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GLEN EIRA STREET DESIGN GUIDELINES

SUMMARY DOCUMENT

2023



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CHAPTER 1

STREET DESIGN GUIDELINES OVERVIEW

INTRODUCTION

ABOUT THIS DOCUMENT

This summary document provides an introduction to the Glen Eira Street Design Guidelines (SDG), a resource used by Council to guide future streetscape improvement projects. This summary explains the vision, recommendations and mechanisms identified in the SDG however, as these are guidelines, they do not include the detailed technical information.

The SDG build on the existing policy framework identified in the *Glen Eira Integrated Transport Strategy (ITS)* and the *Victorian Government's Movement and Place policy*. The SDG provide principles and design advice for Glen Eira's designated transport corridors as identified in the *ITS*.

PURPOSE

Streets make up the largest amount of public space in the Glen Eira community. For streets to function as great places for people to live, work and play, they must be designed as engaging public spaces, not just movement corridors. Streets contribute to the character of a place, foster business activity and enhance community connectivity. The purpose of the SDG is to provide a set of design principles to ensure high-quality upgrades and maintenance of Glen Eira's streets. The SDG reflects Council's current policies, and best practice standards in street design.

The SDG can be used:

FOR SETTING THE VISION FOR FUTURE STREETS

The SDG recognises that the streetscape renewal process does not happen overnight. It is subject to a multi-step process, community input and funding availability. The SDG seeks to establish a clear vision for future streets in Glen Eira.

AS A RESPONSE TO NEW EMERGING BEST PRACTICE

The SDG has been developed based on Best Practice Standards, including the Victorian Government Department of Transport's (DoT) *Street Design Guidelines* and input from agencies and various Council departments. The SDG offer a clear, consistent set of standards and processes to design, plan, and implement streetscape improvements based on the street type (informed by DoT's *Movement and Place* policy).

They are intended to function as a 'living' document that will continue to evolve, reflecting any new learnings and will undergo review processes over time.

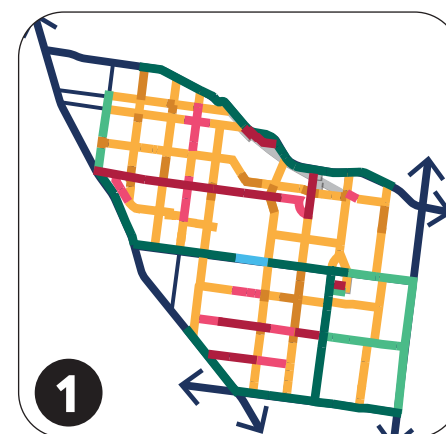
TO GAIN CLARITY ON THE PROCESS FOR STREET UPGRADES

The SDG are a useful communication tool for Council officers. They will aid discussions with agencies and/or design consultants and provide a 'starting point' for future streetscape projects.

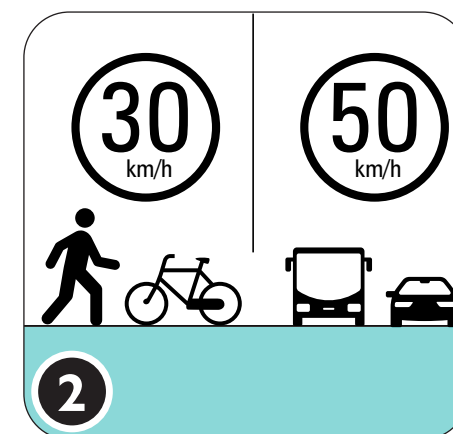
Importantly, the SDG are not intended to limit new opportunities or incremental change over time. Final design outcomes cannot be fully obtained using the SDG. Detailed design outcomes are reliant on the technical team's assessment of a site, contextual analysis and other inputs including community feedback. The SDG provide a best-practice approach, suggest mechanisms for improvements and identify a vision for high-quality streets in Glen Eira.

KEY RECOMMENDATIONS

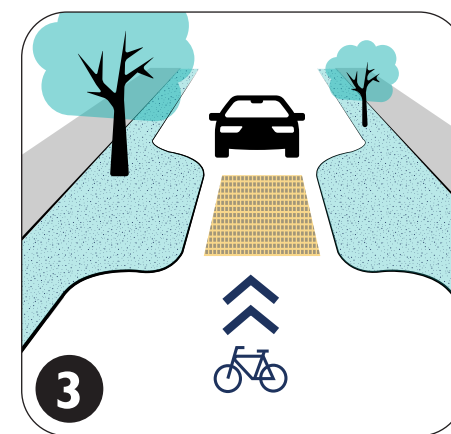
The SDG outlines the following key recommendations:



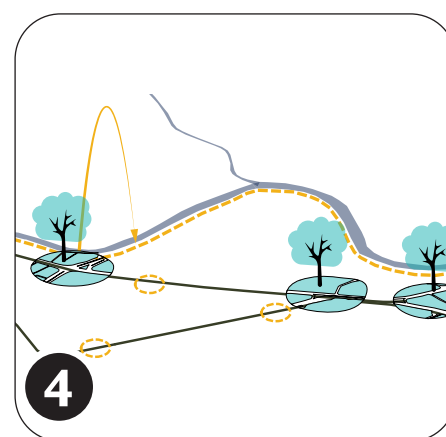
Design strategies for the **seven street types** identified in Glen Eira.



A preferred speed of **30–40km/h** for great walking and safe cycling streets and a preferred speed of **50km/h** for efficient driving and express public transport routes (excluding key arterial roads) for improved safety and amenity.



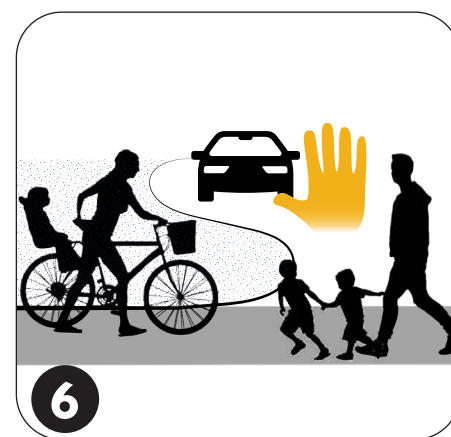
Application of **traffic calming measures and appropriate traffic lane widths (between 2.8m–3.5m)** to ensure streets are safe for everyone.



Additional **street tree planting and water sensitive urban design**.

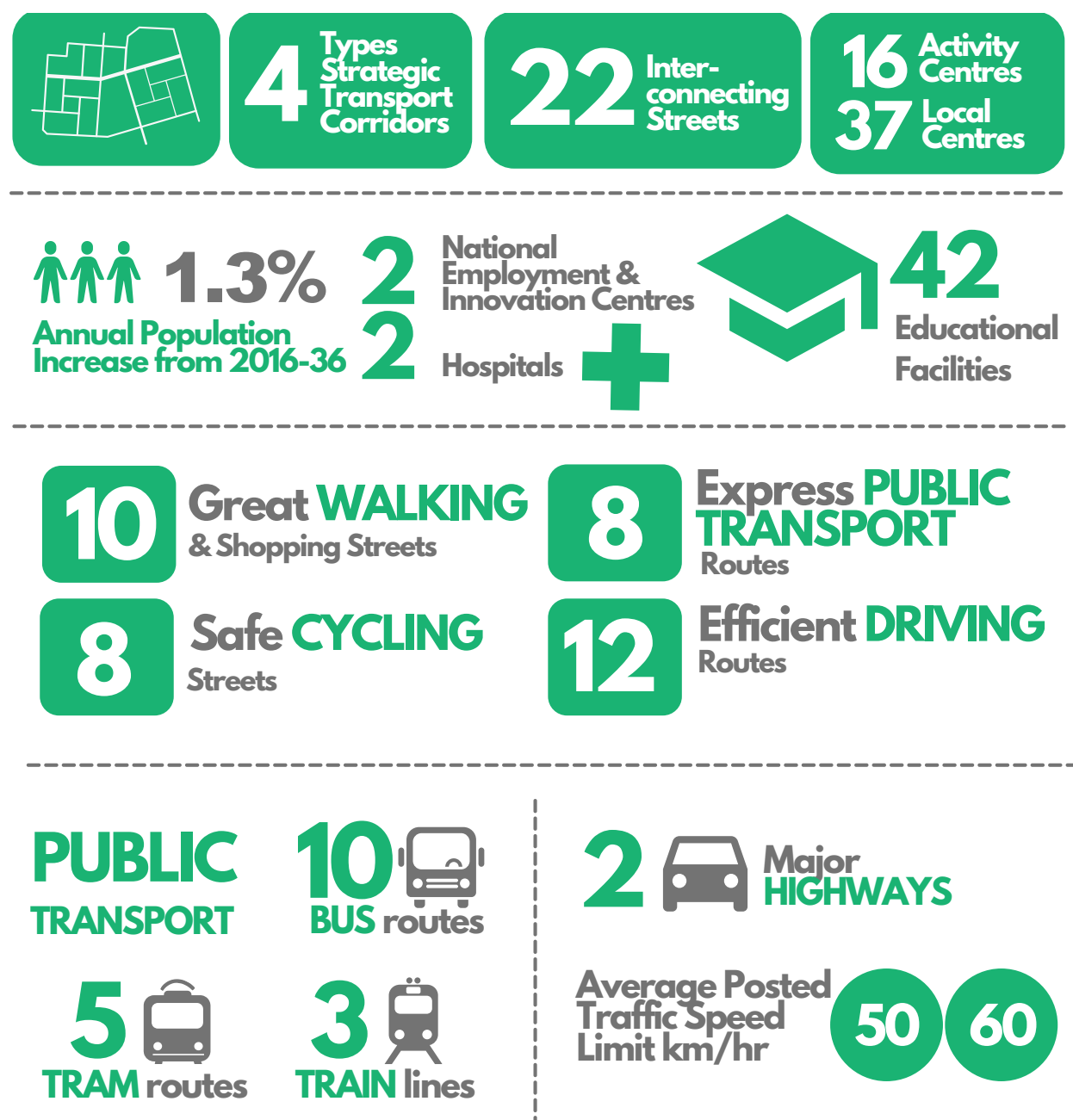


Improved infrastructure along **cycling and walking routes** connecting key destinations and supporting a significant increase in volumes of cyclists per hour.



Continue to support efficient driving routes without sacrificing other road users' safety and **management of vehicle rat-runs** passing through residential neighbourhoods.

STRATEGIC TRANSIT CORRIDORS IN CONTEXT



KEY CHALLENGES FOR OUR LOCAL AREA

The key challenges for Glen Eira's strategic transit corridors are:

1. Pedestrian and cycle safety and amenity, particularly at major junctions and key destinations.
2. Inconsistent, disconnected or absence of cycling infrastructure for designated safe cycling streets.
3. Limited footpath widths in major activity centres, where pedestrian volumes are higher and the expectation for footpath trading, pedestrian amenity and landscaping are higher.
4. Lack of wayfinding to key destinations within and outside the municipality.
5. An overall perception of the street network that is dominated by cars and on-street parking.
6. Limited opportunities for new public open spaces.
7. A conflict in preferred and actual modal priority.
8. Varied road widths and carriageways make it financially challenging to implement preferred design treatment within limited space.
9. Existing infrastructure above and below ground may limit the opportunity for substantial canopy tree planting, for example power poles and underground services.



