lighting is provided. Use clear pedestrian way finding signage to increase ease of route finding and increase understanding of the street network.
 CYCLISTS	Movement Streets provide designated off-road cycle lanes. People of all levels of cycling ability feel they can cycle safely. Cyclists are able to make eye contact with other users of the street (such as drivers of vehicles and pedestrians).	Provide dedicated cycle lane on both sides of the street. Adequate cycle parking is provided. Drop kerbs are aligned with key cycle routes to ease movement for cyclists. Cyclist priority techniques should be applied at junctions, intersections and corners etc.

City Centre | Movement Street

	Purpose and Principles	Techniques
VEHICLES	Movement Streets have a high level of vehicular use / movement. Vehicular activity is largely through-route oriented, not destination orientated. Movement Streets provide a clearly defined designated space for vehicle movement. Movement Streets generally have two lanes of vehicular movement in each direction. Parking and loading can be accommodated but does not dominate the street environment. Drivers are able to make eye contact with other users of the street (such as cyclists and pedestrians).	The proportion of space designated to vehicular movement tends to be higher than allocation for pedestrians and cyclists. The provision of efficient vehicle movement corridors should not adversely impact on pedestrian movement and legibility at intersections and crossing points. Seek to optimise traffic signal phasing to achieve appropriate balance between vehicular and pedestrian movement at signalised intersections – adapt to am and pm peak movement patterns. Service / delivery vehicle and bus movements are carefully considered and accommodated if necessary. Intersections / junction radii are minimised. Controlled crossings are used at intersections. Uncontrolled crossing points are used mid-block to minimise severance and maximise permeability. Provide pedestrian amenity at bus stops appropriate to level of usage and investigate use of 'bus-boarder' kerbs.
STREET FURNITURE & SOFT LANDSCAPING	Movement Streets generally consist of a planted central median. Movement Streets generally consist of minimal street furniture such as benches and litter bins. Movement Streets are a relatively uncluttered environment. Movement Streets incorporate on-site stormwater management techniques. Street furniture and soft landscaping is maintainable. Vegetation is of appropriate scale and quality. Movement Streets are lit at night.	Street and highway signage is consolidated. New and existing vegetation is incorporated. Selected vegetation species conforms to City-wide Vegetation Framework. Rain gardens, swales and permeable tree pits are used. Large tree pits are utilised to encourage and establish good tree root growth. On-going maintenance of street furniture and soft landscaping is carefully considered. Soft landscaping is not located on key pedestrian desire lines. Appropriate street lighting is integrated. Provide seating at regular intervals along the length of the street or adjacent to intersections to enable pedestrians to pause their journey.

City Centre | Movement / Place Street

Description

Provide important city centre-wide movement and place functions for pedestrians.

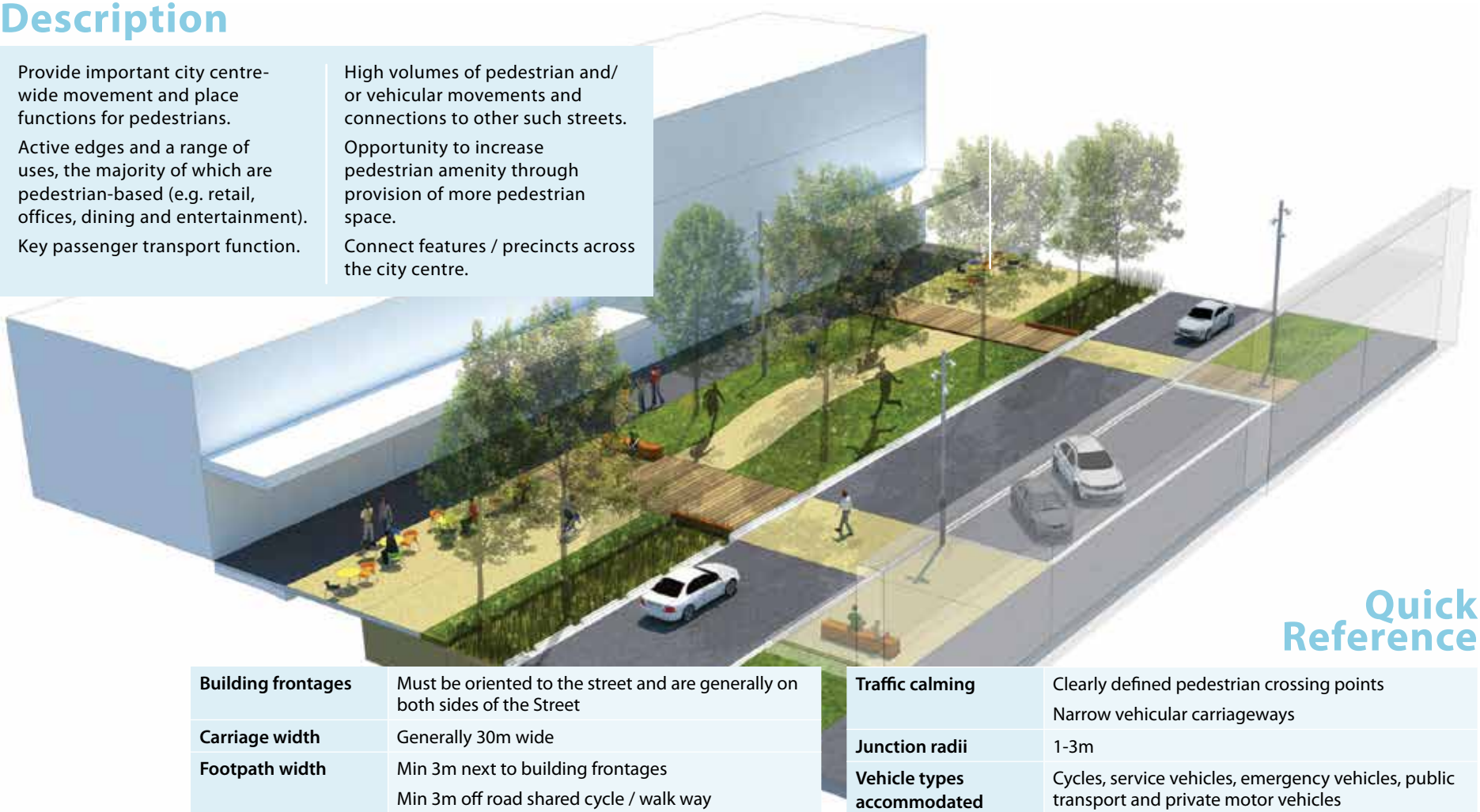
Active edges and a range of uses, the majority of which are pedestrian-based (e.g. retail, offices, dining and entertainment).

Key passenger transport function.

High volumes of pedestrian and/or vehicular movements and connections to other such streets.

Opportunity to increase pedestrian amenity through provision of more pedestrian space.

Connect features / precincts across the city centre.

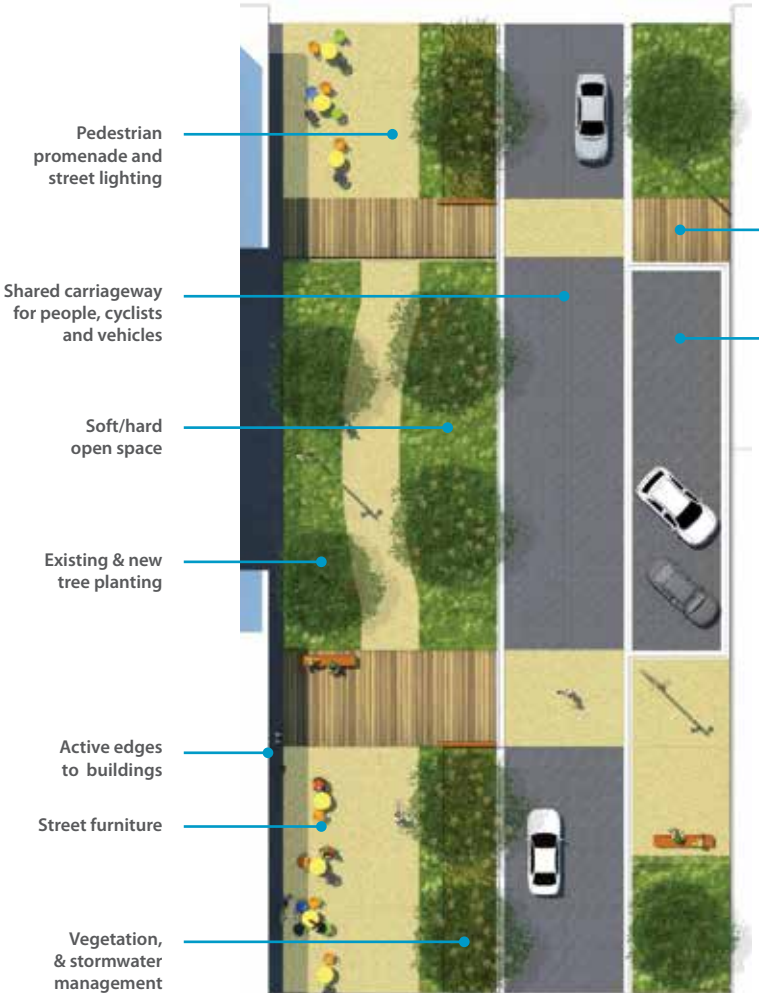


Quick Reference

Building frontages	Must be oriented to the street and are generally on both sides of the Street
Carriage width	Generally 30m wide
Footpath width	Min 3m next to building frontages Min 3m off road shared cycle / walk way
Traffic calming	Whole of environment. Balance use of 'psychological' traffic calming techniques with appropriate use of conventional traffic calming measures, eg horizontal and vertical deflection

Traffic calming	Clearly defined pedestrian crossing points Narrow vehicular carriageways
Junction radii	1-3m
Vehicle types accommodated	Cycles, service vehicles, emergency vehicles, public transport and private motor vehicles
On-street parking	Yes, where appropriate
Street trees	In conjunction with City-wide Vegetation Framework

Plan & Cross Section



Pedestrian footpaths aligned with street crossing points

On-street parking

3m	10m	Varies	5m	3m
Pedestrian promenade	Public space | Stormwater management Off road cycle / walk way | Street furniture Vegetation	Vehicle lanes	Street furniture Planting Parking	Pedestrian promenade

Illustrative of possible outcome. All designs will be subject to appropriate design standards.

City Centre | Movement / Place Street

	Purpose and Principles	Techniques
PEDESTRIANS	Movement / Place Streets have a high level of pedestrian priority whilst facilitating efficient vehicular movement Movement / Place Streets are typically a combination of destinations for people day and night and key movement corridors across the city centre. Movement / Place Streets provide key pedestrian routes across the city centre. Movement / Place Streets generally have activity on the edges of buildings. Movement / Place Streets are designed to the human scale. Pedestrian conditions are suitable for people of all levels of mobility. Areas for pedestrian comfort are important, especially for disabled people and older people. Pedestrians feel safe after daylight hours. Movement / Place Street provide clear delineation between pedestrian and vehicular movement corridors. Pedestrian conditions are suitable for people of all levels of mobility.	Investigate opportunities for allocating half the carriageway width to pedestrians, cyclists and soft landscaping. Investigate use of landscape treatments to bring activation and intrigue into the place day and night. Investigate use of raised table pedestrian crossing points at intersections for ease of use. Provide sufficient flexible-use open space on the street to allow for activities such as entertainment and performance, and retail kiosks, interactive displays etc. Provide an accessible route to provide for pedestrian movement. Investigate opportunities to consolidate street furniture to minimise street clutter. Utilise quality street furniture and materials. Consider uncontrolled and controlled crossing points. Provide obstacle free accessways and doorways into building frontages. Walkways along active frontages are generally covered by awnings / canopies. Users of the street and adjoining land / business owners are involved in the design process. Pedestrian level lighting is provided.
CYCLISTS	Movement / Place Streets provide space for cyclists to share the street at slow speed with vehicles. Movement / Place Street may provide for an off-road shared cycle / walk way. People of all levels of cycling ability feel they can cycle safely. Cyclists are able to make eye contact with other users of the street (such as drivers of vehicles and pedestrians). Cycle parking is supplied.	Designated cycle lanes may be provided dependent on spatial availability. Adequate cycle parking is provided. Drop kerbs are aligned with key cycle routes to ease movement for cyclists. The majority of carriageway space is allocated and designed for pedestrian / cyclist movement and human scale behaviour.

City Centre | Movement / Place Street

	Purpose and Principles	Techniques
VEHICLES	Movement / Place Streets have a high level of pedestrian, cyclist and vehicular use / movement. Vehicular activity is largely destination oriented, not through-route orientated. Movement / Place Streets provide designated space for vehicle movement. Movement / Place Streets generally have a single lane of vehicular movement in each direction. Parking and loading can be accommodated but does not dominate the street environment. Drivers are able to make eye contact with other users of the street (such as cyclists and pedestrians).	Vehicular carriageway tends to be narrow and not dominant of the overall street character. Allocate at least half of the street to pedestrians and cyclists. Demarcated parking bays may provide flexible space for other uses during different times of the day and night. Service / delivery vehicle and bus movements are carefully considered and accommodated if necessary. Provide pedestrian amenity at bus stops appropriate to level of usage and investigate use of 'bus-boarder' kerbs. Intersections / junction radii is minimised. Rationalise kerb alignments to simplify vehicular movement where practical and increase legibility and ease of use. Controlled crossings are used at intersections. Uncontrolled crossing points are used mid-block to minimise severance and maximise permeability. Private accessways across public space should be designed so that they look and feel like they are public spaces (rather than a private entrance).
STREET FURNITURE & SOFT LANDSCAPING	Movement / Place Streets generally consist of street furniture and soft landscaping that is of a higher standard than other streets. Movement / Place Streets are a relatively uncluttered environment. Movement / Place Streets incorporate on-site stormwater management techniques. Movement / Place Streets may accommodate events, street trading and other temporary activities. Street furniture and soft landscaping is maintainable. Vegetation is of appropriate scale and quality. Movement / Place Streets are lit at night.	Street furniture and soft landscaping. Street signage is consolidated. New and existing vegetation is incorporated. Selected vegetation species conforms to City-wide Vegetation Framework. Rain gardens, swales and permeable tree pits are used. Large tree pits are utilised to encourage and establish good tree root growth. On-going maintenance of street furniture and soft landscaping is carefully considered. Soft landscaping is not located on key pedestrian desire lines. Appropriate street lighting is integrated.

City Centre | Place Street 1

Description

A destination for people day and night.

Pedestrian priority and response to the urban context takes clear precedence over vehicular movement.

Vehicular activity largely destination orientated, not through-route orientated.

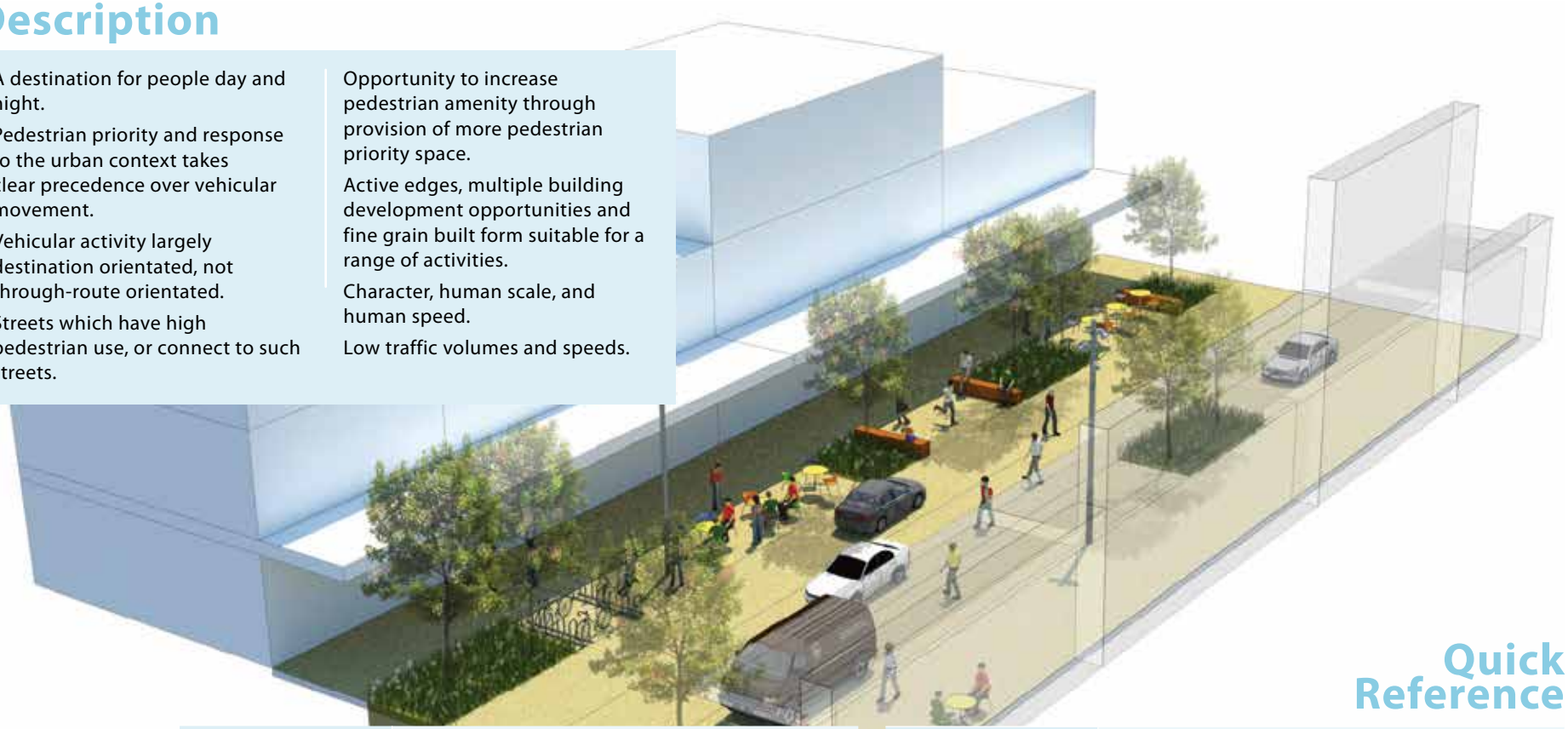
Streets which have high pedestrian use, or connect to such streets.