PRINCIPLES

The below principles will guide decision-making during all phases of the street design process:



BETTER MOVEMENT

Our streets must move more people and provide better options for travel by:

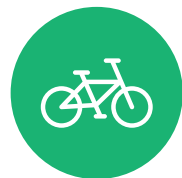
- > minimising conflict between modes
- > facilitating efficient modal interchange
- > managing car parking appropriately



SAFER

We have a shared responsibility to make our roads and streets safe for everyone by:

- > managing appropriate traveling speed
- > designing streets for all abilities and ages
- > increasing modal confidence



HEALTHIER

Our roads and streets should support physical, mental and social health by:

- > supporting universal access
- > maximising landscaping to create comfortable and attractive streets
- > encouraging active transport with improvements to walking/cycling infrastructure
- > creating great places for people to meet and connect



BETTER PLACES

We need to enhance our sense of place by centering human-scaled experiences which support our local economy by:

- > facilitating street activities and designing streets which support business, outdoor dining, passive wayfinding and improved pedestrian amenity
- > designing for the people who live, work and visit the area
- > integrating local heritage for an improved sense of place



STREETS AS ECOSYSTEMS

Our roads and streets should protect and enhance our natural environment by increasing tree canopies and reducing heat island effect by:

- > maximising landscaping opportunities and creating an urban forest that supports our local environment
- > integrating blue-green infrastructure into street design



EVOLVING

Our roads and streets can evolve and should be designed to cater for the needs of today's community and Glen Eira's future community by:

- > embedding a culture of change across all levels of decision-making
- > developing a project feedback loop through monitoring and evaluating impact and piloting change



CHAPTER 2 STREET TYPES

STREETS IN GLEN EIRA

The SDG will help guide the design process for key streets in Glen Eira. These streets have been allocated different modal priorities in *Glen Eira's Intergrated Transport Strategy* and have been categorised as:

- > Great walking streets
- > Safe cycling route
- > Express public transport routes
- > Efficient driving routes

These corridors are all unique in width, orientation, speed, interfaces and land use. Each street must be designed with consideration given to local conditions.

STREET TYPES AND FAMILIES

Street types are useful in identifying a future vision and potential design outcomes for a street. These reflect the DoT's street family guide and demonstrate the role that each street plays within Glen Eira. Each family is made up of a group of street types that share similar attributes.

The street types within Glen Eira are well-captured by the 'Exchange', 'Connect' and 'Live' street families. Therefore, these three street Families have been allocated to different streets within Glen Eira.

EXCHANGE Street Family CONVERSE, MEET, THRIVE

Vision: Streets within the exchange family are places where people can meet, interact, converse and thrive. These streets support communities accessing goods and services.

STREET TYPES

- **HIGH ACTIVITY STREETS**
- **MIXED ACTIVITY STREETS**



CONNECT Street Family MOVE, TRAVERSE, INTERACT

Vision: Streets within the connect family move people and goods across the city. These streets are places where modes interact to connect people and places.

STREET TYPES

- **BOULEVARDS**
- **INTERCHANGE STREETS**
- **CONNECTOR**



LIVE Street Family INHABIT, PLAY, SLEEP

Vision: Streets within the live family are places where people inhabit. They support people to live their lives, relax, play, sleep and build a sense of community.

STREET TYPES

- **RESIDENTIAL CONNECTORS**
- **LOCAL ACTIVITY STREETS**



GLEN EIRA STREET TYPES

The adjacent map identifies the locations of different street types in Glen Eira. It overlays these with the *Glen Eira Intergrated Transport Strategy* safe cycling streets, great walking streets and great walking points. This can be used to understand the relationship between the places in Glen Eira, the street types and how people move.

Each street has local conditions which must be considered in any design process.

DoT Road Category 1 Classification (RDZ1)

- 1. Dandenong Road
- 2. Balaclava Road
- 3. Glen Eira Road/Neerim Road
- 4. Hotham Street
- 5. Hawthorn Road
- 6. Nepean Highway
- 7. Murrumbeena Road/East Boundary Road
- 8. North Road
- 9. Centre Road
- 10. Grange Road/Jasper Road
- 11. Warrigal Road
- 12. South Road

LEGEND

Municipal boundary

Train Station/ railway

Municipal boundary

Activity Centres

Employment Areas

Regional open space

Municipal open space

Neighbourhood open space

School/ Education facility

Community/ Religious facility

Medical facility

INTEGRATED TRANSPORT STRATEGY

Safe Cycling Streets

Great Walking Street

Great Walking Points

STREET FAMILIES

EXCHANGE

High Activity Street

Mixed Activity Street

CONNECT

Boulevard Street

Interchange Street

Connector Street

LIVE

Residential

Connector Street

Local Activity Street



EXCHANGE Street Family

CONVERSE, MEET, THRIVE

Vision: Streets within the exchange family are places where people can meet, interact, converse and thrive. These streets support communities to access goods and services



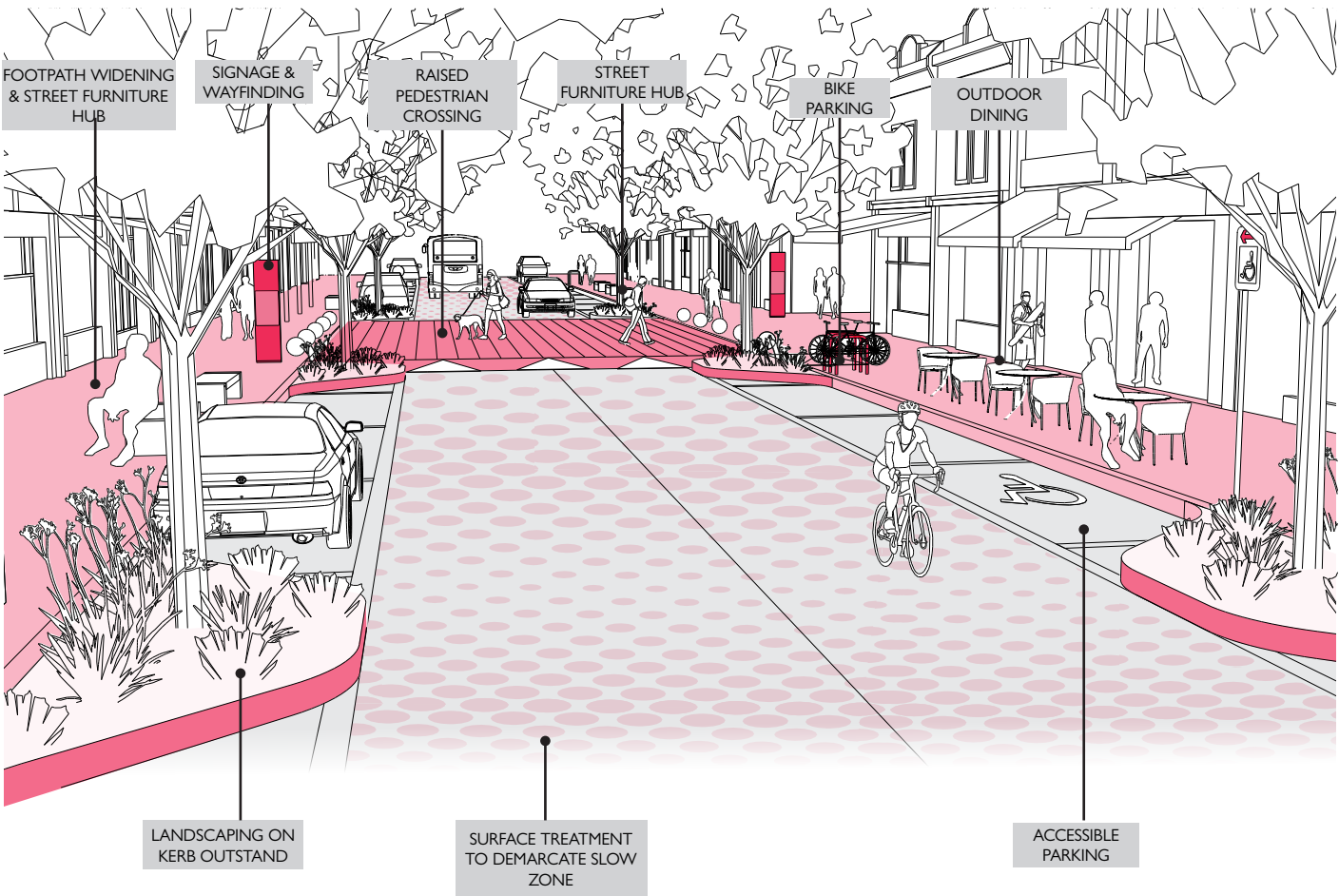
HIGH ACTIVITY STREETS

High activity streets are multi-modal, major destinations for people to visit, work and live. They play a central role for the community, supporting a concentration of commercial, residential, civic and community land use. They are high amenity places that facilitate social interaction and high on-street activity.



MIXED ACTIVITY STREETS

Mixed activity streets are secondary, mixed-use corridors. They support the local community to access goods and services. They have moderate on-street activity. They can be located within activity centres or stand alone.



Example of high activity street type

EXAMPLE ONLY

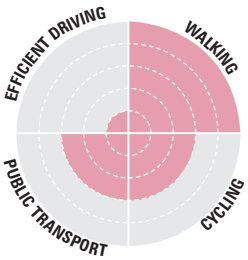
‘EXCHANGE’ STREET FAMILY: HIGH ACTIVITY STREET

Street type	M2/P3, M3/P3*
Street width	20m (typical), 23m, 27m
Traffic lanes	Two lanes
Design speed	30km/h to 40km/h
Place examples	<ul style="list-style-type: none">▪ Employment and Innovation Precinct▪ Major activity centre▪ Railway stations
Typical challenges	<ul style="list-style-type: none">▪ Insufficient space and street furnishing to support rest, respite and social interaction.▪ Conflict between accommodating high pedestrian volumes and supporting space to linger.▪ Cycling facilities are inconsistent, with little or no separation from vehicles and limited bicycle parking.▪ Limited pedestrian and bike crossings.▪ Narrow and cluttered footpaths that do not support high pedestrian volumes.▪ High demand for on-street parking.▪ High levels of service and delivery adds to conflicting use of the street.▪ Limited space for greening.▪ Some areas affected by high land surface temperatures up to 12°C hotter than non-urban areas.▪ Some key intersections with high level of serious and ‘other’ crashes that involved cyclists.

Objectives

1. Support mixed-use land uses with an active ground plane.
2. Encourage vibrant on-street activity and amenity for residents, workers, shoppers and visitors.
3. Prioritise pedestrian movement and provide many crossing locations.
4. Enable cycling access to destinations and safe strategic movements.
5. Move high numbers of people through public transport with frequent opportunities to stop.
6. Facilitate slow vehicle movement to serve localised land uses.
7. Encourage social interaction and support urban amenity and on-street activity through flexible street furniture.
8. Integrate landscape treatments that complement street size and reinforce local character.
9. Enhance climate resilience with appropriate water sensitive urban design systems.
10. Provide access to off-street parking.