Opportunity to increase pedestrian amenity through provision of more pedestrian priority space.

Active edges, multiple building development opportunities and fine grain built form suitable for a range of activities.

Character, human scale, and human speed.

Low traffic volumes and speeds.

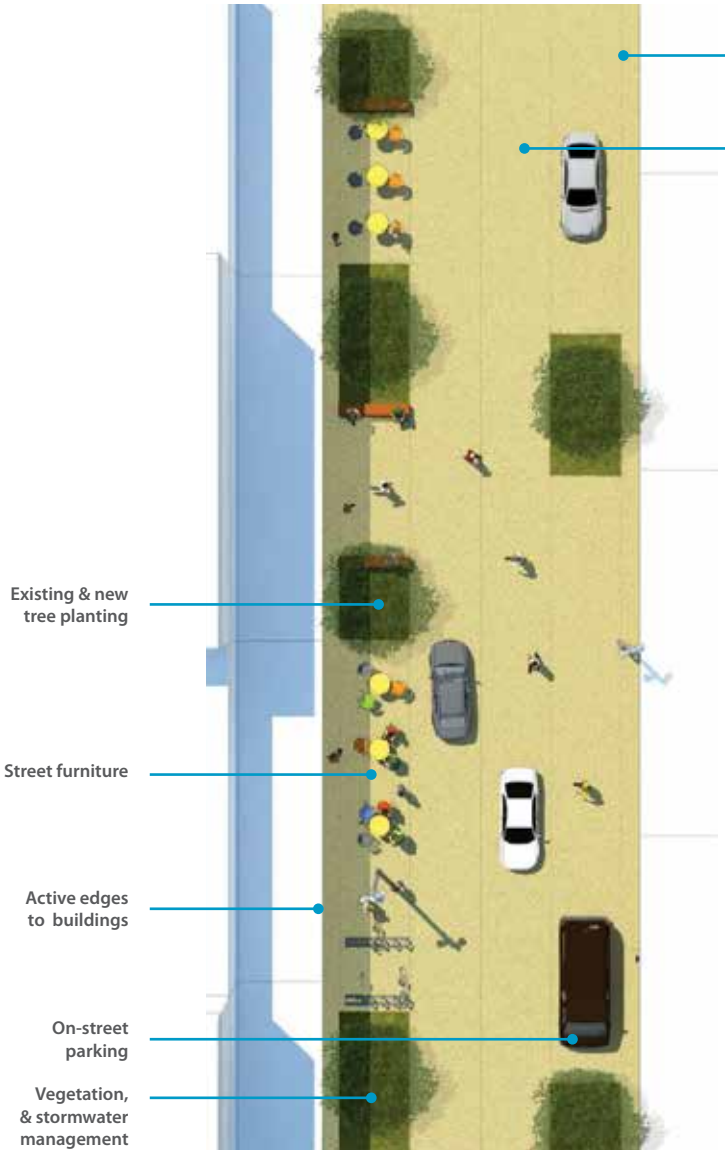


Quick Reference

Building frontages	Must be oriented to the street and are generally on both sides of the Street
Carriage width	Generally 20m wide
Footpath width	Accessible route to provide for pedestrian movement generally 3m wide
Traffic calming	Whole of environment – utilise carefully considered design interventions to promote 'psychological' traffic calming and encourage appropriate behavioural responses from all users of the street

Junction radii	1-3m
Vehicle types accommodated	Cycles, service vehicles, emergency vehicles, public transport and private motor vehicles
On-street parking	Yes, where appropriate
Street trees	In conjunction with City-wide Vegetation Framework

Plan & Cross Section



Illustrative of possible outcome. All designs will be subject to appropriate design standards.

City Centre | Place Street 1

	Purpose and Principles	Techniques
PEDESTRIANS	Place Streets have a high level of pedestrian priority. Place Streets are typically a destination for people day and night. Place Streets have high pedestrian use, or connect to such streets. Place Streets provide key pedestrian routes across the city centre. Place Streets generally have a high level of activity on the edges of buildings. Place Streets are designed to the human scale / dimension. Place Streets generally use materials that are of a higher standard than other streets. Place Streets are designed for slower vehicular, cyclist and pedestrian speeds. Pedestrians are able to make eye contact with other users of the street (such as drivers of vehicles and cyclists). Pedestrian conditions are suitable for people of all levels of mobility. Areas for pedestrian comfort are important, especially for disabled people and older people. Pedestrians feel safe after daylight hours.	Investigate opportunities for a level surface street (shared zone). Investigate use of landscape treatments to bring activation and intrigue into the place day and night. Provide sufficient flexible-use open space on the street to allow for activities such as entertainment and performance, and retail kiosks, interactive displays etc. Provide an accessible route to provide for pedestrian movement. Provide a shared zone or a traditional carriageway zone to facilitate vehicular circulation along the Place Street. Investigate opportunities to consolidate street furniture to minimise street clutter. Utilise higher quality street furniture and materials. Consider uncontrolled crossing points, if required. Provide obstacle free accessways and doorways into building frontages. Walkways along active frontages are generally covered by awnings / canopies. Users of the street and adjoining land / business owners are involved in the design process. Pedestrian level lighting (P category) is provided.
CYCLISTS	Place Streets have a high level of pedestrian priority over vehicular use / movement. Vehicular activity is largely destination based, not through-route orientated. Place Streets are not important components of the vehicle circulation network. Place Streets have low traffic volume and speeds. Place Streets provide space for vehicle movement whilst sharing the street with pedestrians and cyclists. Place Streets generally have a single lane of vehicular movement in each direction. Parking and loading can be accommodated but does not dominate the street environment. Drivers are able to make eye contact with other users of the street (such as cyclists and pedestrians).	No designated cycle lanes are to be provided. Adequate cycle parking is provided. Kerbs are either flush or rounded to ease movement for cyclists.

City Centre | Place Street 1

	Purpose and Principles	Techniques
VEHICLES	Place Streets have a high level of pedestrian priority over vehicular use / movement. Vehicular activity is largely destination based, not through-route orientated. Place Streets are not important components of the vehicle circulation network Place Streets have low traffic volume and speeds. Place Streets provide space for vehicle movement whilst sharing the street with pedestrians and cyclists. Place Streets generally have a single lane of vehicular movement in each direction. Parking and loading can be accommodated but does not dominate the street environment. Drivers are able to make eye contact with other users of the street (such as cyclists and pedestrians).	The character and form of the street tends to be different than a traditional vehicular orientated street. Place Streets have higher proportion of space allocated for pedestrians. Use of space within the street may change over a 24 hour period – the same space may be used for short term parking and deliveries, outdoor dining and events at different times of the day and night. Service / delivery vehicle and bus movements are carefully considered and accommodated if necessary. Intersections / junction radii are minimised. Seek to optimise traffic signal phasing to prioritise pedestrian movement over vehicular movement at signalised intersections – adapt to am and pm peak movement patterns.
STREET FURNITURE & SOFT LANDSCAPING	Place Streets generally consist of street furniture and soft landscaping that is of a higher standard than other streets. Place Streets are a relatively uncluttered environment. Place Streets incorporate on site stormwater management techniques. Place Streets may accommodate events, street trading and other temporary activities. Street furniture and soft landscaping is maintainable. Vegetation is of appropriate scale and quality. Place Streets are lit at night.	Street signage is consolidated. Permanent street furniture such as benches, cycle stands and lighting is positioned within a clearly defined area between the lanes of traffic and the pedestrian footpath. New and existing vegetation is incorporated. Selected vegetation species conforms to City-wide Vegetation Framework. Rain gardens, swales and permeable tree pits are used. Large tree pits are utilised to encourage and establish good tree root growth. Utilise building awning and canopies as shelter for bus stops where possible. On-going maintenance of street furniture and soft landscaping is carefully considered. Soft landscaping is not located on key pedestrian desire lines. Amenity street lighting may be reinforced by feature lighting to emphasise 'sense of place' Investigate integration of artworks into site-specific street furniture or structures.

City Centre | Place Street 2

Description

A destination for people day and night.

Pedestrian priority and response to the urban context takes clear precedence over vehicular movement.

Vehicular activity largely destination orientated, not through-route orientated.

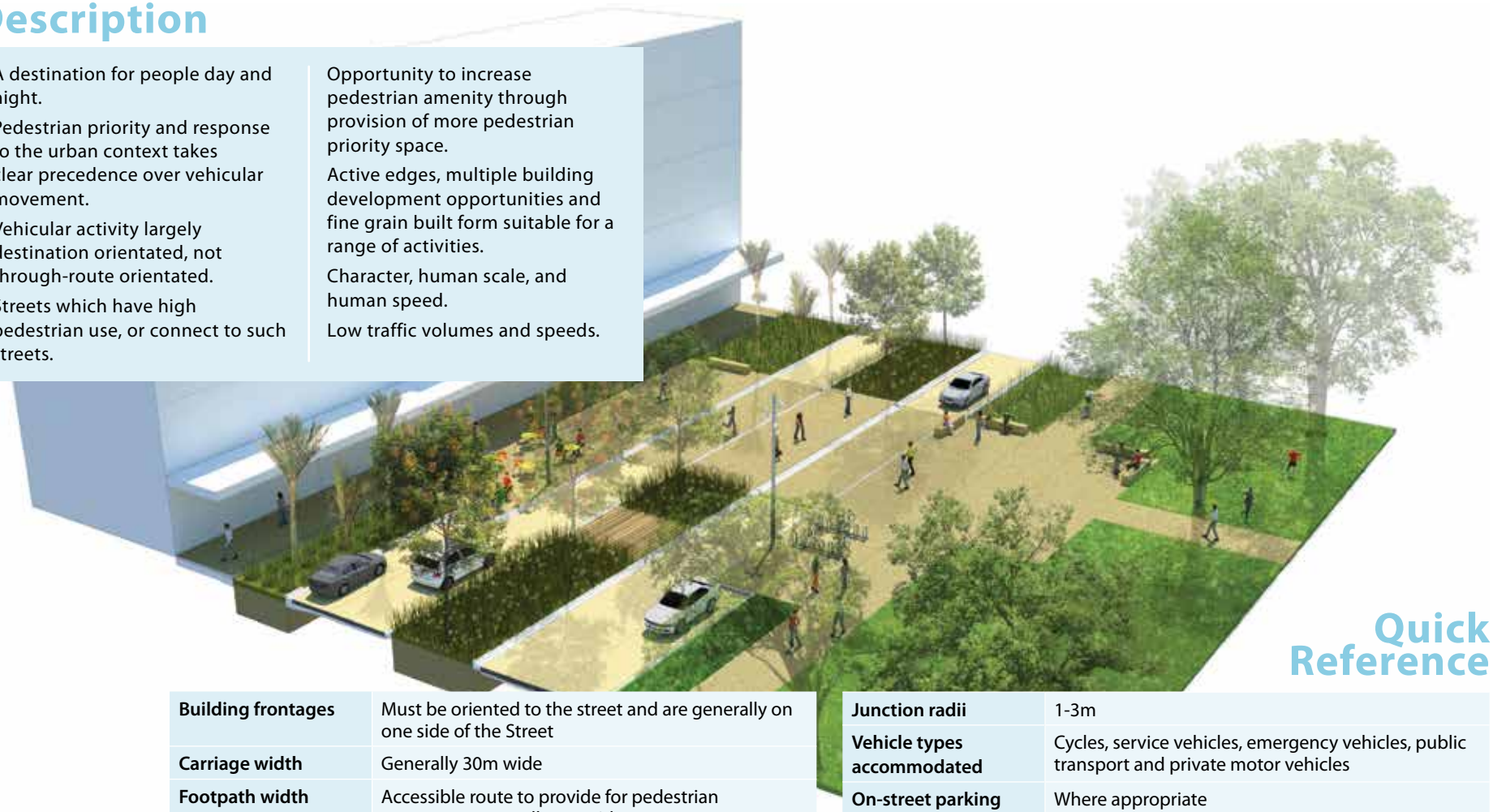
Streets which have high pedestrian use, or connect to such streets.

Opportunity to increase pedestrian amenity through provision of more pedestrian priority space.

Active edges, multiple building development opportunities and fine grain built form suitable for a range of activities.

Character, human scale, and human speed.

Low traffic volumes and speeds.



Quick Reference

Building frontages	Must be oriented to the street and are generally on one side of the Street
Carriage width	Generally 30m wide
Footpath width	Accessible route to provide for pedestrian movement generally 3m wide
Traffic calming	Whole of environment– utilise carefully considered design interventions to promote 'psychological' traffic calming and encourage appropriate behavioural responses from all users of the street

Junction radii	1-3m
Vehicle types accommodated	Cycles, service vehicles, emergency vehicles, public transport and private motor vehicles
On-street parking	Where appropriate
Street trees	In conjunction with City-wide Vegetation Framework

Plan & Cross Section

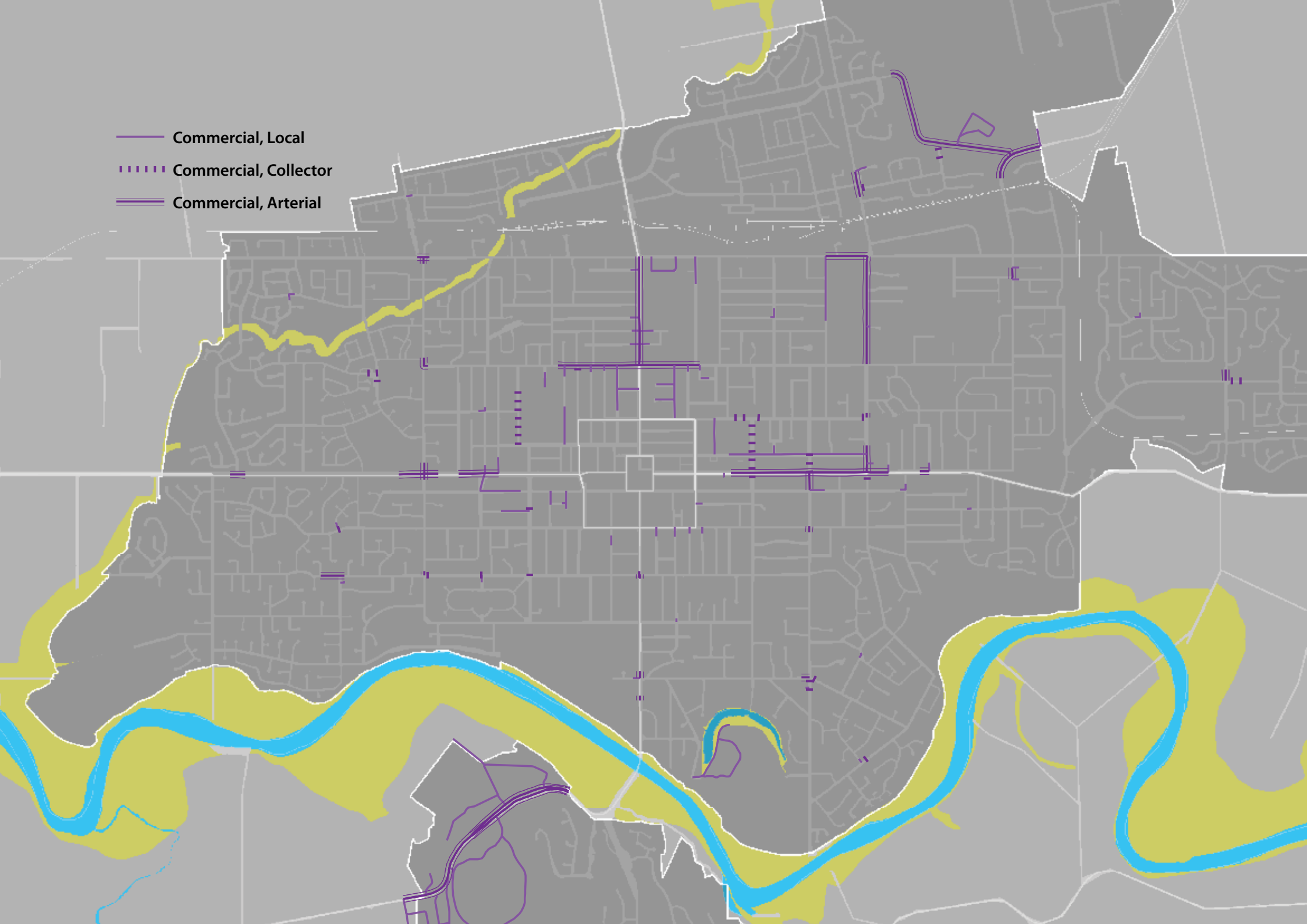
Illustrative of possible outcome. All designs will be subject to appropriate design standards.

City Centre | Place Street 2

	Purpose and Principles	Techniques
PEDESTRIANS	Place Streets 2 connect significant areas of open space to adjacent buildings. Place Streets have a high level of pedestrian priority. Place Streets are typically a destination for people day and night. Place Streets have high pedestrian use, or connect to such streets or open space. Place Streets provide key pedestrian routes across the city centre. Place Streets generally have a high level of activity on the edges of buildings. Place Streets are designed to the human scale dimension. Place Streets generally use materials that are of a higher standard than other streets. Place Streets are designed for slower vehicular, cyclist and pedestrian speeds. Pedestrians are able to make eye contact with other users of the street (such as drivers of vehicles and cyclists). Pedestrian conditions are suitable for people of all levels of mobility. Areas for pedestrian comfort are important, especially for disabled people and older people. Pedestrians feel safe after daylight hours.	Ensure that adjoining open space footpaths and walkways connect onto Place Street footpaths and crossing points. Investigate opportunities for a level surface street (shared zone). Investigate use of landscape treatments to bring activation and intrigue into the place day and night. Provide sufficient flexible-use open space on the street to allow for activities such as entertainment and performance, and retail kiosks, interactive displays etc. Provide an accessible route to provide for pedestrian movement. Provide a shared zone or a traditional carriageway zone to facilitate vehicular circulation along the Place Street. Investigate opportunities to consolidate street furniture to minimise street clutter. Utilise higher quality street furniture and materials. Consider uncontrolled crossing points. Provide obstacle free accessways and doorways into building frontages. Walkways along active frontages are generally covered by awnings / canopies. Users of the street and adjoining land / business owners are involved in the design process. Pedestrian level lighting (P category) is provided.
CYCLISTS	Place Streets provide space for cyclists to share the street at a slow speed with pedestrians and vehicles. People of all levels of cycling ability feel they can cycle safely. Cyclists are able to make eye contact with other users of the street (such as drivers of vehicles and pedestrians). Cycle parking is supplied. Place Streets maximise cyclist permeability within the city centre.	No designated cycle lanes are to be provided. Adequate cycle parking is provided. Kerbs are either flush or rounded to ease movement for cyclists.

City Centre | Place Street 2

	Purpose and Principles	Techniques
VEHICLES	Place Streets have a high level of pedestrian priority over vehicular use / movement. Vehicular activity is largely destination oriented, not through-route orientated. Place Streets have low traffic volume and speeds. Place Streets provide space for vehicle movement whilst sharing the street with pedestrians and cyclists. Place Streets generally have a single lane of vehicular movement in each direction. Parking and loading can be accommodated but does not dominate the street environment. Drivers are able to make eye contact with other users of the street (such as cyclists and pedestrians).	The character and form of the street tends to be different than a traditional vehicular orientated street. Place streets have higher proportion of space allocated for pedestrians. Parking bays provide flexible space for short term parking, deliveries, events and place making opportunities. Service / delivery vehicle and bus movements are carefully considered and accommodated if necessary. Intersections / junction radii are minimised.
STREET FURNITURE & SOFT LANDSCAPING	Streets treated as part of the public realm and connect with adjacent open space. Place Streets generally consist of street furniture and soft landscaping that is of a higher standard than other streets. Place Streets are a relatively uncluttered environment. Place Streets incorporate on site stormwater management techniques. Place Streets may accommodate events, street trading and other temporary activities. Street furniture and soft landscaping is maintainable. Vegetation is of appropriate scale and quality. Place Streets are lit at night.	Consistent use of street furniture and other landscape elements between street and adjacent open space to provide complementary places for public enjoyment. Street signage is consolidated. Permanent street furniture such as benches, cycle stands and lighting is positioned within a clearly defined area between the lanes of traffic and the pedestrian footpath. New and existing vegetation is incorporated. Selected vegetation species conforms to City-wide Vegetation Framework. Rain gardens, swales and permeable tree pits are used. Large tree pits are utilised to encourage and establish good tree root growth. Utilise building awning and canopies as shelter for bus stops where possible. On-going maintenance of street furniture and soft landscaping is carefully considered. Soft landscaping is not located on key pedestrian desire lines. Appropriate street lighting is integrated. Implement robust Outdoor Trading Policies to ensure consistent approach taken to spatial provision of outdoor dining areas and use of appropriately designed outdoor furniture.


Commercial, Local
Commercial, Collector
Commercial, Arterial

Commercial

Commercial

1. Commercial Collector
2. Commercial Local

Commercial | Collector

Description

Significant city route.

Circulation of commercial areas and linked to arterials.

Need to manage through traffic at neighbourhood centre nodes.

Typical traffic flows of 3,000-10,000vpd.

Carry major public transport routes.

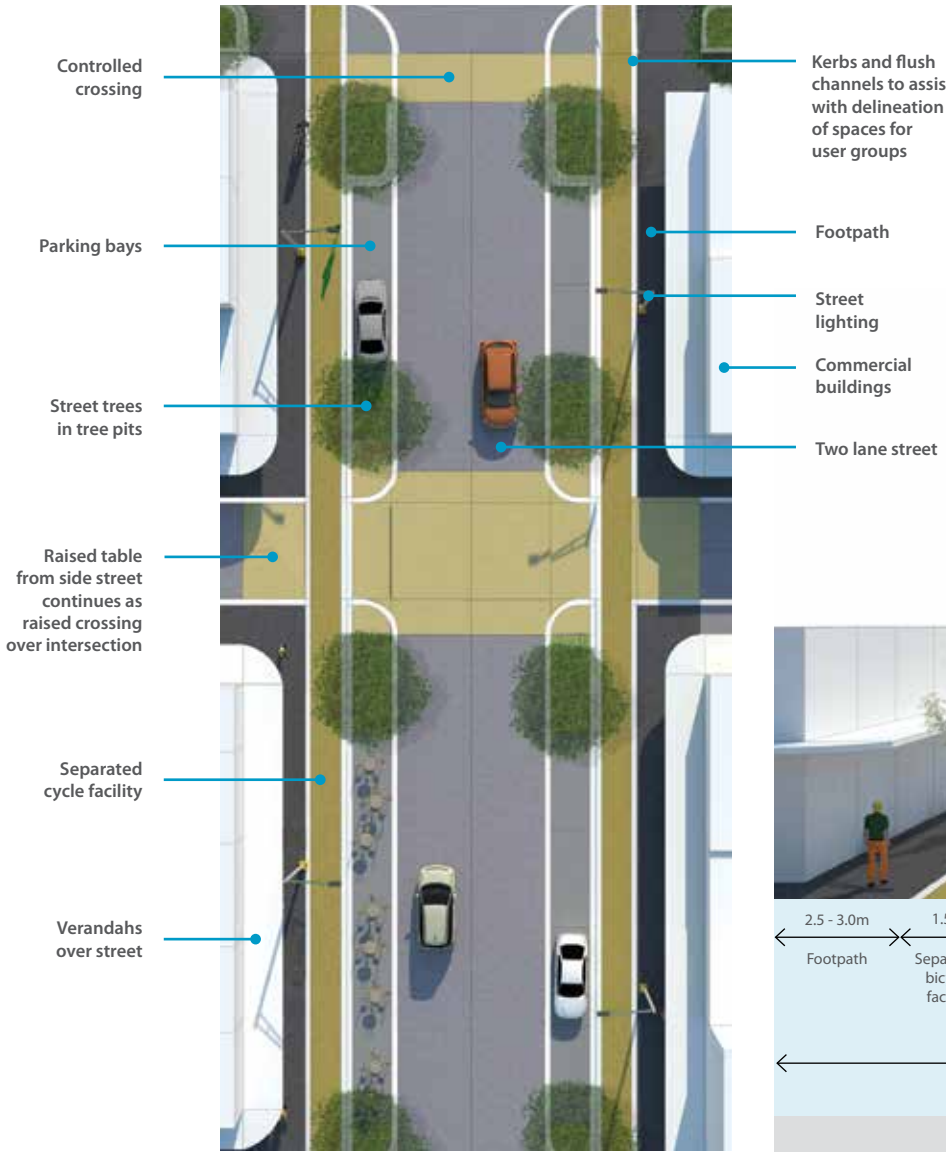
Operating speed 40-60kph.

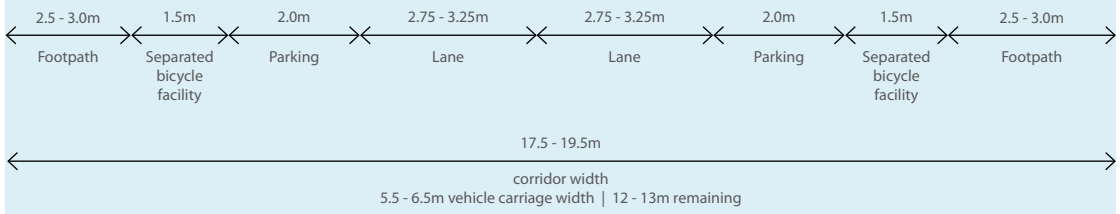
Expectation that separate cyclist facilities will be provided.

Quick Reference

Building frontages	Must be oriented to the street
Lane width	Two way (2.75m-3.25m)
Footpath width	2.5-3.0m
Vehicle desired operating speed	50 kph
Traffic calming	Lane narrowing
Junction radii	3-6m
Vehicle types accommodated	Cycles, service and emergency vehicles, delivery vehicles, private cars
On-street parking	2m wide parallel parking in bays to both sides of the street
Street trees	On both sides of the street

Plan & Cross Section





Illustrative of possible outcome. All designs will be subject to appropriate design standards.

Commercial | Collector

	Purpose and Principles	Techniques
 PEDESTRIANS	Pedestrians are heavy users of commercial collector streets. The design of the street should facilitate safe, easy pedestrian movement and provide access and connectivity within a local commercial area. Passive surveillance of the street is important. Pedestrian amenity should be high value; the streetscape needs to compliment the commercial function of the area. The street has both a place and movement function. Walking, meeting and trading are important activities. Informal pedestrian crossings at intersections with side streets should be provided. Controlled crossings at larger intersections should be provided to ensure that informal crossing of the collector road between intersections is discouraged.	Wide footpaths (2.5-3m) shall be used on both sides of the street. Surfaces shall be even, stable, durable, slip resistant, non-glare, well lit, and be of a colour that provides a background setting to the street. Network utility infrastructure should be located to the edges or off the footpath. Footpaths shall be tidy and free of signage, street furniture and other obstacles that overly impedes the passive surveillance of pedestrians. Use kerbs and channels to delineate the footpath area. Consider using lower kerb heights (50-100mm) where possible, to add to pedestrian amenity. Use surface materials for the footpath of high durability and visual amenity to create a street that looks different from the carriageway material. Encourage connectivity between streets, local services and surrounding features. The street design could provide for and encourage additional public space functions such as busking, festivals, markets and informal gatherings. Buildings shall be built and orientated to the street boundary with active frontages and verandas. Pram crossings with a corresponding crossing on the opposite side of the carriageway shall be used. Crossings should include three courses of blister tactile paving units, and slopes should not exceed a 1:12 grade. There shall be no pedestrian barriers. At intersections with collector and / or arterial roads, at grade pram crossings shall be used with corresponding crossing on opposite side of the carriageway. These should be at no greater than 100m intervals. Crossings should include three courses of red blister tactile paving units and a 'tail' extending across the width of the footway. All controlled crossings shall have pedestrian signals and traffic control.

Commercial | Collector

	Purpose and Principles	Techniques
 CYCLISTS	Cyclists are heavy users. There is a need to encourage and provide for safe and efficient cyclist usage. Cyclists should be separate from pedestrians. Some visible, efficient cycle parking infrastructure needs to be provided.	Separated Bicycle Facilities shall be provided. Separated Bicycle Facilities shall be: • For the exclusive use of cyclists; • Physically separated from other users; • At a continuous grade with either the footpath or lane; • Separated from the carriageway; • Located between the footpath and any parking areas; • Provided with a buffer area (e.g. 500mm – 600mm) to ensure that people opening car doors etc. within parking areas do not impede the movement of cyclists; • Prioritised at accessways and intersections; • Of colour contrast with footpaths, parking bays and carriageways; • Either one lane of at least 1.5m width, either way on both sides of the corridor or two lanes of at least 3m width (total) on one side of the corridor. At intersections, corners, and where identified in cycling strategy, cyclist priority techniques (e.g. advanced stops, cycle lane marking and bicycle lane separators at intersections) shall be used to delineate cycle space. Incorporate free-standing stands that are easy to lock a bike to.

Commercial | Collector

Purpose and Principles	Techniques
VEHICLES Users are encouraged by street design to travel at the speed limit. May be a thoroughfare for heavy vehicles. Needs of emergency and service vehicles are to be accommodated. Provide safe and convenient movement and access for private vehicle users. Provide for safe and convenient access for freight transport. Safe and convenient access to short and long term parking – in properties and on-street.	Lane widths shall be between 3.25 and 3.75 metres. Lanes shall be aligned to encourage traffic speeds that are below the desired operating speed. To achieve this: Long, straight lanes shall be avoided; The use of shorter block lengths (e.g. 60m – 100m) is encouraged; Where shorter block lengths cannot be provided, variation in the alignment of the road as a method of limiting sight lines should be provided; The use of other traffic calming measures e.g. build–outs, speed bumps and chicanes shall be considered as a last resort. Impairments to driver sight lines should be used to reduce speeds. Balance national highways standards and streetscape design techniques to prioritise pedestrian movements in commercial streets. Techniques to achieve this include: The use of street trees close to traffic lanes; narrowing the lane width; introducing raised tables and reducing turning radii at intersections. The desired operating speed is 50kph. The street design should incorporate threshold treatments to indicate district boundaries between land uses and other connecting areas. For example; signage, raised tables and changes in surface material can be used at intersections. Turning radii at intersections to be 3 - 6m (to be confirmed by engineering design). Consultation with emergency and service vehicle providers shall be undertaken during the design and construction process to ensure requirements are provided for. Access to rear of properties (for staff parking, longer-term customer parking, delivery and pick-up) shall be from side streets. Where access is provided, there should not be a pram crossing. The continuity of the footpath should be maintained. Side streets shall be at regular intervals, not greater than 70-100m. Short term (120 minute) parking shall be provided on-street, but dedicated long stay parking may be provided in identified parking precincts. Parking and delivery areas are delineated using contrasting material to the main surface. Options for on-street parking (parallel or angled) shall be determined on a case by case basis.

Commercial | Collector

Purpose and Principles

Use street tree planting to promote high streetscape values, character, provide amenity, shade and shelter.

Trees add important greening to streets.

Promote the use of low planting to provide storm water infiltration and bio-retention functions.

Street furniture should contribute to high streetscape quality. Street furniture needs to be comfortable, usable and well located.

Provide functional and aesthetic street lighting to benefit both the carriageway and footway.

Techniques

Clear stem (1.5m) street trees shall be planted in the landscape strip. Locations shall fit with existing services, accesses, safety guidelines and pedestrian routes

Street tree planting should be centred whether in the berm of within a kerb extension.