Source: Urban Roads and Street Design Guide, June 2020, DoT



‘EXCHANGE’ STREET FAMILY: MIXED ACTIVITY STREET

Street type	M3/P3, M3/P4, M4/P3, M4/P4*
Street width	18m, 19m, 20m (typical) , 23m
Traffic lanes	Two lanes
Design speed	30km/h to 50km/h
Place examples	<ul style="list-style-type: none">Major activity centreNeighbourhood activity centre
Typical challenges	<ul style="list-style-type: none">Frontages are inconsistent with varying public to private interface and empty store fronts.Limited space and street furnishing to support rest, respite and social interaction.Insufficient protection from unpleasant sensory experiences, heat, rain, wind and noise pollution.Cycling facilities are inconsistent, with little to no separation from vehicles.Limited pedestrian and bike crossings.Key areas with high demand for on-street parking.Expansive impermeable surfaces and a lack of blue/green infrastructure.Some key intersections with high number of serious and ‘other’ crashes that involved cyclists.Gaps in existing cycling routes within the cycle network.

Objectives

1. Support commercial and mixed-use land uses, including local shops and services.

2. Strengthen a sense of unique identity as a local destination.

3. Encourage pedestrian movement and provide regular crossing opportunities.

4. Enable safe cycling connections with opportunities for bicycle parking.

5. Move people through public transport.

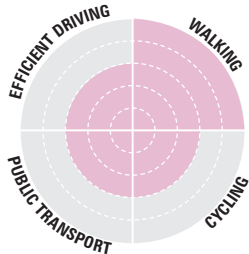
6. Facilitate vehicle movement to serve localised land uses.

7. Integrate landscape treatments that complement street size and character.

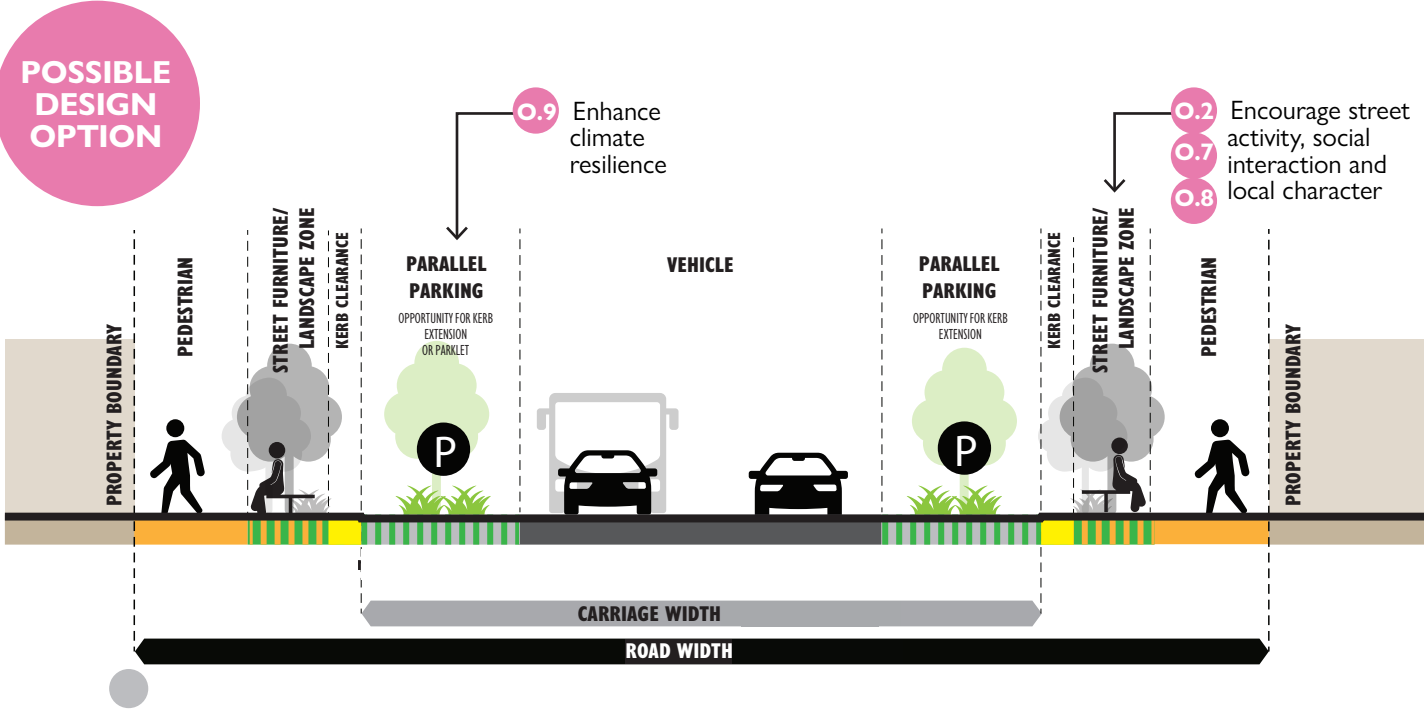
8. Enhance urban amenity through street furniture.

9. Integrate appropriate water sensitive urban design systems.

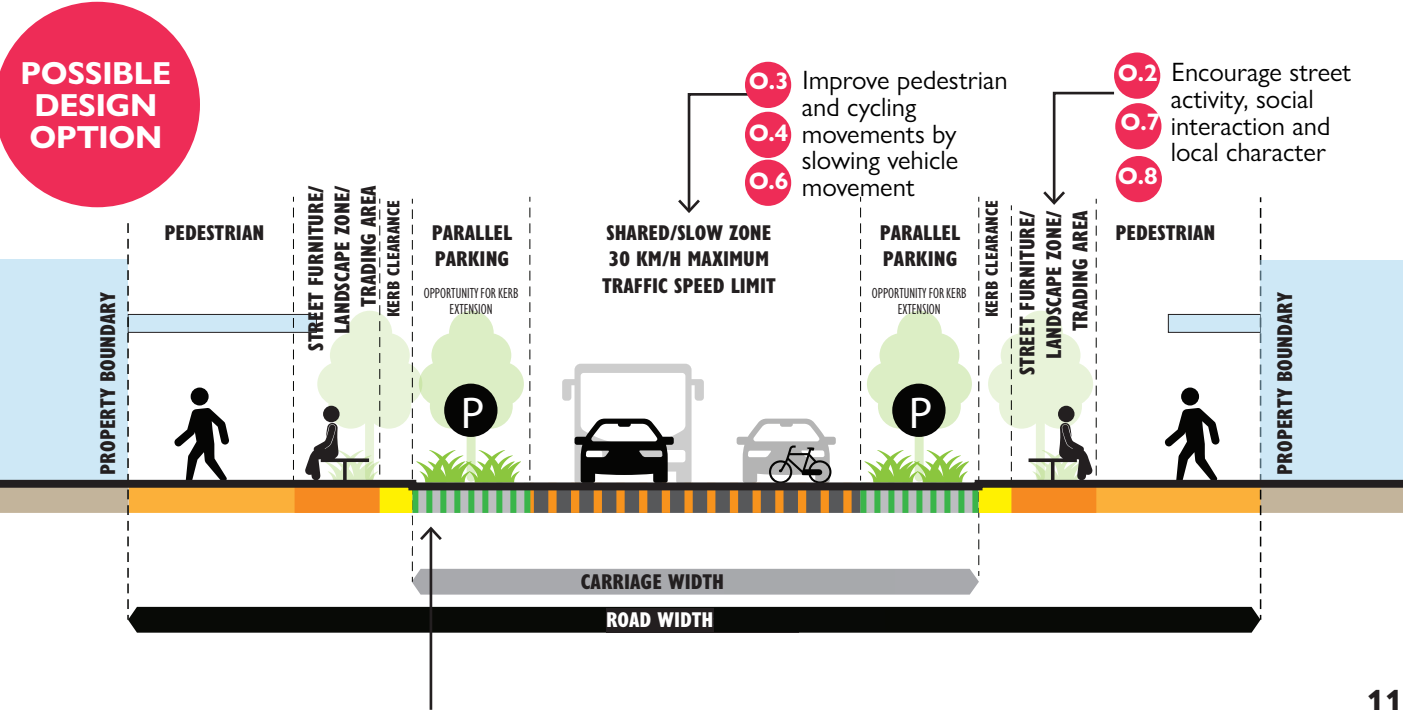
Source: Urban Roads and Street Design Guide, June 2020, DoT



MIXED ACTIVITY STREET — example only



HIGH ACTIVITY STREET — example only



CONNECT Street Family

MOVE, TRAVERSE, INTERACT

Vision: Streets within the connect family move people and goods across the city. These streets are places where transport modes interact to connect people and places.



BOULEVARDS

Boulevards are grand, ceremonial movement corridors with a high movement function. Their scale and formality evokes a sense of civic importance. Boulevards are major gateways that contribute to the broader region's identity.



INTERCHANGE STREETS

Interchange streets are multi-modal hubs. These streets are places where different modes meet and interact. Speeds are slower to support people to safely interchange between modes with ease. Through movement is less of a priority.



CONNECTOR

Connector streets are high movement corridors that move people across the city. On these streets through movements are prioritised to connect people to destinations. They have limited on-street activity and opportunities to dwell.



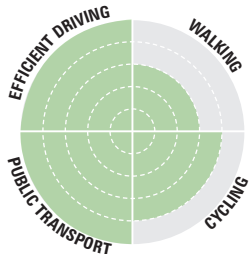
'CONNECT' STREET FAMILY: BOULEVARDS

Street type	M2/P3, M2/P4*
Street width	37m, 58m, 60m (typical)
Traffic lanes	Four lanes or more
Design speed	50km/h to 60km/h
Place examples	<ul style="list-style-type: none">▪ Major activity centre▪ Employment and innovation precinct▪ Neighbourhood activity centre▪ Transit corridor▪ Employment corridor▪ Open space
Typical challenges	<ul style="list-style-type: none">▪ Despite an abundance of space, there is a lack of facilities for rest, respite and social interaction.▪ Limited protection from unpleasant sensory experiences, heat, rain, wind, noise and pollution.▪ Limited passive surveillance and insufficient lighting lead to decreased perception of safety, particularly at night.▪ Poor legibility despite being important regional gateway.▪ Cycling facilities are inconsistent, with little to no separation from vehicles.▪ Large-scale street width with few crossings for pedestrians and cyclists.▪ Inconsistent priority for public transport.▪ Limited cycling routes and safe crossings in the cycle network.

Objectives

1. Support and respond to surrounding land use, including significant civic institutions and regionally important places.
2. Enhance a sense of identity and grandeur.
3. Emphasise urban form and improve urban amenity using large-scale, formal landscape treatments across their width.
4. Capitalise on available space for integrated water sensitive urban design.
5. Move high volumes of people across the city.
6. Facilitate safe separated cycling movements.
7. Connect people through public transport with periodic opportunities to stop.
8. Enable through vehicle movements.