Tree pits should be used to delineate parking areas.

Tree pits shall be no less than 2m x 2m in dimensions and shall include complementary planting.

Trees in the road corridor should be located in a manner that will not damage the footpath, carriageway or parking areas.

Trees should be planted at 8-20m centres.

Low ground cover and shrub species should be planted in tree pits and, where space allows as bio-retention and infiltration areas. These are to be developed with assistance from Environmental Engineers and Landscape Architects.

Trees shall have adequate ventilation and watering systems.

Seating, bins, bollards, trip rails, light standards and lanterns, cycle stands etc. shall match the character of the street. Seating should facilitate interaction. There shall be a hard surface space adjacent to the seat of 0.9m wide to allow for wheel chair, pram or mobility scooter parking space.

Projecting or suspended hazards (e.g. signage, shelters, branches of street trees, etc.) shall not be lower than 2.1m.

All vertical obstructions shall be designed to be detectable for visually impaired users.

Provide street lighting in keeping with street scale and character at regular intervals, generally at 40m apart, depending on specifications. Lighting is to illuminate the entire corridor.

Use LED white light range. Designs are to be developed with a Lighting Engineer.

Commercial | Local

Description

Provide access and connectivity within a local commercial area.

Significant contribution to character of commercial areas.

Low vehicle speeds.

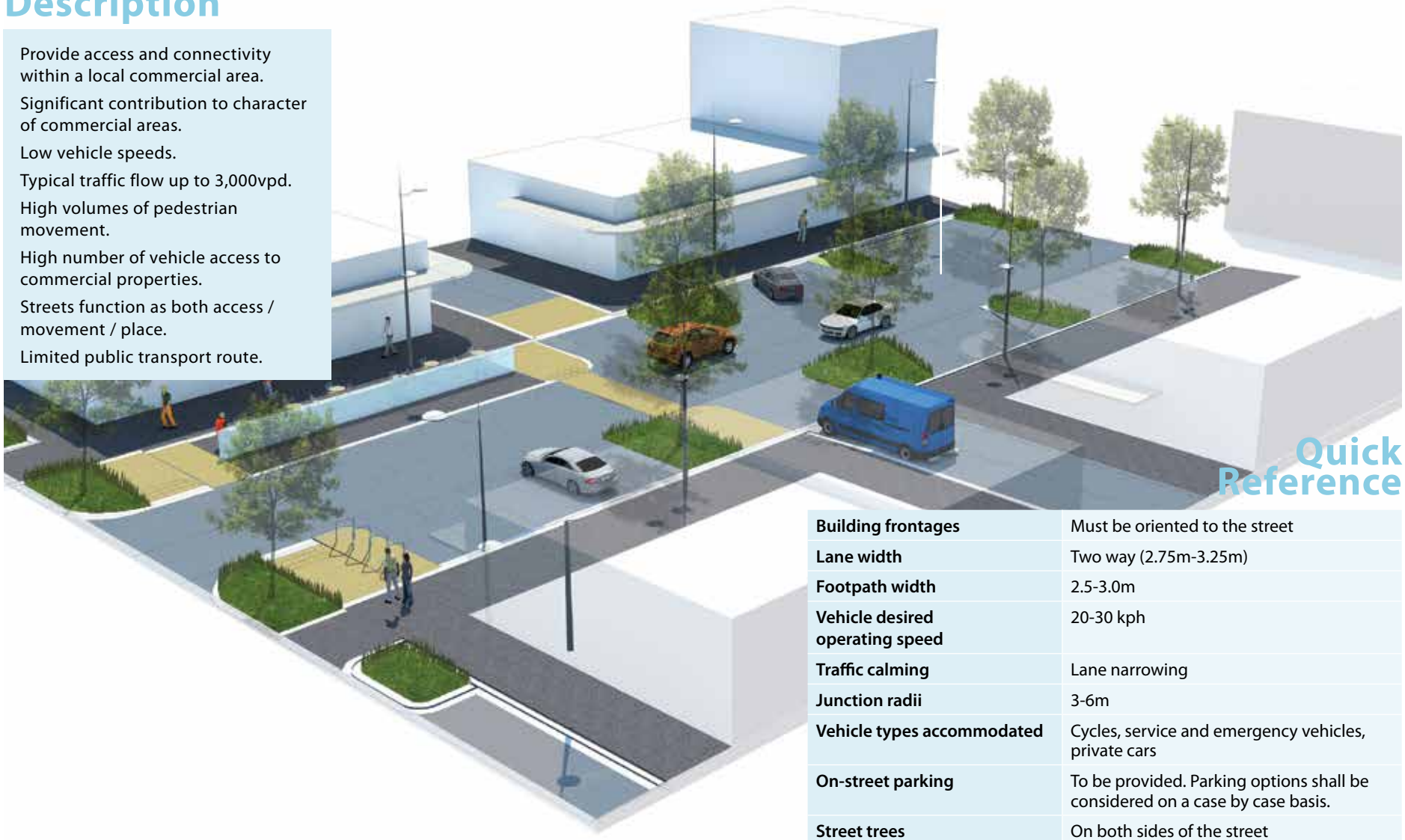
Typical traffic flow up to 3,000vpd.

High volumes of pedestrian movement.

High number of vehicle access to commercial properties.

Streets function as both access / movement / place.

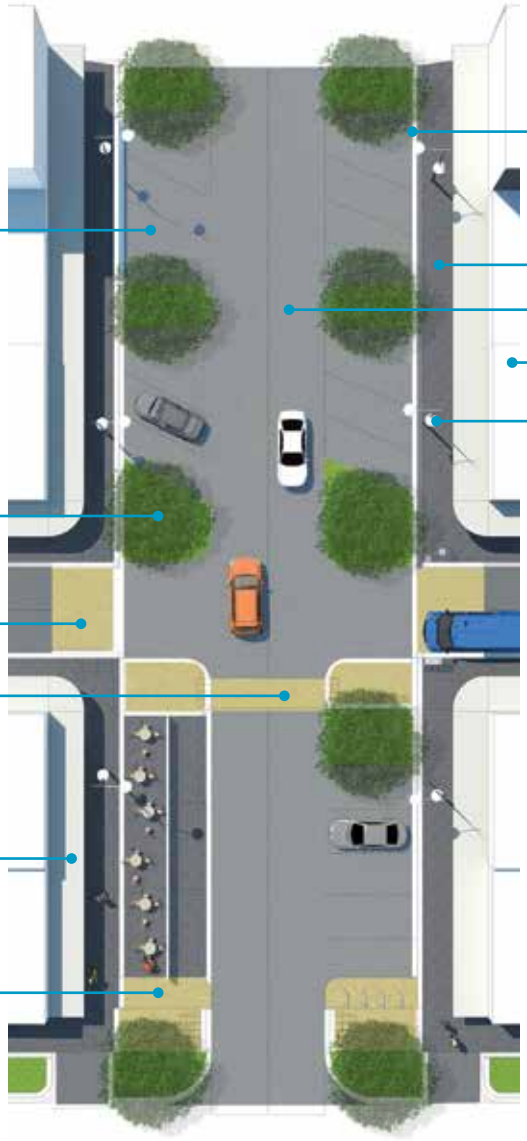
Limited public transport route.

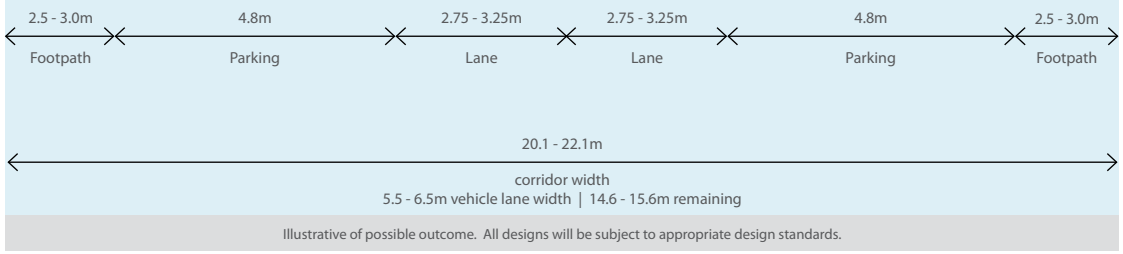


Quick Reference

Building frontages	Must be oriented to the street
Lane width	Two way (2.75m-3.25m)
Footpath width	2.5-3.0m
Vehicle desired operating speed	20-30 kph
Traffic calming	Lane narrowing
Junction radii	3-6m
Vehicle types accommodated	Cycles, service and emergency vehicles, private cars
On-street parking	To be provided. Parking options shall be considered on a case by case basis.
Street trees	On both sides of the street

Plan & Cross Section





Illustrative of possible outcome. All designs will be subject to appropriate design standards.

Commercial | Local

	Purpose and Principles	Techniques
PEDESTRIANS	Pedestrians are heavy users of local commercial roads. Local commercial roads are important for communities and make a significant contribution to the character of commercial centres. The design of the street should facilitate safe, easy pedestrian movement and provide access and connectivity within a local commercial area. Passive surveillance of the street is important. Pedestrians should feel that they can cross at any point of the street. Pedestrian amenity should be high value; the streetscape needs to compliment the commercial function of the area. There should be positive action to encourage high volumes of pedestrian movements. The street functions as a destination/place as well as a thoroughfare. Walking, meeting and trading are important activities. Connectivity between streets, local services and surrounding features shall be encouraged.	Wide footpaths (2.5 - 3m) shall be used on both sides of the road. Surfaces shall be even, stable, durable, slip resistant, non-glare, well lit, and be of a colour that provides a background setting to the street. Use surface materials for the footpath of high durability and visual amenity to create a footpath that looks different from the carriageway material. Use kerbs and channels to delineate the footpath area. Consider using lower kerb heights (50-100mm) where possible, to add to pedestrian amenity. Network utility infrastructure should be located to the edges or off the footpath. Footpaths shall be tidy and free of signage, street furniture and other obstacles that overly impedes the passive surveillance of pedestrians. Informal pedestrian crossings should be used: for example rumble strips across the carriageway that has the dual purpose of slowing traffic. These should be at no greater than 70m intervals. Pram crossings shall be used at intersections, with tactile units to signify crossing points, and ensure these are conveniently located. Pram crossings should be located at no greater than 100m apart on longer pedestrian routes. New cul–de–sacs shall be discouraged, and creating through connections on existing cul-de-sacs shall be encouraged. Buildings shall be built and oriented to the street boundary with active frontages and verandas. Key facilities like; shops, civic buildings, medical facilities and schools shall be located within easy walking distance. At intersections with collector and / or arterial roads, use at grade pram crossings with corresponding crossing points on the opposite side of the carriageway. All controlled crossings shall have pedestrian signals and traffic control.
CYCLISTS	Cyclists are heavy users. There is a need to encourage and provide for safe and efficient cyclist usage. It is not necessary to provide dedicated cycle lanes in all local road corridor design as cyclists should feel comfortable on the carriageway with vehicles driving at low speed. Some visible, efficient cycle parking infrastructure needs to be provided.	Accommodate cyclists in the road corridor. In some circumstances (e.g. intersections, corners, where identified in cycling strategy etc.) consideration of separation from vehicles is required. At intersections, corners, and where identified in cycling strategy, cyclist priority techniques (e.g. advanced stops, cycle lane marking and bicycle lane separators at intersections) shall be used to delineate cycle space. Incorporate free-standing cycle stands that are easy to lock a bike to.

Commercial | Local

Purpose and Principles

VEHICLES

Private vehicles will be a heavy user group. Users are encouraged by street design to travel at low speeds.

Drivers should be conscious that pedestrians have priority.

Commercial local roads are primarily destinations and not thoroughfares.

Freight movements should be limited to deliveries and local streets should not be preferred thoroughfares for heavy vehicles.

Needs of emergency and service vehicles are to be accommodated.

Safe and convenient short term (30 - 120 minutes) on-street parking is to be provided.

Some public transport infrastructure to be accommodated.

Techniques

Narrow lane widths to be between 2.75 and 3.25 metres.

Lanes shall be aligned to encourage traffic speeds that are below the desired operating speed. To achieve this: Long, straight lanes shall be avoided; The use of shorter block lengths (e.g. 60m – 100m) is encouraged; Where shorter block lengths cannot be provided, variation in the alignment of the road as a method of limiting sight lines should be provided; The use of other traffic calming measures e.g. build–outs, speed bumps and chicanes shall be considered as a last resort.

The desired operating speed is 20-30kph.

The street design should incorporate threshold treatments to indicate distinct land boundaries. For example; signage, raised tables and changes in surface material can be used at intersections.

Turning radii at intersections to be 3 - 6m (to be confirmed by engineering design).

Other traffic calming measures e.g. build–outs, speed bumps and chicanes shall be considered as a last resort.

Consultation with emergency and service vehicle providers shall be undertaken during the design and construction process to ensure requirements are provided for.

Safe and efficient access to rear of properties (for staff parking, longer-term customer parking, delivery and pick-up) shall be provided from side streets at regular intervals. Side streets shall be at regular intervals, not greater than 70-100m.

Predominantly short term 30-120 minute parking shall be provided on-street.

Access to off-street parking and delivery areas are delineated using contrasting material to the main surface.

Angle parking shall be provided at the sides of the carriageway.

Provide simple facilities like bus stops, in conjunction with seating, shelter and lighting.

The provision of public transport facilities such as bus stops shall be considered on a case by case basis.

The provision of raised kerbs, electronic displays, lockable cycle shelters and other features should be considered on a case by case basis.

Commercial | Local

STREET FURNITURE & SOFT LANDSCAPING

Purpose and Principles

Use street tree planting to promote high streetscape values, provide amenity, shade and shelter.

Trees add important greening to urban streets.

Promote the use of low planting to provide storm water infiltration and bio-retention functions.

Street furniture should contribute to high streetscape quality. Street furniture needs to be comfortable, usable and appropriately located.

Street furniture needs to be positioned to promote safe and convenient movement and access for all street users.

Provide functional and aesthetic street lighting to benefit both the carriageway and footway.

Techniques

Clear stem (1.5m) street trees shall be planted in kerb extensions between parking bays. Locations shall fit with existing services, accesses, safety guidelines and pedestrian routes.

Street tree planting should be centred whether in the berm of within a kerb extension.

Tree pits should be used to delineate parking areas.

Tree pits shall be no less than 2m x 2m in dimensions and shall include complimentary planting.

Trees in the road corridor should be located in a manner that will not damage the footpath, carriageway or parking areas.

Spacing of trees will be determined by design proposals.

Ensure that the mature size of tree species is considered especially with regards to proximity to building facades.

Ensure that trees have a minimum of $8m^3$ of soil with adequate ventilation and watering systems. Flush tree pits or raised planters could be used.

Low ground cover and shrub species shall be planted in tree pits and, where space allows as bio-retention and infiltration areas. These are to be developed with assistance from Environmental Engineers and Landscape Architects.

Seating, bins, bollards, trip rails, light standards and lanterns, cycle stands etc. shall match the character of the street. Custom elements could be introduced, for example seating elements fixed to raised planters.

Provide seating to facilitate interaction. There shall be a hard surface space adjacent to the seat of 0.9m wide to allow for wheel chair, pram or mobility scooter parking space.

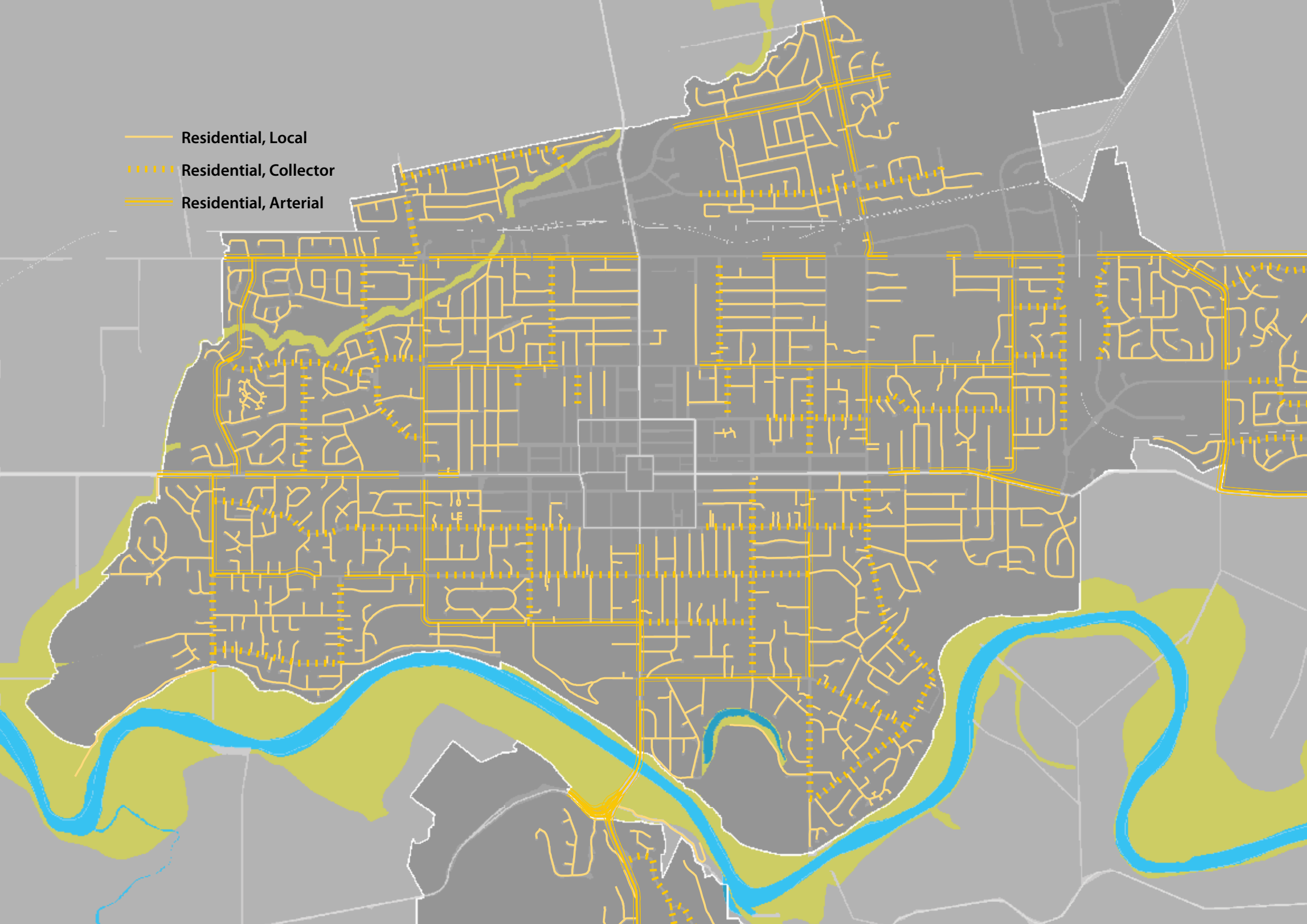
Projecting or suspended hazards (e.g. signage, shelters, branches of street trees, etc.) should not be lower than 2.1m.

All vertical obstructions should be designed to be detectable for visually impaired users.

Provide street lighting in keeping with street scale and character at regular intervals, generally at 10-20m apart, depending on specifications. Lighting is to illuminate the entire shared space.

Use LED white light range. Designs are to be developed with a Lighting Engineer.

The Plaza, Church Street, Palmerston North


Residential, Local
Residential, Collector
Residential, Arterial

Residential

Residential

1. Residential Collector
2. Residential Local

Residential | Collector

Description

Significant city route.

Circulation of residential areas and linked to arterials.

Need to manage through traffic and high levels of pedestrian amenity.

Large scale pedestrian activity.

Typical traffic flows of 3,000-10,000vpd.

Some movement of heavy vehicles.

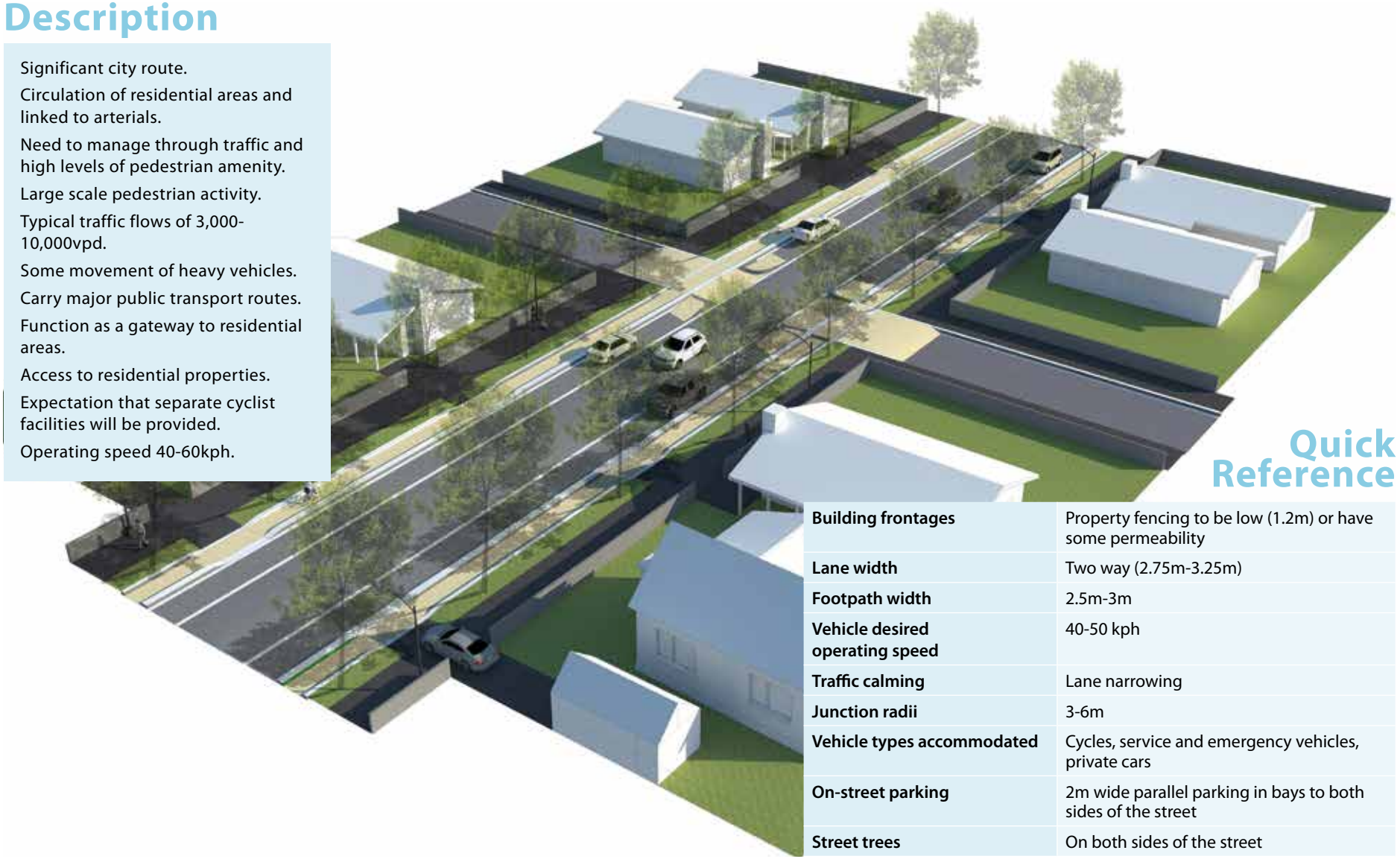
Carry major public transport routes.

Function as a gateway to residential areas.

Access to residential properties.

Expectation that separate cyclist facilities will be provided.

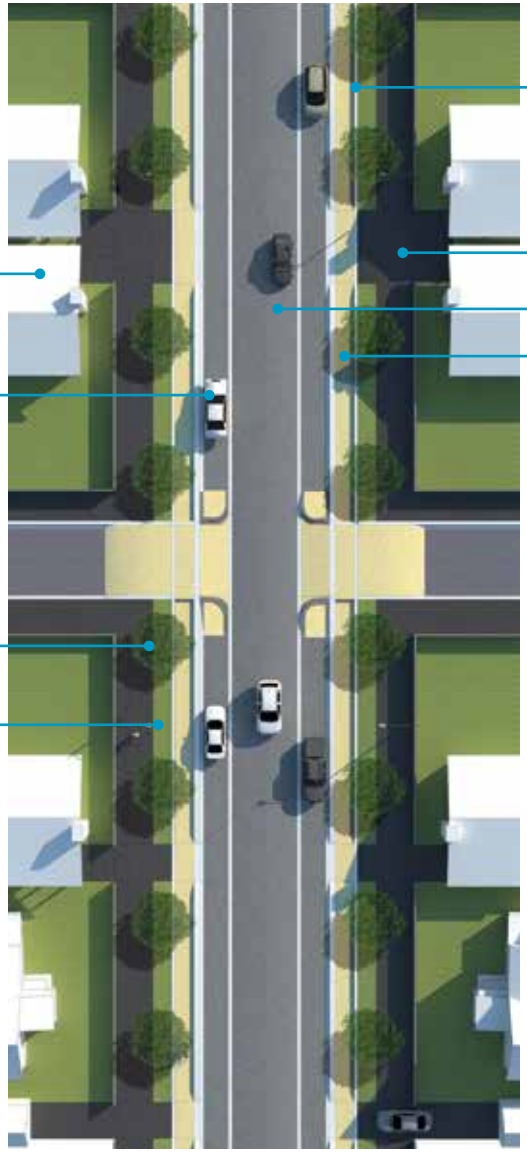
Operating speed 40-60kph.

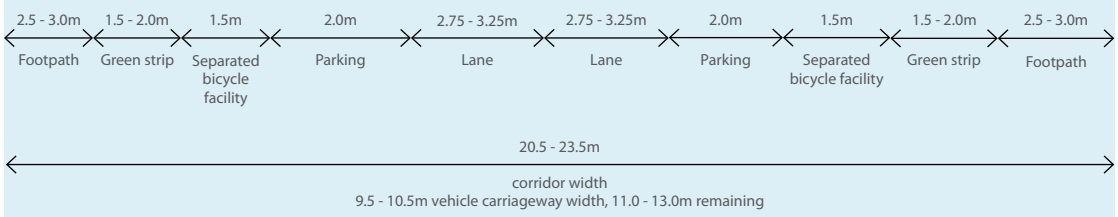


Quick Reference

Building frontages	Property fencing to be low (1.2m) or have some permeability
Lane width	Two way (2.75m-3.25m)
Footpath width	2.5m-3m
Vehicle desired operating speed	40-50 kph
Traffic calming	Lane narrowing
Junction radii	3-6m
Vehicle types accommodated	Cycles, service and emergency vehicles, private cars
On-street parking	2m wide parallel parking in bays to both sides of the street
Street trees	On both sides of the street

Plan & Cross Section





Illustrative of possible outcome. All designs will be subject to appropriate design standards.

Residential | Collector

	Purpose and Principles	Techniques
PEDESTRIANS	Pedestrians are heavy users. The design of the street should be legible as a pedestrian priority area and should facilitate human interaction. Pedestrian safety is paramount. Passive surveillance of the street is important. Pedestrian amenity should be of a high value. The street functions as a destination and / or place as well as a thoroughfare. All users feel comfortable walking to key local destinations directly and easily. Pedestrians should feel that they can cross at any point of the street, but should be conscious that vehicles will be travelling at speed.	Wide footpaths 2.5 - 3m shall be used on both sides of the street. Surfaces shall be even, stable, durable, slip resistant, non-glare, well lit, and be of a colour that provides a background setting to the street. Network utility infrastructure should be located to the edges or off the footpath. Footpaths shall be tidy and free of signage, street furniture and other obstacles that overly impedes the passive surveillance of pedestrians. Cul-de-sac use should be minimised and connectivity should be encouraged between streets, local services and surrounding features. Informal pedestrian crossings should be used: for example rumble strips across the carriageway that has the dual purpose of slowing traffic. These should be at no greater than 70m intervals. Pram crossings shall be used at intersections, with tactile units to signify crossing points, and ensure these are conveniently located. Pram crossings should be located at no greater than 100m apart on longer pedestrian routes.
CYCLISTS	Cyclists are moderate users. There is a need to encourage and provide for safe and efficient cyclist usage. Cyclists should be separate from pedestrians.	Separated Bicycle Facilities shall be provided. Separated Bicycle Facilities shall be: • For the exclusive use of cyclists; • Physically separated from other users; • At a continuous grade with either the footpath or lane; • Separated from the carriageway; • Located between the footpath and any parking areas; • Provided with a buffer area (e.g. 500mm – 600mm) to ensure that people opening car doors etc. within parking areas do not impede the movement of cyclists; • Prioritised at accessways and intersections; • Of colour contrast with footpaths, parking bays and carriageways; • Either one lane of at least 1.5m width, either way on both sides of the corridor or two lanes of at least 3m width (total) on one side of the corridor. At intersections and corners, cyclist priority techniques (e.g. advanced stops, cycle lane marking and bicycle lane separators at intersections) shall be used to delineate cycle space. Incorporate free-standing stands that are easy to lock a bike to.

Residential | Collector

Purpose and Principles

VEHICLES

Private vehicles will be a heavy user group. Users are encouraged by street design to travel at the speed limit. Drivers should be conscious that pedestrians are likely to be present and freely crossing the road.

Needs of emergency and service vehicles are to be accommodated.

Freight movements should be limited to deliveries and residential streets should not be preferred thoroughfares for heavy vehicles.

The street design is to accommodate high numbers of safe and convenient access to residential properties.

Where local roads meet other road typologies, clear threshold design cues should indicate entry to a residential area.

Safe and convenient long and short term on-street parking is to be provided.

Frequent bus stops should be provided.

Techniques

Narrow lane widths to be between 2.75 and 3.25 metres.

The desired operating speed is to be 40-50kph in urban areas.

Lanes shall be aligned to encourage traffic speeds that are below the desired operating speed. To achieve this: Long, straight lanes shall be avoided; The use of shorter block lengths (e.g. 60m – 100m) is encouraged; Where shorter block lengths cannot be provided, variation in the alignment of the road as a method of limiting sight lines should be provided; The use of other traffic calming measures e.g. build–outs, speed bumps and chicanes shall be considered as a last resort.

Impairments to driver sight lines should be used to reduce speeds. Balance national highways standards and streetscape design techniques to prioritise pedestrian movements in residential streets. Techniques to achieve this include: The use of street trees close to traffic lanes; narrowing the lane width; introducing raised tables and reducing turning radii at intersections.

The street design should incorporate threshold treatments to indicate the boundaries between residential areas and other connecting areas. For example, raised tables and changes in surface material can be used at intersections.

Turning radii at intersections to be 3 - 6m (to be confirmed by engineering design).

Consultation with emergency and service vehicle providers shall be undertaken during the design and construction process to ensure requirements are provided for.

Other traffic calming measures e.g. build–outs, speed bumps and chicanes shall be considered as a last resort.

Access to properties via driveways. Driveway grades shall tie in with pedestrian facilities, with pedestrian facilities having priority.

Driveway accesses are delineated using contrasting material to the footpath.

Two metre wide parallel parking at the sides of the carriageway shall be provided if space allows.

Bus stop road marking, shelters and relevant signage in conjunction with lighting should be provided along public transport routes. Raised kerbs, electronic displays, lockable cycle shelters are examples of other features that could be provided.

Residential | Collector

STREET FURNITURE & SOFT LANDSCAPING

Purpose and Principles

Use street tree planting to promote high streetscape values, character and to act as a buffer between pedestrians and users of the carriageway.

In some cases low planting could be used to provide storm water infiltration and bio-retention functions.

Street furniture should contribute to high streetscape quality. Street furniture needs to be comfortable, usable and located well.

Street furniture needs to be positioned to promote safe and convenient movement and access for all street users.

Provide functional and aesthetic street lighting to benefit the carriageway and footway.

Techniques

Clear stem (1.5m) street trees shall be planted in the landscape strip. Locations shall fit with existing services, accesses, safety guidelines and pedestrian routes.

Street tree planting should be centred whether in the berm of within a kerb extension.

Tree pits should be used to delineate parking areas.

Tree pits shall be no less than 2m x 2m in dimensions and shall include complimentary planting.

Trees in the road corridor should be located in a manner that will not damage the footpath, carriageway or parking areas.

Trees should be planted at 8-20m centres.

Low ground cover and shrub species should be planted in tree pits and, where space allows as bio-retention and infiltration areas. These are to be developed with assistance from Environmental Engineers and Landscape Architects.

Trees shall have adequate ventilation and watering systems.

Seating, bins, bollards, trip rails, light standards and lanterns, cycle stands etc. shall match the character of the street. Seating should facilitate interaction. There shall be a hard surface space adjacent to the seat of 0.9m wide to allow for wheel chair, pram or mobility scooter parking space.

Projecting or suspended hazards (e.g. signage, shelters, branches of street trees, etc.) shall not be lower than 2.1m.

All vertical obstructions shall be designed to be detectable for visually impaired users.