Source: *Urban Roads and Street Design Guide*, June 2020, DoT



‘CONNECT’ STREET FAMILY: INTERCHANGE STREETS

Street Type	M2/P4*
Street width	35m (typical)
Traffic lanes	Six lanes
Design speed	50km/h
Typical challenges	<div><ul style="list-style-type: none">▪ Frontages are inconsistent with limited public to private interface and medium-scale buildings and car parking entrances fronting the street, despite function as interchange between modes.▪ Limited facilities for rest, respite and social interaction.▪ Insufficient protection from unpleasant sensory experiences, heat, rain, wind, noise and pollution.▪ Inconsistent footpath and poor connections between transport modes for people walking and adjacent land use.▪ Limited passive surveillance and insufficient lighting that lead to decreased perception of safety, particularly at night.▪ Public transport stops do not provide a quality waiting experience.▪ High levels of vehicular drop off and pick up that creates conflicts with other modes.▪ Limited pedestrian crossings.▪ High activity levels during the day, empty by night.▪ Predominance of several crashes that involved cyclists.</div>

Objectives

1. Support a range of land uses including, residential, commercial and public uses.

2. Strengthen identity as a gateway and support wayfinding.

3. Facilitate seamless, intuitive and integrated interchanges between modes.

4. Support pedestrian movement and provide frequent crossing opportunities in response to desire lines.

5. Facilitate cycling access with quality end of trip facilities.

6. Prioritise public transport movement and connections.

7. Support vehicle movement at slower speeds.

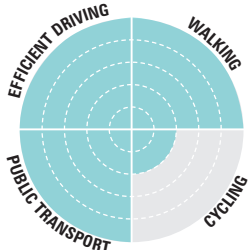
8. Integrate distinctive landscape treatments that enhance the urban form and improve wayfinding.

9. Integrate street furniture and landscape treatments that enhance user amenity.

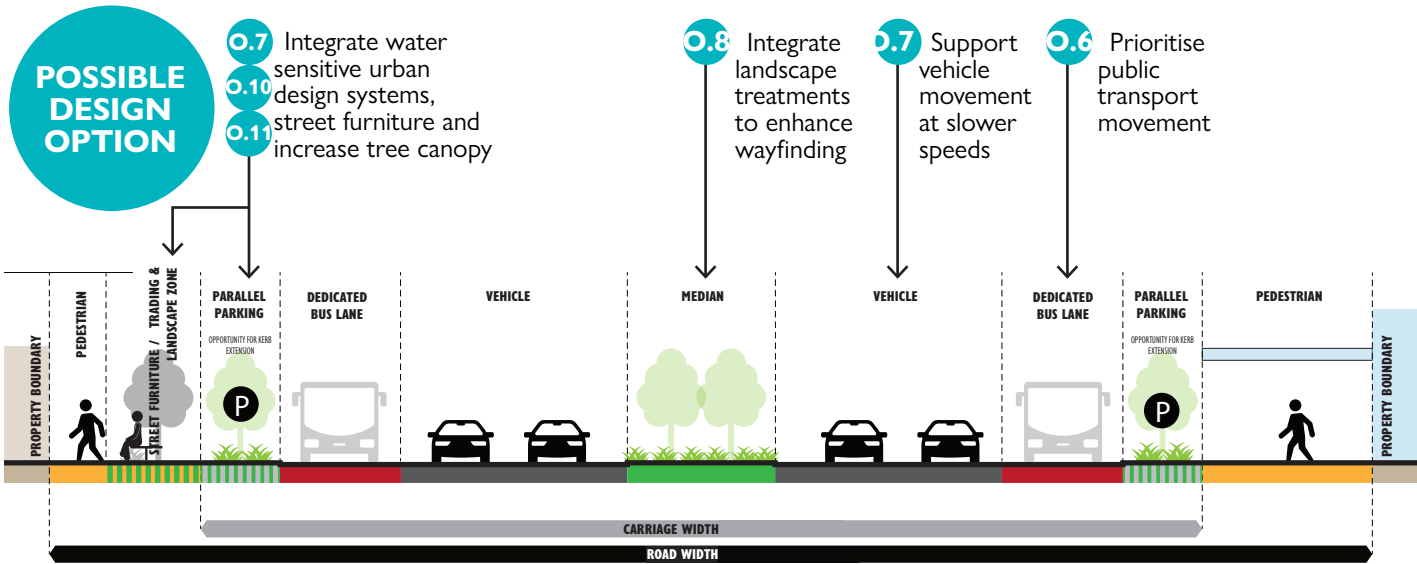
10. Integrate water sensitive urban design systems at a pedestrian scale.

11. Increase tree canopy for cooling

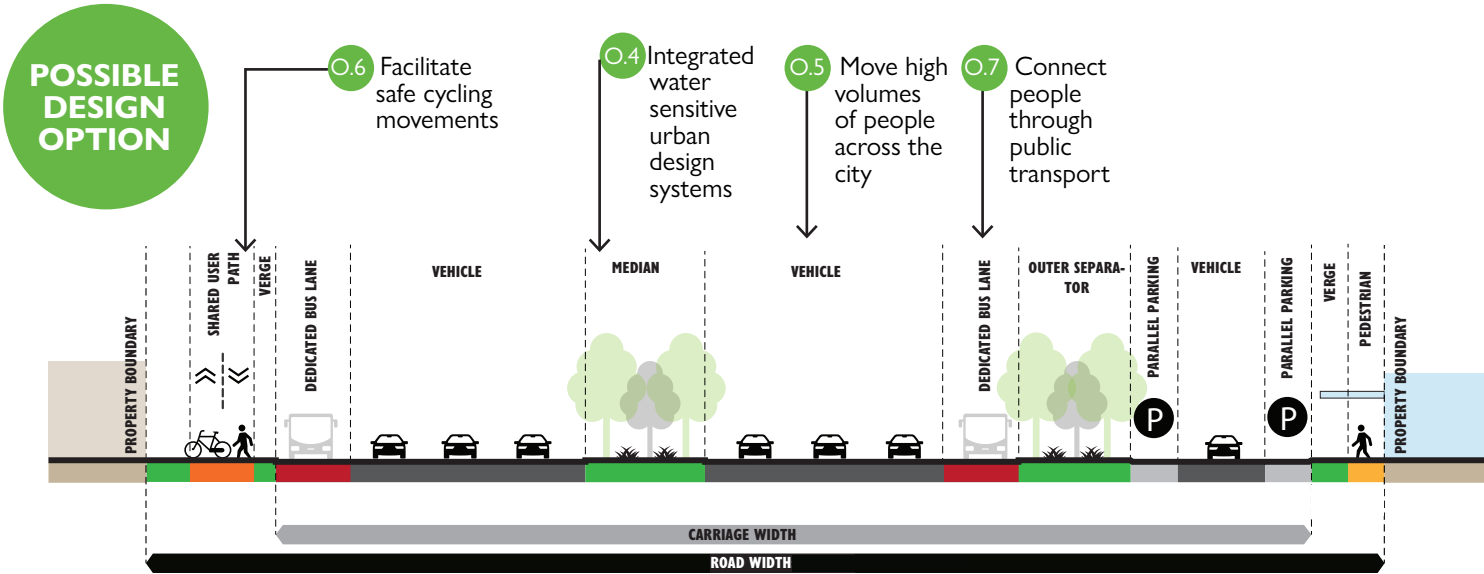
Source: Urban Roads and Street Design Guide, June 2020, DoT



INTERCHANGE STREET — example only



BOULEVARDS — example only



‘CONNECT’ STREET FAMILY: CONNECTORS

Street type	M2/P4, M2/P5*
Street width	20m, 35m (typical) , 37m, 58m, 60m
Traffic lanes	Six lanes or more
Design speed	50km/h–60km/h
Place examples	<ul style="list-style-type: none">Major activity centreSuburban residential areaLocal activity centresEmployment areasOpen space
Typical challenges	<ul style="list-style-type: none">Large-scale blocks, setbacks and few functions fronting the street.Few facilities to rest, despite generous space.High vehicle speeds and high volumes of through trafficLimited protection from unpleasant sensory experiences, heat, rain, wind, noise and pollution.Large-scale street width with limited cycling routes, pedestrian and bike crossings.Limited public transport and stops.Expansive impermeable surfaces and a lack of blue/green infrastructure.Serious and ‘other’ crashes that involved cyclists are scattered along connector streets.

Objectives

1. Move high volumes of people across the city.

2. Prioritise through movements.

3. Support local pedestrian movement and crossings where appropriate.

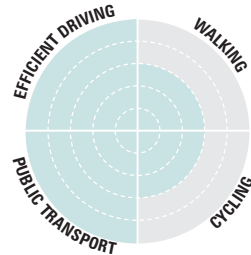
4. Enable safe, separated cycling movement along strategic corridors.

5. Move people through public transport.

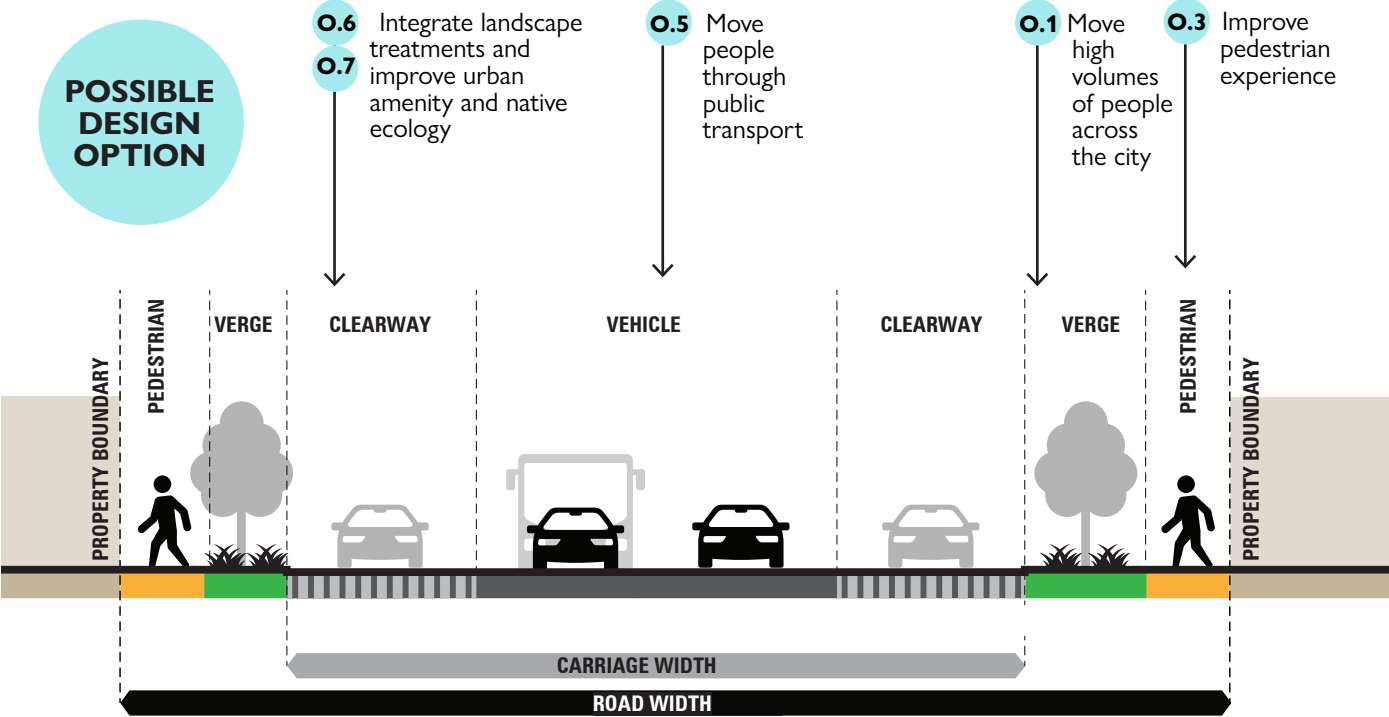
6. Integrate landscape treatments that provide a buffer to adjacent land uses and improve urban amenity.