Provide street lighting in keeping with street scale and character at regular intervals, generally at 40m apart, depending on specifications. Lighting is to illuminate the entire corridor.

Use LED white light range. Designs are to be developed with a Lighting Engineer.

Ruapehu Drive, Palmerston North

Residential | Local

Description

Provide access and connectivity within local residential area.

Significant contribution to character of residential area.

Low vehicle speeds.

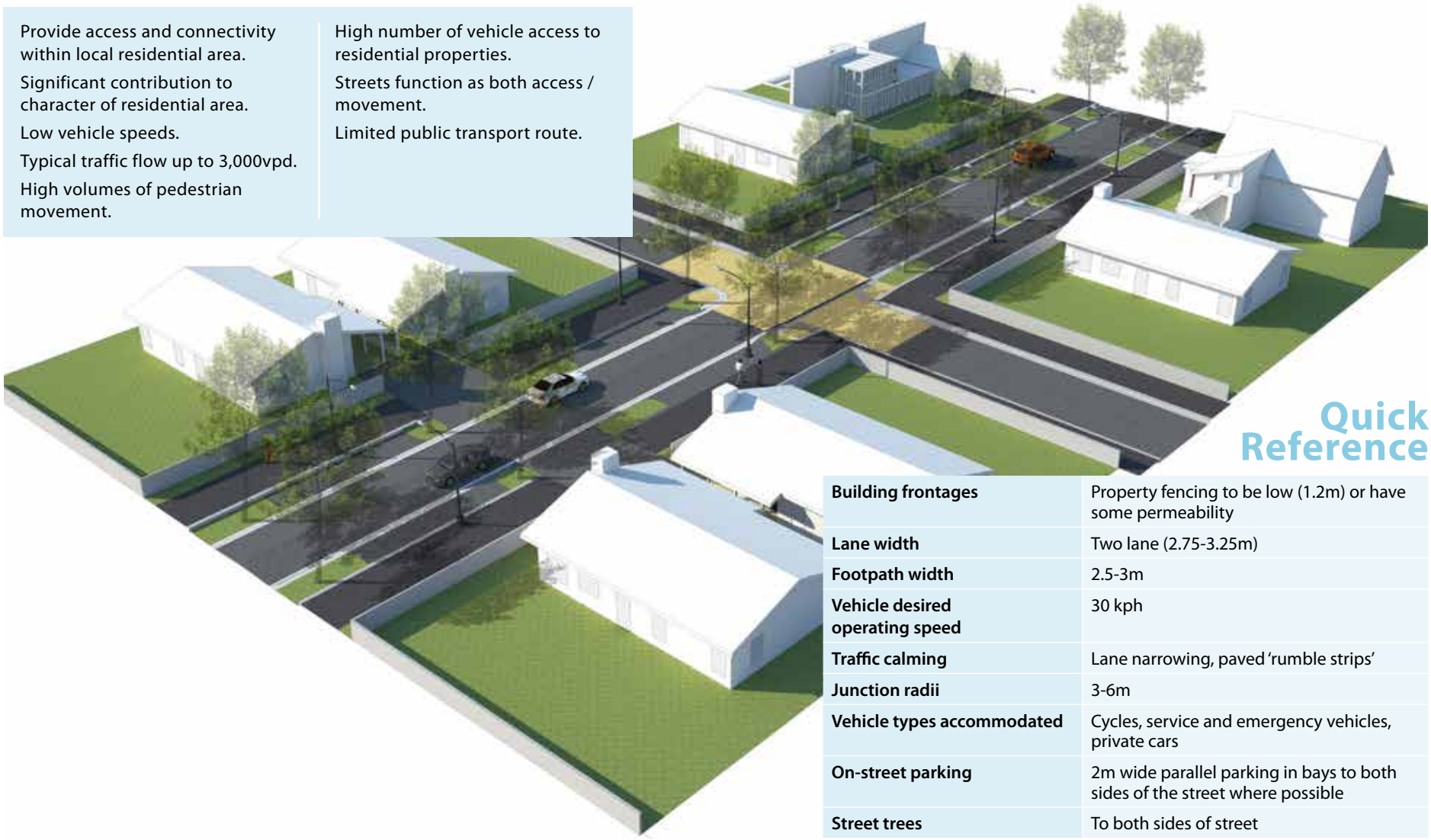
Typical traffic flow up to 3,000vpd.

High volumes of pedestrian movement.

High number of vehicle access to residential properties.

Streets function as both access / movement.

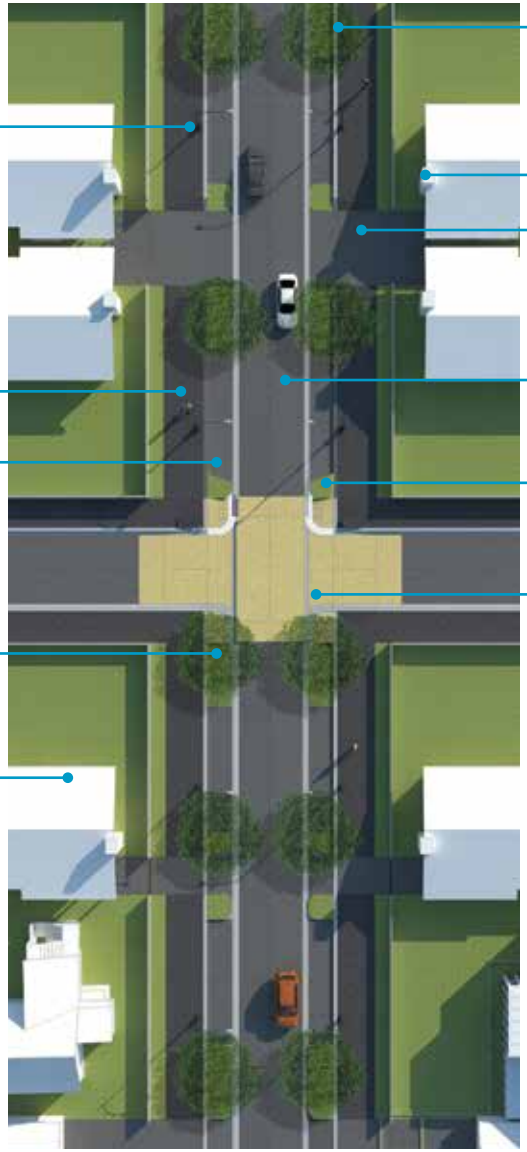
Limited public transport route.

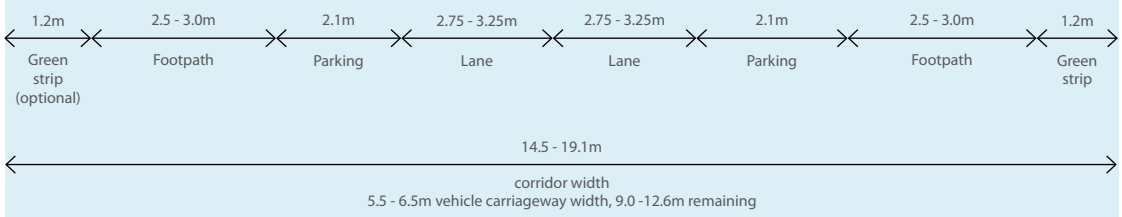


Quick Reference

Building frontages	Property fencing to be low (1.2m) or have some permeability
Lane width	Two lane (2.75-3.25m)
Footpath width	2.5-3m
Vehicle desired operating speed	30 kph
Traffic calming	Lane narrowing, paved 'rumble strips'
Junction radii	3-6m
Vehicle types accommodated	Cycles, service and emergency vehicles, private cars
On-street parking	2m wide parallel parking in bays to both sides of the street where possible
Street trees	To both sides of street

Plan & Cross Section





Illustrative of possible outcome. All designs will be subject to appropriate design standards.

Residential | Local

	Purpose and Principles	Techniques
 PEDESTRIANS	Pedestrians are heavy users and are to have priority at all times. The design of the street is legible as a pedestrian priority area and should facilitate human interaction. Pedestrian safety is paramount. Pedestrians should feel that they can cross at any point of the street. Pedestrian amenity should be of a high value. The street functions as a destination and / or place as well as a thoroughfare. All users feel comfortable walking to key local destinations directly and easily.	Wide footpaths (2.5 - 3m) shall be used on both sides of the road. Surfaces shall be even, stable, durable, slip resistant, non-glare, well lit, and be of a colour that provides a background setting to the street. Network utility infrastructure should be located to the edges or off the footpath. Footpaths shall be tidy and free of signage, street furniture and other obstacles that overly impedes the passive surveillance of pedestrians. Informal pedestrian crossings should be used: for example rumble strips across the carriageway that has the dual purpose of slowing traffic. These should be at no greater than 70m intervals. Pram crossings shall be used at intersections, with tactile units to signify crossing points, and ensure these are conveniently located. Pram crossings should be located at no greater than 100m apart on longer pedestrian routes. The use of cul-de-sacs should be minimised and connectivity should be encouraged between streets, local services and surrounding features.
 CYCLISTS	Cyclists are heavy users. There is a need to provide for safe and efficient cyclist usage. Cyclists should feel comfortable on the carriageway with vehicles driving at low speed.	Cyclists are to be accommodated in the road corridor. In some circumstances (e.g. intersections and corners) separated bicycle facilities should be considered on a case by case basis. At intersections and corners, cyclist priority techniques (e.g. advanced stops, cycle lane marking and bicycle lane separators at intersections) shall be used to delineate cycle space.

Residential | Local

VEHICLES

Purpose and Principles

Private vehicles will be a heavy user group as a main function of a local residential road is to provide access to dwellings.

Users are encouraged by street design to travel at low speeds. Drivers should be conscious that pedestrians have priority.

Needs of emergency and service vehicles are to be accommodated.

Freight movements should be limited to deliveries and residential streets should not be preferred thoroughfares for heavy vehicles.

Residential local roads are primarily destinations and not thoroughfares.

Where local roads meet other road typologies, clear threshold design cues indicate entry to a residential area.

The street design is to accommodate high numbers of safe and convenient access to residential properties.

Safe and convenient long and short term on-street parking is to be provided.

It is not necessary to provide for public transport in all road corridor design. If further public transport infrastructure is required, it should be considered on a case by case basis, particularly in the context of surrounding land uses.

Techniques

Lane widths should be between 2.75 and 3.25 metres.

The desired operating speed for residential local roads is 30kph.

Lanes shall be aligned to encourage traffic speeds that are below the desired operating speed. To achieve this: Long, straight lanes shall be avoided; The use of shorter block lengths (e.g. 60m – 100m) is encouraged; Where shorter block lengths cannot be provided, variation in the alignment of the road as a method of limiting sight lines should be provided; The use of other traffic calming measures e.g. build–outs, speed bumps and chicanes shall be considered as a last resort.

Impairments to driver sight lines should be used to reduce speeds. Balance national highways standards and streetscape design techniques to prioritise pedestrian movements in residential streets. Techniques to achieve this include: The use of street trees close to traffic lanes; narrowing the lane width; introducing raised tables and reducing turning radii at intersections.

Consultation with emergency and service vehicle providers shall be undertaken during the design and construction process to ensure requirements are provided for.

The street design should incorporate threshold treatments to indicate the boundaries between residential areas and other connecting areas. For example, raised tables and changes in surface material can be used at intersections.

Reduce turning radii at intersections 3 - 6m (to be confirmed by engineering design).

Driveway accesses shall be delineated using contrasting material to the footpath. Driveway grades shall tie in with pedestrian facilities, with pedestrian facilities having priority.

Two metre wide parallel parking should be provided at the sides of the carriageway.

The provision of public transport facilities such as bus stops shall be considered on a case by case basis.

The provision of raised kerbs, electronic displays, lockable cycle shelters and other similar features is generally encouraged and should be considered on a case by case basis.

Residential | Local

STREET FURNITURE & SOFT LANDSCAPING

Purpose and Principles

STREET FURNITURE AND SOFT LANDSCAPING:

Street furniture should contribute to high streetscape quality.

Street furniture needs to be positioned to promote safe and convenient movement and access for all street users.

Provide functional and aesthetic street lighting to benefit both the carriageway and footway.

Techniques

Use street tree planting to promote high streetscape values and character.

Promote the use of low planting to provide storm water infiltration and bio retention functions.

Clear stem (1.5m) street trees shall be planted in the landscape strip. Locations shall fit with existing services, accesses, safety guidelines and pedestrian routes

Street tree planting should be centred whether in the berm of within a kerb extension.

Trees in the road corridor should be located in a manner that will not damage the footpath, carriageway or parking areas.

Tree pits should be used to delineate parking areas and should be spaced at 12m intervals.

Tree pits shall be no less than 2m x 2m in dimensions and shall include complimentary planting.

Trees shall have adequate ventilation and watering systems.

Plant low ground cover and shrub species in tree pits and, where space allows, against private fences.

Bio retention and infiltration should be developed with assistance from Environmental Engineers and Landscape Architects.

Seating, bins, bollards, trip rails, light standards and lanterns, cycle stands etc. shall match the character of the street.

Seating should facilitate interaction.

Provide seating along pedestrian routes, offset by 1.2m from the footpath, to provide resting places. There shall be a hard surface space adjacent to the seat of 0.9m wide to allow for wheel chair, pram or mobility scooter parking space.

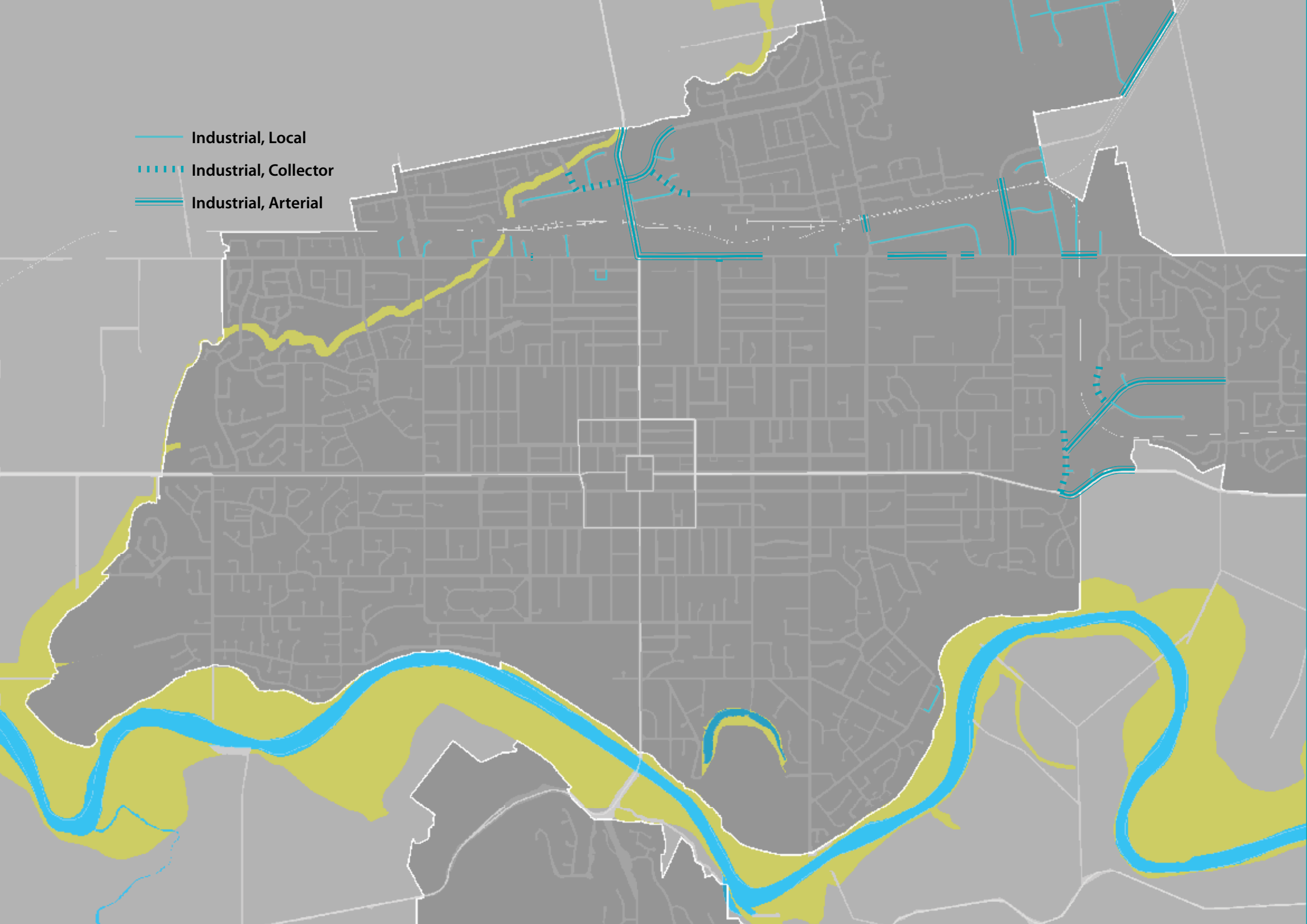
Projecting or suspended hazards (e.g. signage, shelters etc.) shall not be lower than 2.1m.

All vertical obstructions shall be designed to be detectable for visually impaired users.

Provide street lighting at regular intervals, generally at 20m apart, depending on specifications. Lighting is to illuminate the footpath and the carriageway and can be located at either boundary of the footpath.

Use LED white light range. Designs are to be developed with a Lighting Engineer.

Tremaine Avenue, Palmerston North


Industrial, Local
Industrial, Collector
Industrial, Arterial

Industrial

Industrial

1. Industrial Collector
2. Industrial Local

Industrial | Collector

Description

Significant city route.

Circulation of industrial areas and linked to arterials.

High volume of freight vehicles.

Typical traffic flows of 3,000-10,000vpd.

Limited public transport routes.

Access to industrial properties.

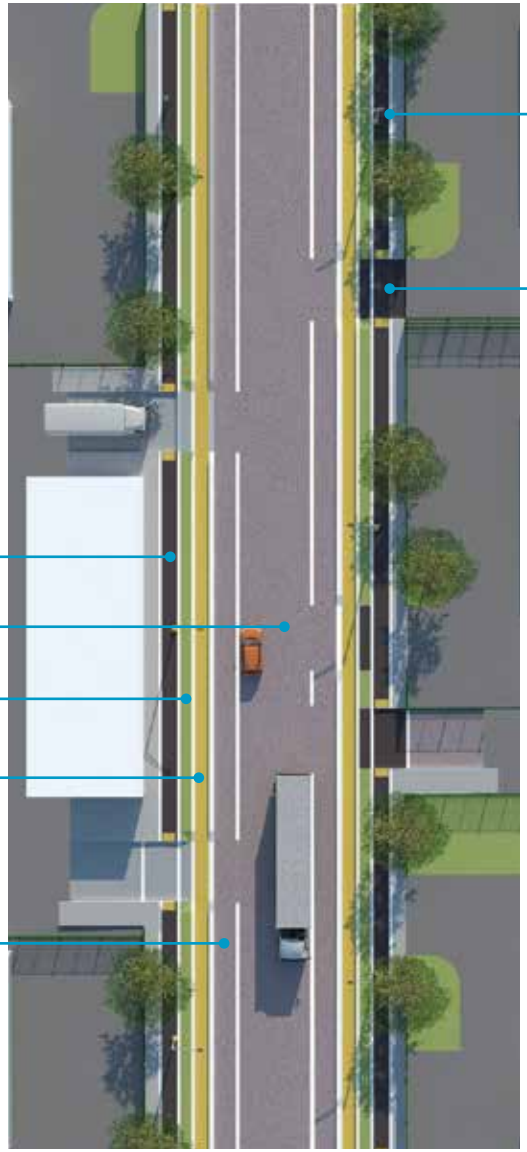
Expectation that separate cyclist facilities will be provided.

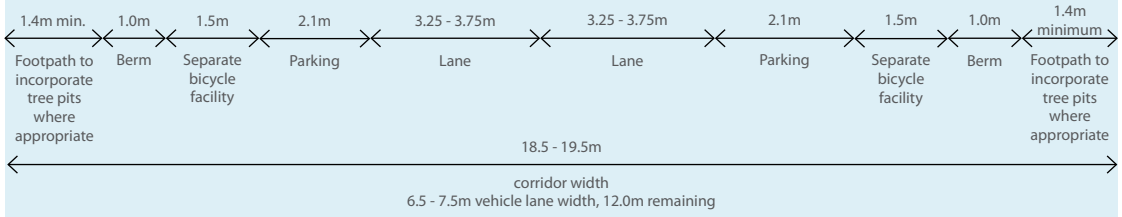
Operating speed 40-60kph.

Quick Reference

Building frontages	Must be oriented to the street
Lane width	Two way (3.25m-3.75m)
Footpath width	2.0m minimum
Vehicle desired operating speed	40-60 kph
Traffic calming	3-10m
Junction radii	Cycles, service and emergency vehicles, delivery vehicles, heavy goods vehicles, private cars
Vehicle types accommodated	2.1m wide parallel parking in bays to both sides of the street
On-street parking	Where possible to both sides of the street away from traffic lanes
Street trees	Optional, as space allows

Plan & Cross Section





Illustrative of possible outcome. All designs will be subject to appropriate design standards.

Industrial | Collector

	Purpose and Principles	Techniques
 PEDESTRIANS	Industrial roads need to be safe for pedestrians to use. Pedestrian access to properties should be provided for. Passive surveillance of the street is important. Pedestrian crossing points should be controlled. Discourage pedestrians crossing the road in places other than controlled crossing points.	Footpaths shall have a minimum width of 1.4m. Use of kerb and channel arrangements can assist to delineate footpath areas from parking and the carriageway. Footpath surfaces shall be even, stable, durable, slip resistant, non-glare, well lit, and have colour contrast with surroundings. Edges of footpaths should be defined by kerbs that contrast in colour with surroundings. Network utility infrastructure should be located to the edges or off the footpath. Footpaths shall be tidy and free of signage, street furniture and other obstacles that overly impedes the passive surveillance of pedestrians. Footpaths should extend to the property boundary. Fencing that is against the footpath for security reasons should be permeable and located behind landscape planting. Buildings should have frontages to the road. Ensure that footpaths are ordered, tidy and free of signage, street furniture and other obstacles. Pram crossings with corresponding on opposite side of the carriageway shall be used. Crossings should include three courses of blister tactile paving units, and slopes should not exceed a 1:12 grade. At intersections with collector and / or arterial roads, at grade pram crossings shall be used with corresponding crossing on opposite side of the carriageway. These should be at no greater than 100m intervals. Crossings should include three courses of red blister tactile paving units and a 'tail' extending across the width of the footway. All controlled crossings shall have pedestrian signals and traffic control.

Industrial | Collector

	Purpose and Principles	Techniques
CYCLISTS	Cyclists are moderate users. There is a need to encourage and provide for safe and efficient cyclist usage. Cyclists should be separate from pedestrians. Some visible, efficient cycle parking infrastructure needs to be provided.	Separated Bicycle Facilities shall be provided. Separated Bicycle Facilities shall be: • For the exclusive use of cyclists; • Physically separated from other users; • At a continuous grade with either the footpath or lane; • Separated from the carriageway; • Located between the footpath and any parking areas; • Provided with a buffer area (e.g. 500mm – 600mm) to ensure that people opening car doors etc. within parking areas do not impede the movement of cyclists; • Prioritised at accessways and intersections; • Of colour contrast with footpaths, parking bays and carriageways; • Either one lane of at least 1.5m width, either way on both sides of the corridor or two lanes of at least 3m width (total) on one side of the corridor. At intersections and corners, cyclist priority techniques (e.g. advanced stops, cycle lane marking and bicycle lane separators at intersections) shall be used to delineate cycle space. Incorporate free-standing stands that are easy to lock a bike to.
VEHICLES	Users are encouraged by street design to travel at low speeds. Provide for safe and convenient access for freight transport, courier vans and articulated trucks. Design to be preferred thoroughfares for heavy vehicles. Provide safe and convenient access for private users. Needs of emergency and service vehicles are to be accommodated. Safe and convenient access to and provision of short and long term parking both on and off-street. Nearby access to public transport services should be considered.	Lane widths to be between 3.25 and 3.75 metres. Maintain driver sightlines by retaining wide lane widths, keeping street trees away from the traffic lanes and not using raised tables on the industrial street. The desired operating speed is to be 40-60kph in urban areas. Turning radii at intersections to be 3 - 10m (to be confirmed by engineering design). Provide short term 5 minute, 'door stop' or 'loading zone' parking for quick deliveries. Carriageways should be of an alignment that provides for the needs of the efficient and safe movement of truck and trailers. Other traffic calming measures e.g. build–outs, speed bumps and chicanes shall be considered as a last resort. Access to lots (for staff parking, longer-term customer parking, delivery and pick-up) shall be provided for in a safe and efficient manner. 2.1 metre wide parallel parking at the sides of the carriageway, if space allows. Provision for simple facilities like bus stops, in conjunction with seating, shelter and lighting should be considered on a case by case basis.

STREET FURNITURE & SOFT LANDSCAPING

Purpose and Principles	Techniques
Use street tree planting to promote streetscape values and to act as a buffer between pedestrians and users of the carriageway. In some cases low planting could be used to provide storm water infiltration and bio-retention functions. Street furniture should contribute to streetscape quality. Street furniture needs to be comfortable, usable and located well. Street furniture needs to be positioned to promote safe and convenient movement and access for all street users. Provide functional and aesthetic street lighting to benefit both the carriageway and footpath.	Clear stem (2.5m) street trees shall be planted. Ideally these would be located on private property. Locations shall fit with existing services, accesses and safety guidelines. Street trees shall ideally be planted at 8-10m centres. Plant low ground cover and shrub species in tree pits. Bio-retention and infiltration to be developed with assistance from Environmental Engineers and Landscape Architects. Seating should be provided along pedestrian routes, offset by 1.2m from the footpath, to provide resting places. There shall be a hard surface space adjacent to the seat of 0.9m wide to allow for wheel chair, pram or mobility scooter parking space. Projecting or suspended hazards (e.g. signage, shelters, branches of street trees, etc.) shall not be lower than 2.1m and shall allow for movement of heavy goods vehicles. All vertical obstructions shall be designed to be detectable for visually impaired users. Provide street lighting at regular intervals, generally at 40-60m apart, depending on specifications. Lighting is to illuminate the footpath and the carriageway. Use LED white light range. Designs are to be developed with a Lighting Engineer.

Keith Street, Palmerston North

Industrial | Local

Description

Provides access and connectivity within a local industrial area.

Low vehicle speeds.

Typical traffic flow up to 3,000vpd.

High volumes of freight vehicles.

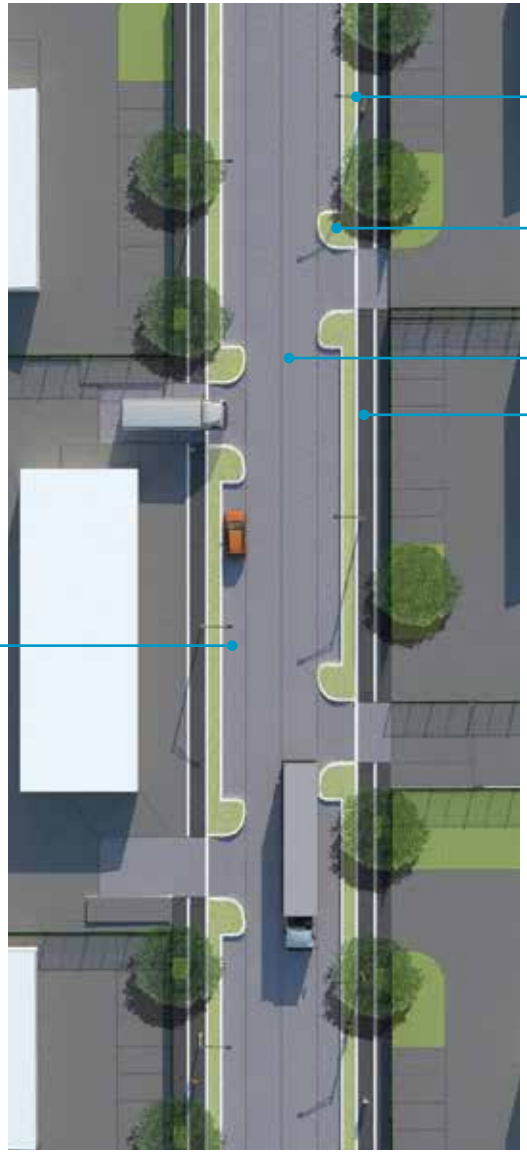
High number of vehicle access to industrial properties.

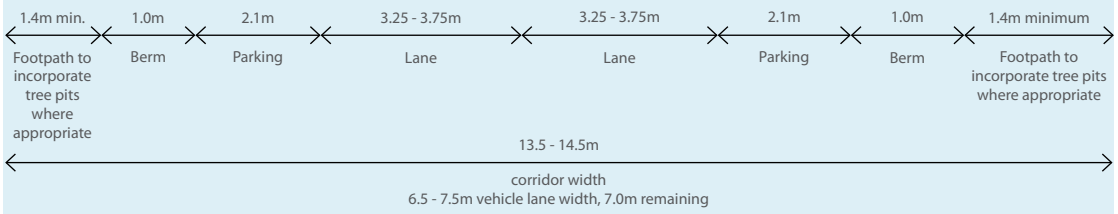
Limited public transport route.

Quick Reference

Building frontages	Must be oriented to the street
Lane width	Two way (3.25m-3.75m)
Footpath width	1.4m (minimum)
Vehicle desired operating speed	30-40 kph
Traffic calming	Lane narrowing
Junction radii	3-10m
Vehicle types accommodated	Cycles, service and emergency vehicles, private cars, delivery vehicles, heavy goods vehicles
On-street parking	2.1m wide parallel parking in bays to both sides of the street
Street trees	To both sides of the street away from traffic lanes

Plan & Cross Section





Illustrative of possible outcome. All designs will be subject to appropriate design standards.

Industrial | Local

	Purpose and Principles	Techniques
PEDESTRIANS	Industrial local roads need to be safe for pedestrians to use. There is a need to provide safe access for pedestrians between key land uses. Pedestrians should be aware that heavy vehicles will be present. The design of the street should cater for pedestrian access to industrial properties where there is a shop front, reception, public interface. Pedestrian amenity should be of moderate value, in the context of the surrounding industrial environment. Encourage connectivity between streets, local services and surrounding features. Pedestrians should be able to cross the road freely whilst being aware of the presence of traffic. Formal crossings should be provided.	Footpaths shall have a minimum width of 1.4m. Kerb and channel arrangements should assist to delineate footpath areas from parking and the carriageway. Footpath surfaces are to be even, stable, durable, slip resistant, non-glare, well lit, and have colour contrast with surroundings. Edges of footpaths should be defined by kerbs that contrast in colour with surroundings. Network utility infrastructure should be located to the edges or off the footpath. Footpaths should extend to the property boundary. Fencing that is against the footpath for security reasons shall be permeable and located behind landscape planting. Footpaths shall be tidy and free of signage, street furniture and other obstacles that overly impedes the passive surveillance of pedestrians. Use pram crossings with corresponding pram crossings on opposite side of the carriageway. These should be at no greater than 70m intervals. Crossings should include three courses of blister tactile paving units, and slopes should not exceed a 1:12 grade. At intersections with collector and arterial roads, use at grade pram crossings with corresponding on opposite side of the carriageway. These should be at no greater than 100m intervals. Crossings should include three courses of red blister tactile paving units and a 'tail' extending across the width of the footway. All controlled crossings shall have pedestrian signals and traffic control.
CYCLISTS	Cyclists are moderate users. There is a need to encourage and provide for safe and efficient cyclist usage. Some visible, efficient cycle parking infrastructure needs to be provided.	Accommodate cyclists in the road corridor. In some circumstances (e.g. intersections, corners) consideration of separation from vehicles is required. At intersections, corners, and where identified in cycling strategy, cyclist priority techniques (e.g. advanced stops, cycle lane marking and bicycle lane separators at intersections) shall be used to delineate cycle space. Incorporate free-standing cycle stands that are easy to lock a bike to.