7. Enhance native ecology through a connected green corridor.

Source: Urban Roads and Street Design Guide, June 2020, DoT



CONNECTORS — example only



LIVE Street Family

INHABIT, PLAY, SLEEP

Vision: Streets within the live family are places where people inhabit. They support people to live their lives, relax, play, sleep and build a sense of community.



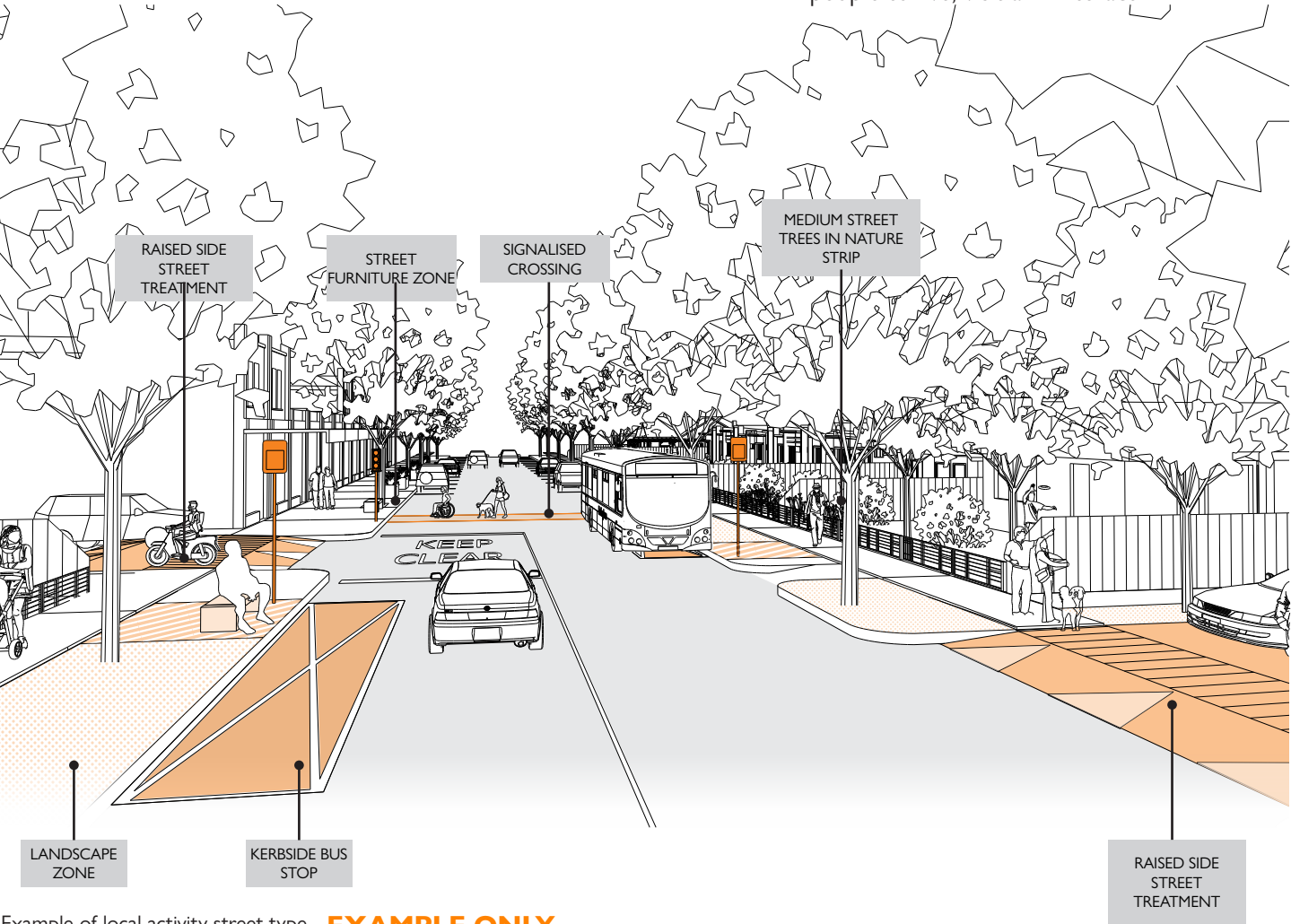
RESIDENTIAL CONNECTORS

Residential connectors are access corridors that move high volumes of people. These residential streets are both places where people live and thoroughfares where people move through.



LOCAL ACTIVITY STREETS

Local activity streets are mixed use streets lined with destinations of neighbourhood significance. They have a hub-like public function for local residents and visitors to meet and interact. They are streets of amenity and foster a strong sense of community. Local activity streets are for people to live, visit and interact.



Example of local activity street type **EXAMPLE ONLY**

‘LIVE’ STREET FAMILY: RESIDENTIAL CONNECTOR

Street Type	M2/P5, M3/P4, M3/P3, M4/P5*	
Street width	18m, 20m (typical) , 21m, 41m	
Traffic lanes	Two lanes, except for East Boundary Road (four lanes or more)	
Design speed	Maintain lower speed environment. Recommended 40km/h or below.	
Place examples	<div><div><div>▪ Neighbourhood activity centre</div><div>▪ Major activity centre</div><div>▪ Education and innovation precinct</div><div>▪ Suburban residential area</div></div><div><div>▪ Local health and education area</div><div>▪ Transit corridor</div><div>▪ Railway stations</div><div>▪ Transit corridor</div><div>▪ Open space</div></div></div>	

Typical challenges	<div><div>▪ Conflict between residential land uses and high traffic volumes</div><div>▪ Limited safe crossings for pedestrian and cyclists.</div><div>▪ Lack of facilities for rest, respite and social interaction, despite generous space.</div><div>▪ Limited public transport movement priority.</div><div>▪ Large abundance of driveways.</div><div>▪ Few areas affected by high land surface temperatures creating urban heat islands.</div><div>▪ Some key intersections with medium to high number of crashes that involved cyclists.</div><div>▪ Limited street trees and conditions where power poles inhibit additional plantings.</div></div>
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Objectives

1. Support and respect residential land use.

2. Ensure the street is a pleasant and safe place to live.

3. Support local pedestrian movement and crossings at key desire lines.

4. Facilitate safe, separated cycling movement along strategic corridors.
5. Move people with public transport.

6. Facilitate vehicle movement across the city.

7. Integrate landscape treatment that provide a buffer to adjacent land use.

8. Enhance native ecology through a connected green corridor.

Source: Urban Roads and Street Design Guide, June 2020, DoT



‘LIVE’ STREET FAMILY: LOCAL ACTIVITY STREET

Street Type	M2/P4, M2/P5, M3/P4, M4/P4, M4/P5 *
Street width	15m, 16m, 20m (typical) , 21m, 23m
Traffic lanes	Two lanes
Design speed	30km/h
Place examples	<ul style="list-style-type: none">▪ Neighbourhood activity centre▪ Transit corridor▪ Local health and education area▪ Employment area▪ Local centre▪ Open space▪ Suburban residential
Typical challenges	<ul style="list-style-type: none">▪ High need for flexibility to accommodate peak uses and access to amenities.▪ Lack of facilities for rest, respite and social interaction.▪ Limited passive surveillance that leads to decreased perception of safety, particularly at night.▪ Large abundance of driveways.▪ High demand for parking and vehicular drop off and pick up creates conflicts with other modes and uses of the street.▪ Some key intersections and street segments with medium to high number of crashes that involved cyclists.▪ Cycling facilities are inconsistent, with little to no separation from vehicles and limited bicycle parking and safe crossing.

Objectives

1. Support residential and public land uses.

2. Strengthen access to community facilities, including schools, childcare, medical clinics, recreation.

3. Facilitate access to public open space.

4. Encourage dwelling, social interaction and a sense of community.

5. Support pedestrian movement and provide frequent crossing in response to desire lines.

6. Enable safe cycling movements through and to destinations with end of trip facilities.
7. Encourage public transport movement with frequent stops.

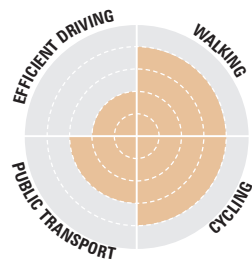
8. Support slow vehicle movement to serve local land use.

9. Use landscape treatments that complement the scale of the street and improve the user experience.

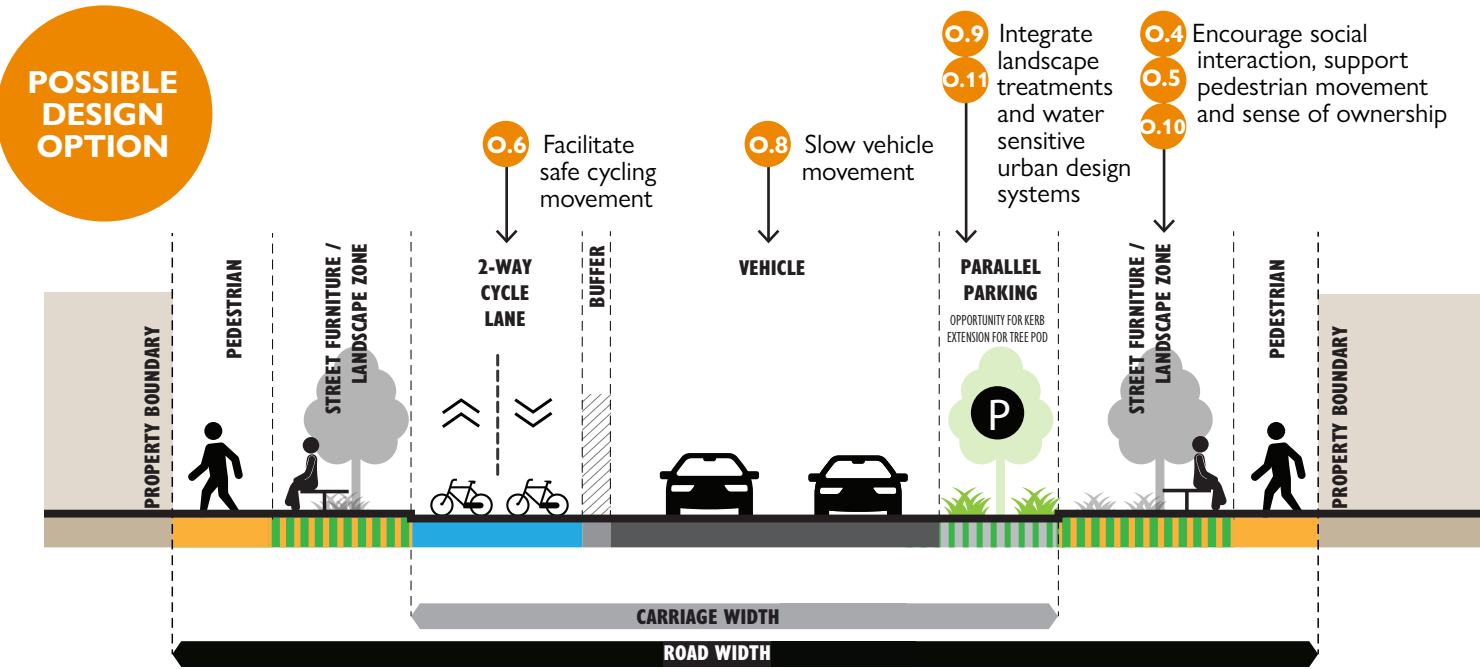
10. Encourage a sense of ownership through involving the local community in the placemaking design process.