Industrial | Local

	Purpose and Principles	Techniques
VEHICLES	Users are encouraged by street design to travel at low speeds. Provide for safe and convenient access for freight transport, courier vans and articulated trucks as well as private vehicles. Industrial local roads are primarily destinations and not thoroughfares. Should not be preferred thoroughfares for heavy vehicles. Freight movements should be delivery and pick-up only. Provide safe and convenient access from the street. Needs of emergency and service vehicles are to be accommodated. Safe and convenient access to and provision of short and long term parking both on and off-street. Nearby access to public transport services should be considered.	Carriage widths to between 3.25 and 3.75 metres. Maintain driver sight lines (e.g. by keeping trees away from edges of lanes). The desired operating speed is 30-40kph. Turning radii at intersections to be 3-10m (to be confirmed by engineering design). Provide short term 5 minute, 'door stop' or 'loading zone' parking for quick deliveries. Carriageways should be of an alignment that provides for the needs of the efficient and safe movement of truck and trailers. Other traffic calming measures e.g. build–outs, speed bumps and chicanes shall be considered as a last resort. Access to lots (for staff parking, longer-term customer parking, delivery and pick-up) shall be provided for in a safe and efficient manner. Two metre wide parallel parking at the sides of the carriageway where possible. Provision for simple facilities like bus stops, in conjunction with seating, shelter and lighting should be considered on a case by case basis.
STREET FURNITURE & SOFT LANDSCAPING	Use street tree planting to promote streetscape values, character and to act as a buffer between pedestrians and users of the carriageway. In some cases low planting could be used to provide storm water infiltration and bio-retention functions. Street furniture should contribute to streetscape quality. Street furniture needs to be comfortable, usable and located well. Street furniture needs to be positioned to promote safe and convenient movement and access for all street users. Provide functional and aesthetic street lighting to benefit the carriageway and footway.	Clear stem (1.5m) street trees shall be planted. Locations shall fit with existing services, accesses and safety guidelines. The spacing of any street tree planting shall be considered on a case by case basis taking into account, context and surrounding land use. Street tree planting should not be provided adjacent to property boundaries. Plant low ground cover and shrub species in tree pits. Bio-retention and infiltration to be developed with assistance from Environmental Engineers and Landscape Architects. Seating should be provided intermittently along pedestrian routes, offset by 1.2m from the footpath, to provide resting places. There shall be a hard surface space adjacent to the seat of 0.9m wide to allow for wheel chair, pram or mobility scooter parking space. Projecting or suspended hazards (e.g. signage, shelters) shall not be lower than 2.1m and shall allow for movement of heavy goods vehicles. All vertical obstructions shall be designed to be detectable for visually impaired users. Provide street lighting at regular intervals, generally at 40-60m apart, depending on specifications. Lighting is to illuminate the footpath and the carriageway. Use LED white light range. Designs are to be developed with a Lighting Engineer.


MDC Rural, MDC Local
Rural, Local
Rural, Collector
Rural, Arterial

Rural

Rural

Rural

Description

Collectors are significant district routes 3000-10,000vpd.

High vehicle speed 80-100kph.

Some access to rural properties.

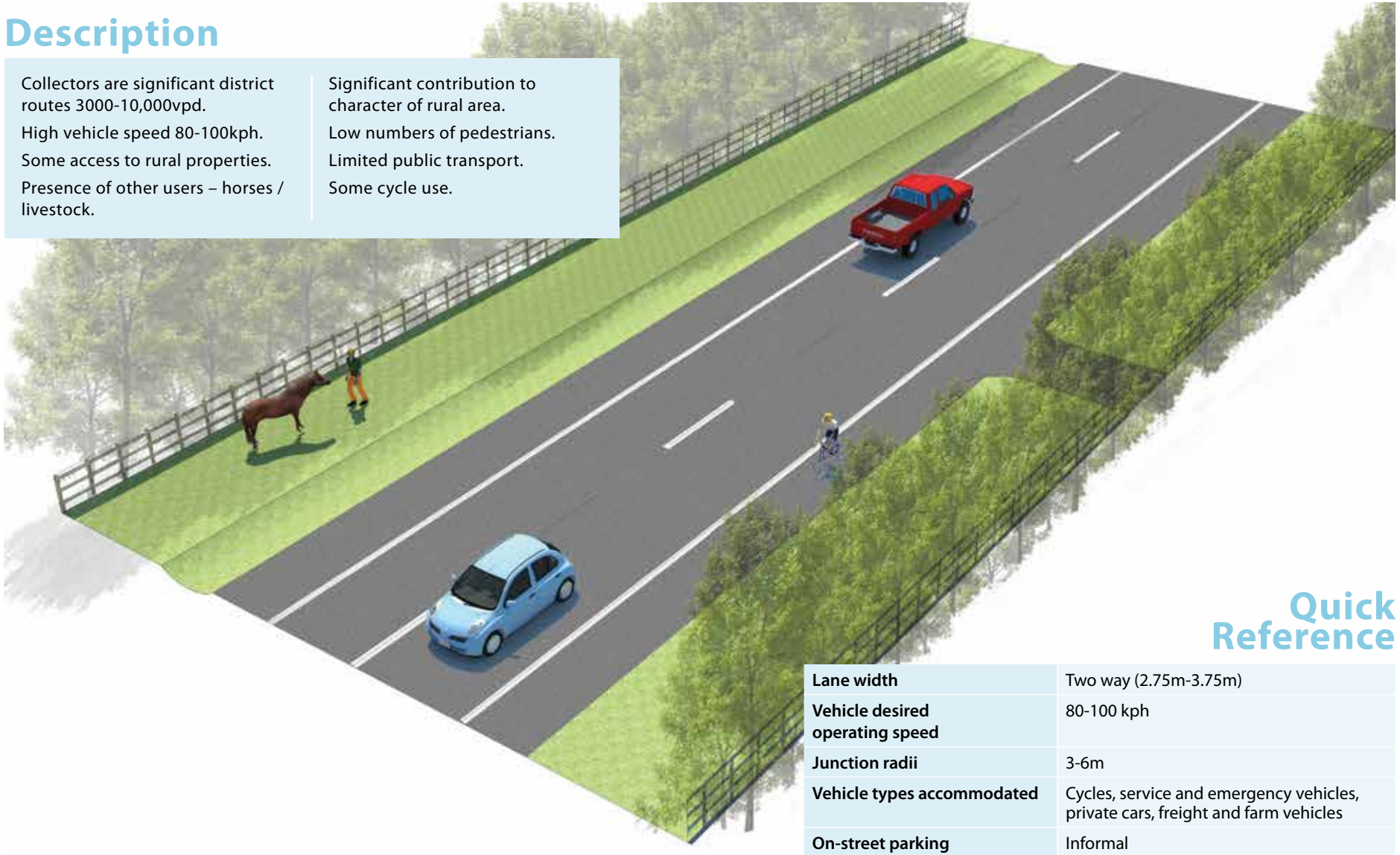
Presence of other users – horses / livestock.

Significant contribution to character of rural area.

Low numbers of pedestrians.

Limited public transport.

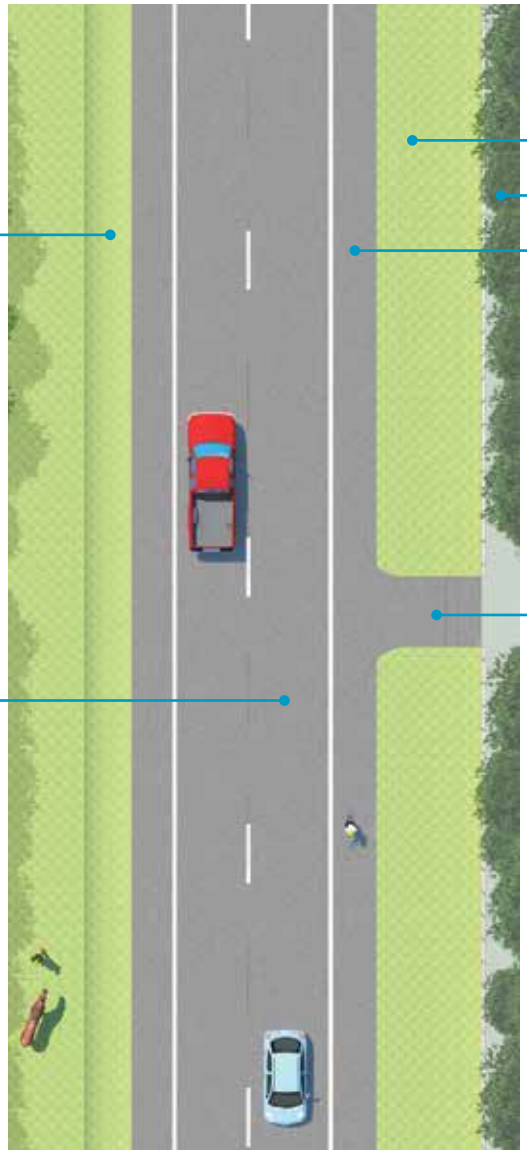
Some cycle use.



Quick Reference

Lane width	Two way (2.75m-3.75m)
Vehicle desired operating speed	80-100 kph
Junction radii	3-6m
Vehicle types accommodated	Cycles, service and emergency vehicles, private cars, freight and farm vehicles
On-street parking	Informal

Plan & Cross Section



3.5 - 4.5m	2.0m	1.0 - 1.5m	2.75 - 3.75m	2.75 - 3.75m	1.0 - 1.5m	3.5 - 4.5m
Berm	Bio-retention swale	Hard shoulder	Lane	Lane	Hard shoulder	Accessible berm

18.5 - 23.5m

corridor width
6.5 - 7.5m vehicle carriage width, 12 - 16m remaining

Illustrative of possible outcome. All designs will be subject to appropriate design standards.

Rural

	Purpose and Principles	Techniques
PEDESTRIANS	Pedestrians are light users of rural streets. Pedestrian safety is paramount. Pedestrians should be able to cross the street using uncontrolled crossings. At larger, busier intersections, controlled crossings should be provided.	The provision of footpaths shall be considered on a case by case basis. Generally an accessible berm will suffice. Surfaces shall be even, stable and durable. Network utility infrastructure should be located to the edges or off the footpath. Footpaths shall be tidy and free of signage, street furniture and other obstacles that overly impedes the passive surveillance of pedestrians. The provision of uncontrolled pedestrian crossings shall be considered on a case by case basis: Pram crossings shall be used, with tactile units to signify crossing points. Ensure these are conveniently located.
	Cyclists are moderate users. There is a need to encourage and provide for safe and efficient cyclist usage. Cyclists are to be separate from pedestrians.	Cyclists shall be accommodated in the road corridor on sealed shoulders. Shoulders shall be designed and constructed to appropriate minimum standards.
VEHICLES	Private vehicles will be a heavy user group. Users are encouraged by street design to travel at the speed limit. Rural roads may be preferred thoroughfares for heavy vehicles and the needs of emergency and service vehicles are to be accommodated. Consider the needs of slower transport e.g. tractors, horses and livestock. Drivers should be conscious of the presence of cyclists, pedestrians, and other slower transport. The street design is to accommodate safe and convenient access to residential and commercial properties. It is not necessary to provide for public transport in the corridor, unless the road is a designated public transport route.	Carriage widths to between 2.75 and 3.75 metres dependent on road purpose, function and traffic volumes. Maintain driver sightlines. The desired operating speed is to be 80-100kph. Turning radii at intersections to be 3-6m (to be confirmed by engineering design). Berms should be provided to the side of the road for slow vehicles to pull onto so faster vehicles can pass or for vehicles to stop on. Formal parking provision is not required; however there should be places for vehicles to stop. Highway signage warning private vehicles of cyclists or slower transport shall be used where appropriate. Access to properties via driveways. Pedestrian facilities to tie in with driveway grades. Driveway accesses are delineated using contrasting material to the footpath. There could be provision for simple facilities like bus stops, in conjunction with seating, shelter and lighting. Rest stops for heavy vehicles and tourist vehicles should be considered at appropriate locations.

Rural

Purpose and Principles	Techniques
In some cases low planting could be used to provide storm water infiltration and bio-retention functions. Where provided, street furniture should contribute to streetscape quality. Street furniture needs to be comfortable, safe, usable and located well. Provide functional and aesthetic street lighting in key locations e.g. intersections.	Plant lawn, low ground cover and /or shrub species in swales to enhance streetscape amenity. Bio-retention and infiltration functions to be developed with assistance from Environmental Engineers and Landscape Architects. Projecting or suspended hazards (e.g. signage, shelters, branches of street trees, etc.) should not be lower than 2.1m. The provision of lighting should be considered on a case by case basis. Where necessary, lighting is to illuminate the footpath and the carriageway. Designs are to be developed with a Lighting Engineer.

Tiritea Road, Palmerston North

Palmerston North City entrance

GLOSSARY

Bio-retention: The process in which stormwater is collected in an adjacent landscape area, where contaminants and sedimentation are filtered out.

Carriageway: That portion of a street set aside particularly for the use of vehicles, that typically runs from kerb to kerb.

Desired Operating Speed: The operating speed that a particular street environment is designed for.

Dual Carriageway: A street having a separate carriageway for each direction of travel.

Kerb Extensions: Extension of the kerb line that narrows the effective lane width. May be used in association with street entrances, pedestrian crossing points, or landscape treatments.

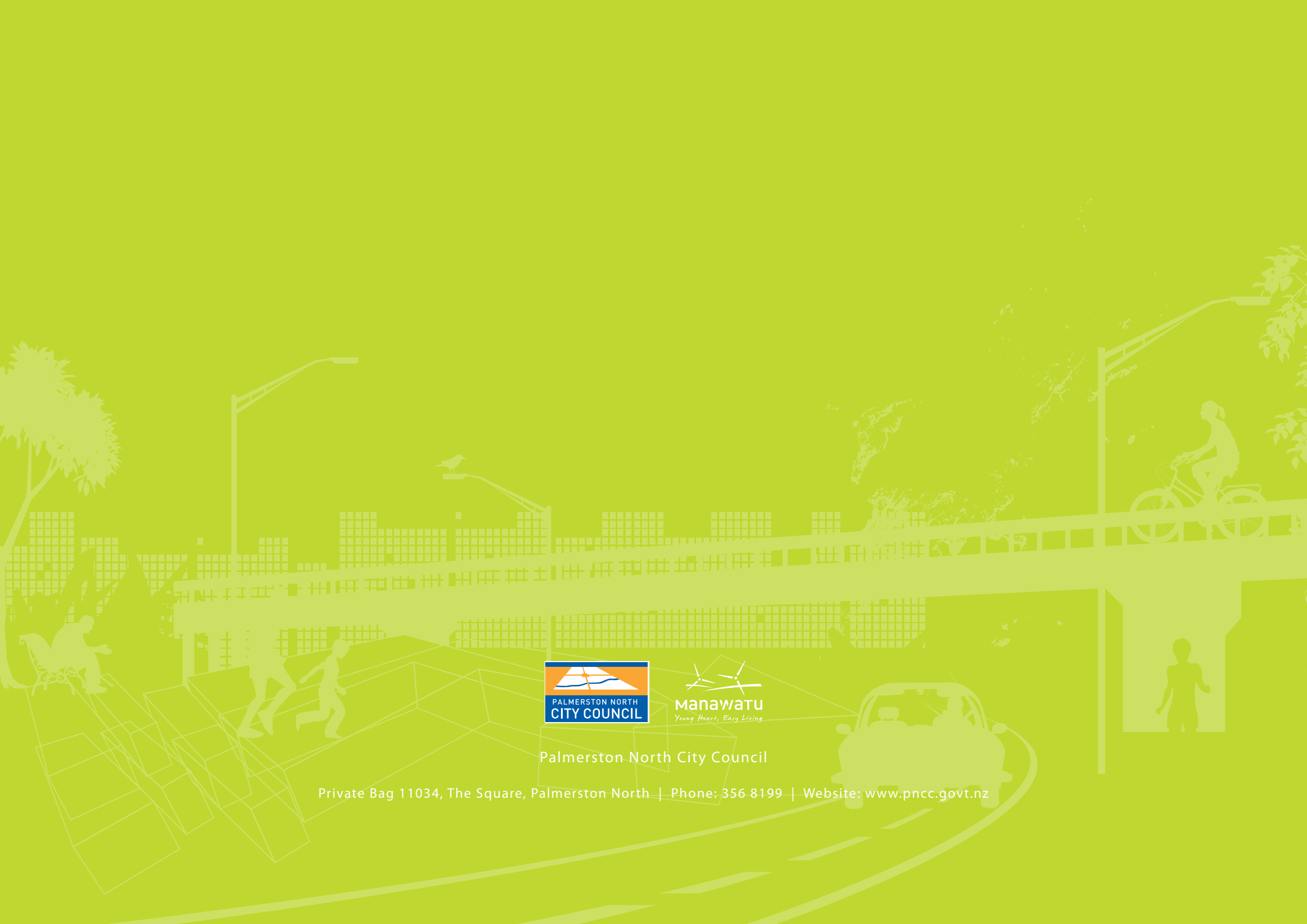
Pram Crossing: Have inclined planes or ramps to avoid vertical drops.

Raised Table: An elevated platform on the carriageway used in conjunction with either a pedestrian crossing, or to slow vehicle speeds.

Separated Cycling Facility: An area dedicated for cyclists that is separated from other street users.

Turning Radii: How tight the kerb line is at an intersection. Smaller radii means vehicles must reduce speed in order to safely make turn.

Vehicle Lane: That portion of the carriageway allotted for the use of a single line of vehicles.



Palmerston North City Council

Private Bag 11034, The Square, Palmerston North | Phone: 356 8199 | Website: www.pncc.govt.nz