11. Integrate appropriate water sensitive urban design systems that enhance climate resilience.

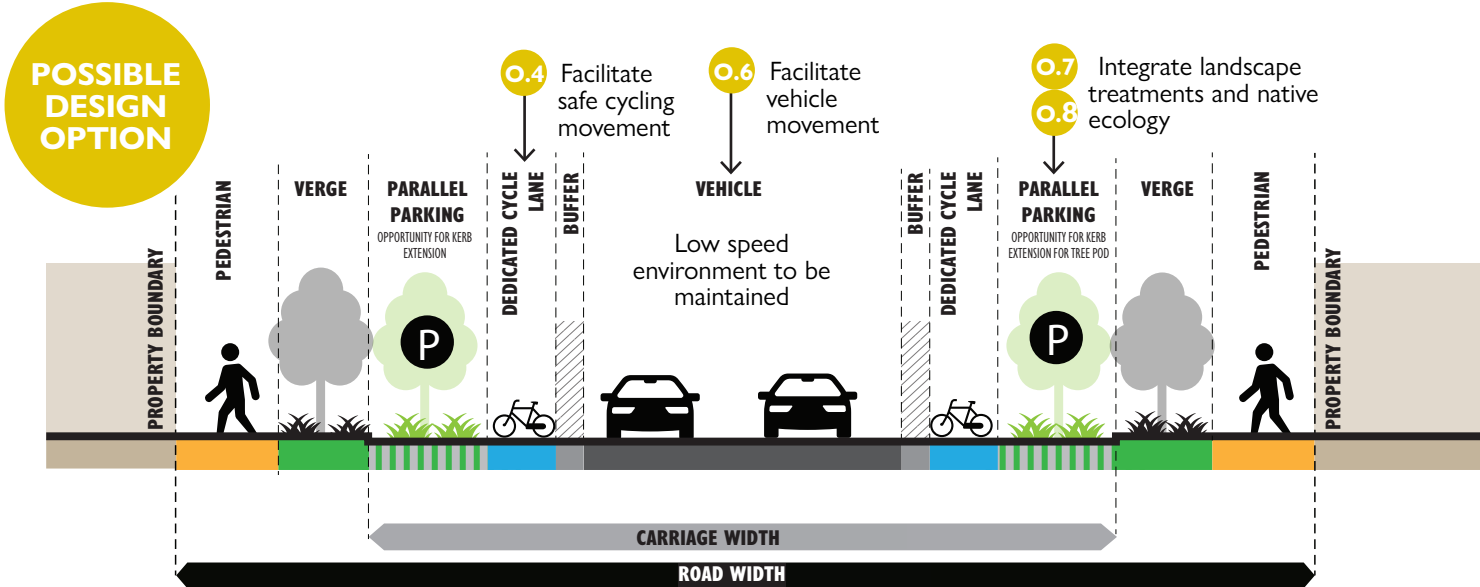
Source: Urban Roads and Street Design Guide, June 2020, DoT



LOCAL ACTIVITY STREET — example only



RESIDENTIAL CONNECTOR — example only





PART A KIT OF PARTS

WHAT IS THE KIT OF PARTS?

The SDG detail key design elements for different street types. The kit of parts provides design options and considerations for the following street elements:

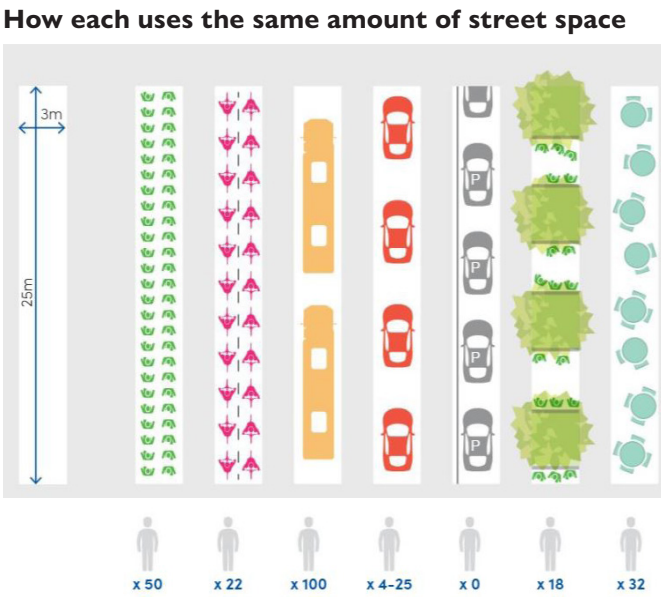
LANES	Footpaths	Cycling	
KERB ZONES	Alternative uses	Tram stops	Bus stops
CROSSING	Crossing		
TRAFFIC CALMING	Traffic calming		
BLUE AND GREEN INFRASTRUCTURE	Street trees	Rain gardens	

FACTORS INFLUENCING THE KIT OF PARTS

A number of factors influence the kit of parts and the overall design of a street. These include:

- > User and space consideration
- > Speed management
- > Road widths and traffic lanes
- > Design hours/clearways
- > On-street parking management
- > Trials and incremental changes

Careful consideration is required when making decisions about the kit of parts to ensure that outcomes align with the principles established in chapter 1 and the street type objectives identified in chapter 2 of the SDG.



Source: Bankstown Complete Streets Project, 2019

LANES — FOOTPATHS

The Glen Eira community will benefit from improved footpaths, encouraging people to walk to shops, services and public transport. Providing appropriate footpath standards is important to encourage walking which:

- > Enables comfortable flow, including moving large numbers of people.
- > Supports the local economy.
- > Promotes social interaction.
- > Provides a sense of safety.
- > Promotes healthy lifestyles, reducing obesity and improving heart health.
- > Improves accessibility for people with limited mobility.
- > Relieves pressure on public and private transport.
- > Addresses future needs for areas where increased pedestrian footfall can be expected.
- > Responds to temporary and seasonal needs for footpath widening.

The SDG provide technical details on improving walking accessibility and footpath design throughout Glen Eira.

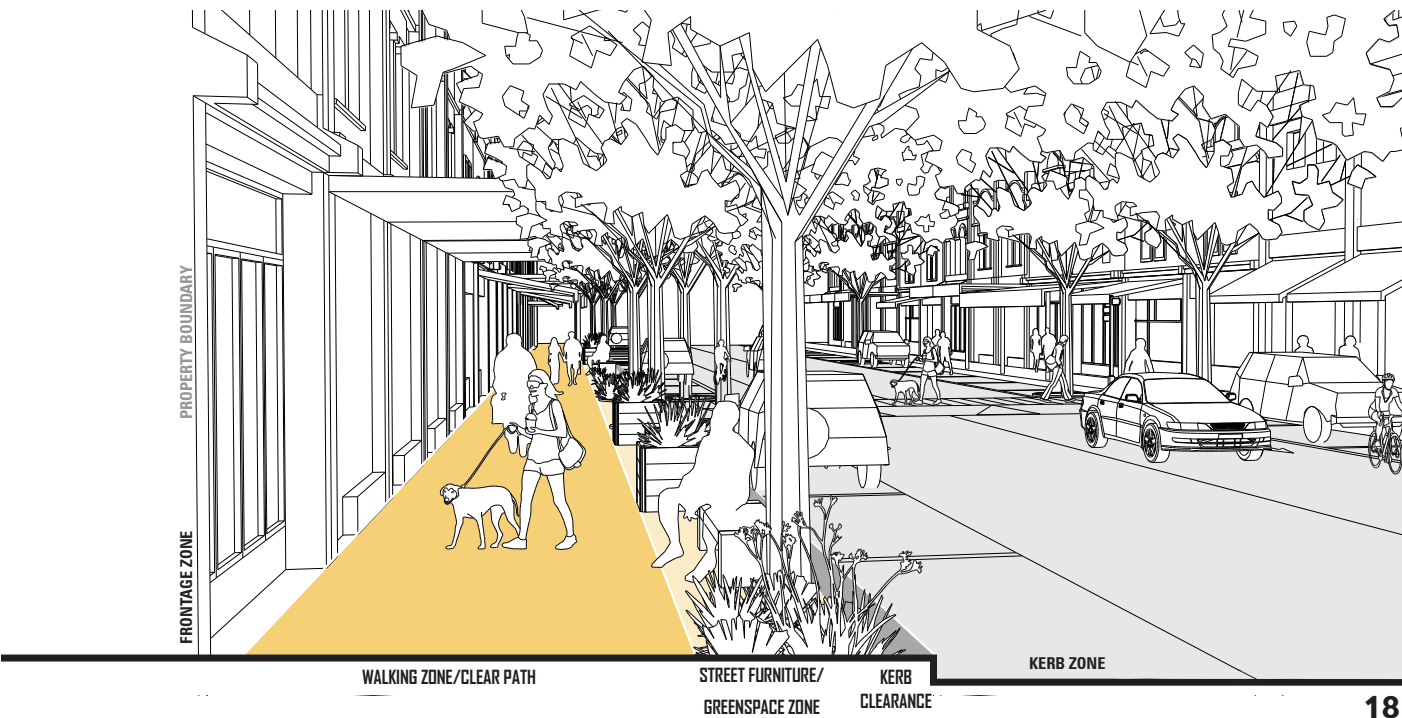


Image: Different footpath zones in the street

LANES — CYCLING

Providing appropriate standards for cycling infrastructure is important to encourage people to cycle which:

- > Allows for a large number of commuter cyclists to travel safely.
- > Promotes cycling confidence by providing a greater degree of separation from moving traffic.
- > Supports the local economy.
- > Provides a sense of safety for other street users including pedestrians.
- > Relieves pressure on public and private transport.
- > Promotes more sustainable, environmentally friendly travel.
- > Enhances the liveability of the city.
- > Promotes community health and active lifestyles.

The SDG provide technical details on key requirements for designing cycling facilities within Glen Eira.

First preference: Protected/kerb separated



Southbank, Melbourne

Second preference: Dedicated/chevron buffer



Carlton, Melbourne

Alternative preference: Shared street/sharrow



Box Hill, Melbourne

Alternative preference: Shared/slow zones



Fitzroy, Melbourne

Alternative preference: Shared user path



Grafton Gully, Auckland

KERB ZONE

Where space is limited such as in high and mixed activity streets, kerb zones become highly valuable. Kerb zones provide space for passengers, cars, delivery vehicles and public transport to access activities beyond the road space.

Where competition for street space is high, the kerb zone can be used as an extension of the footpath environment to accommodate facilities that support footpath activities. Changes to the function of the kerb zone requires an understanding of parking demand in the area and may require consultation with the adjacent property owners.

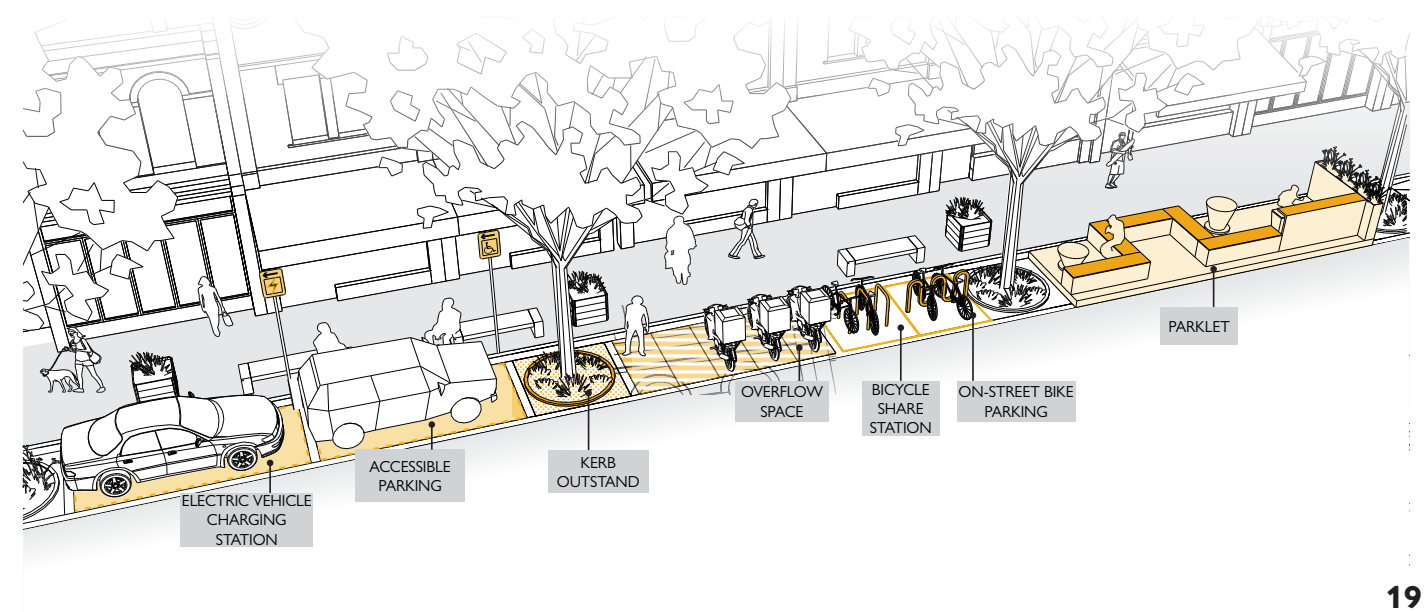
Objectives of the kerb zone include:

- > Supporting equitable access for all street users.
- > Supporting safe and amenable public transport use.
- > Supporting convenient and secure bike storage, or bike-sharing system.
- > Supporting local economy.
- > Supporting street greening and water sensitive urban design initiatives.

- > Supporting convenient, safe and amenable public transport infrastructures.
- > Seeking balanced parking needs with the demand for other uses, such as seating, landscaping, bicycle parking, etc.
- > Supporting the use of environmentally friendly electric vehicles.

The following alternative uses can be accommodated within kerb zones:

- > Street trees
- > Accessible parking
- > On-street bicycle parking
- > Parklet
- > Scooter/mico-mobility parking
- > Bicycle share station
- > Electric vehicle charging stations
- > Tram stops and bus stops



CROSSINGS

Providing an appropriate crossing standard is important for creating safe and walkable environments which:

- > Support equitable access for all street users.
- > Facilitate safe and convenient pedestrian and cyclists crossing.
- > Help to calm traffic by breaking up journeys and prompting drivers to slow down and be more vigilant around pedestrians and cyclists.
- > Deploy controlled crossings where pedestrian and cyclists are given priority of movement.
- > Deploy uncontrolled crossings where pedestrians and cyclists are given the opportunity but not priority of movement.
- > Improve perception of safety when crossing the roads.
- > Minimise delay, crowding and travel time for all modes.

Glen Eira crossing types:

- > Raised mid-block crossing
- > Raised side street crossing
- > Kerb extension and pavement marking
- > Median pedestrian refuge crossing
- > Pavement marking (temporary intervention/ public arts)
- > Bike crossing

The SDG provide technical details and key requirements for designing crossings within Glen Eira.

Raised mid-block crossing



Raised pedestrian crossing example: South Melbourne

Raised side street crossing



Example of raised intersection treatment

Kerb extension and pavement marking

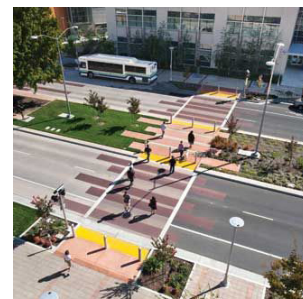


Richfield, Minnesota, USA

Pavement marking



Stewart Street, Richmond



West Sacramento, California, USA (MIG Placemaking)

TRAFFIC CALMING

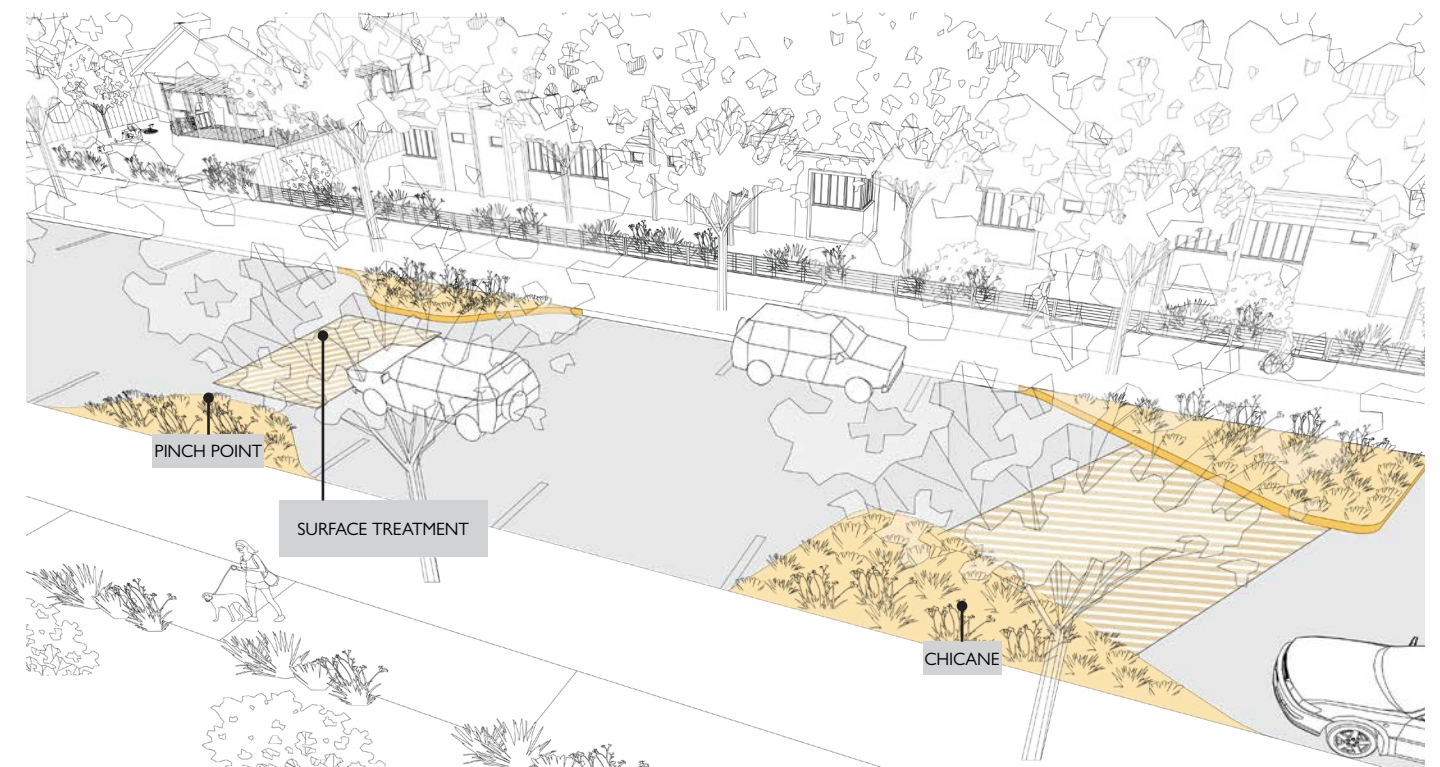
Providing an appropriate traffic calming standard is important for creating safe and walkable streets which:

- > Reduce the perception of a wide road that is conducive to higher travel speeds.
- > Help to calm traffic by breaking up journeys and prompting drivers to slow down and be more careful around pedestrians and cyclists.
- > Enable safe movement for everyone.
- > Minimise 'rat-running' and improve the perception of a safer environment for all street users.
- > Integrate street greening and landscaping opportunities.

The SDG identify three ways in which the combination of crossing and traffic calming are suitable for the streets in Glen Eira. These include:

- > Pinch points
- > Chicanes
- > Central medians

The SDG provide the technical details on these three traffic calming elements.



BLUE AND GREEN INFRASTRUCTURE

Blue and green infrastructure refers to street greening (street trees and garden beds) and vegetated stormwater management (water sensitive urban design).

Being green and leafy is an important part of Glen Eira's character. Glen Eira's street network provides an opportunity for Council to plant new trees. Maintaining and introducing new landscape planting in Glen Eira's urban streets is challenging. Footpath space is at a premium and the hard surface required to support various land uses and developments can be hostile to trees and other plantings. Soil compaction, limited root space and physical damage are some of the challenges when planting street trees.

Providing an appropriate green and blue infrastructure standard is important for creating sustainable and welcoming street environments which:

- > Maximise opportunities for trees, shrubs and ground covers within the public realm.
- > Integrate vegetation and stormwater management with street design and place-branding rather than the ad-hoc implementation of infrastructure that detracts from functional space and street character.
- > Enable street trees and plantings to thrive and to use stormwater as a resource to support landscaping in the public realm.
- > Select appropriate planting species that respond to the local context and require low maintenance for extended life.
- > Select appropriate landscaping treatment to reinforce the street types, wayfinding and sense of place.
- > Balance the benefits of healthy landscaping with the challenges of limited space and the ongoing need for care and maintenance.

The benefits of blue and green Infrastructure include:

- > Provision of shade and cooling, reducing energy consumption and heat island effect.
- > Absorption and cleansing of stormwater, reducing pollution and environmental impacts on natural waterways and flooding.
- > Absorption of greenhouse gases and filtering of airborne pollutants.
- > Provision of psychological and social benefits.
- > Creating a more amenable and attractive space that draws people to city life and local businesses.
- > Enhancing and defining the character of a street or plaza.
- > In proximity to other green spaces, street trees can contribute to and link native wildlife systems.
- > Changing light and colour along a tree-lined street.

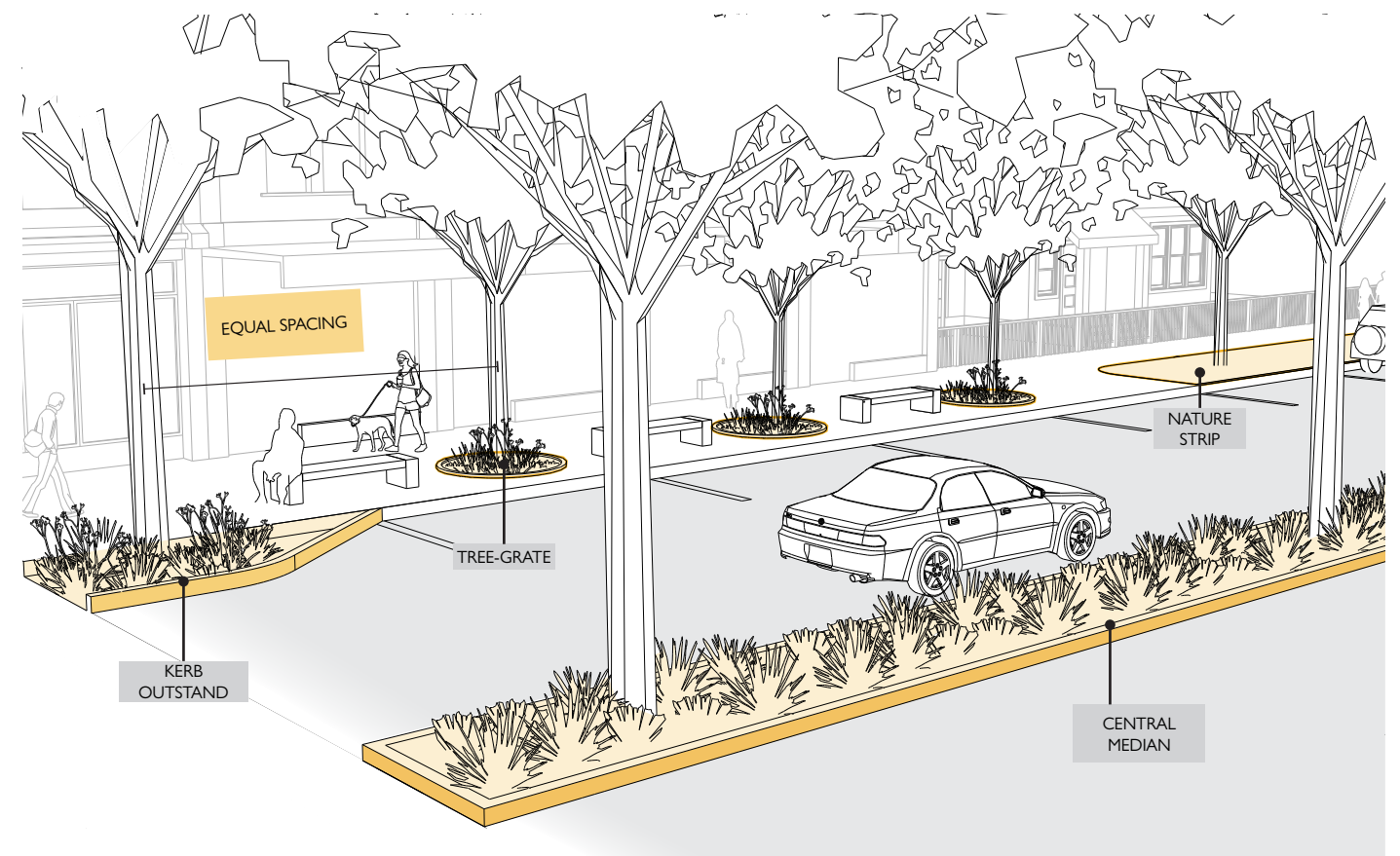
The SDG provide technical details on how to design blue and green Infrastructure elements within Glen Eira.



Tree grate example, South Melbourne



Nature strip planting example, Geelong





PART B MATERIAL PALETTE

MATERIAL PALETTE

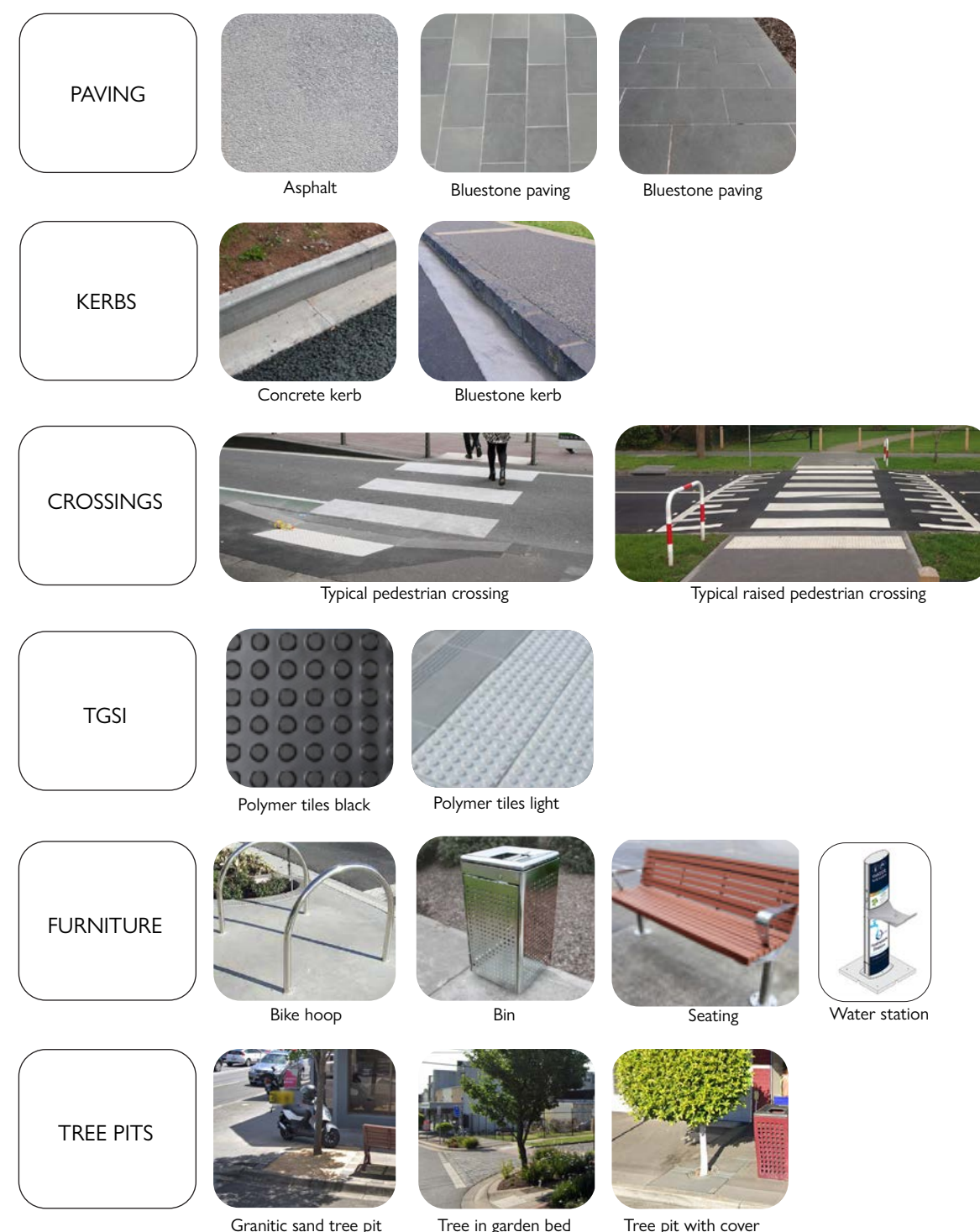
The SDG identify a material palette for Glen Eira's streets. Implementing a cohesive approach to streetscape treatments, including paving and street furniture, will result in a high-quality, legible and accessible public realm for the Glen Eira community.

Benefits of a cohesive material palette include:

- > Specification of consistently high-quality, sustainable and durable products.
- > Allowing other components of a place to stand out, including heritage elements, public art, architecture and shopfront displays.
- > Simplifying maintenance requirements, including purchasing, installation, replacement, upkeep and storage.
- > Efficient expenditure by creating economies of scale.
- > Too much variety can result in an ad-hoc and cluttered streetscape.

For small upgrades, maintenance or additions to the streetscape, other street elements and paving types have also been identified in the SDG. These reflect the variation which already exists in Glen Eira's activity centres.

Selection of an appropriate paving type, kerb, crossing and tactile ground surface indicator (TGSi) will be made in consideration of the project budget and desired future character of the area. A bespoke approach to street furniture may be appropriate on sites considered 'special places' in Glen Eira.



STREET FURNITURE LAYOUT

GENERAL CONSIDERATIONS

Street furniture should be:

- > Located in the furniture zone and free from the clear path of travel.
- > Setback 0.6m minimum from the face of kerb.
- > Located so as to not impede sight distance requirements at intersection and mid-block crossings and to avoid congestion and pinch points.
- > Co-located with other street furniture and street infrastructure for convenience and reduction of clutter.
- > Located in high pedestrian volume areas, such as popular tourist destinations, public buildings, parks, or areas of high amenity.

BINS

Public bins should be:

- > Positioned to provide simple and easy access for waste recovery and maintenance.
- > Considerate of existing bin locations and numbers in the area.
- > Considerate of context and shouldn't detract from the surrounding area.
- > Located near litter sources, such as tourist destinations, community facilities, public transport stops, food outlets and along main streets.
- > More frequent in areas of higher pedestrian activity.

SEATING

Public seating should be;

- > In close proximity to shade and shelter, like that provided by street trees, to create a comfortable space all year round.
- > Frequency of public seating is dependent on existing seating locations and site constraints. Major activity centres should have a higher frequency of seating to respond to higher pedestrian numbers.
- > Seating should be provided near public transport.

BIKE HOOPS

Bike parking should be:

- > Located at key destinations, such as major transport hubs, key intersections, community facilities, parks, schools as well as throughout local, neighbourhood and major activity centres.
- > Easily accessible with ample space permitting access from footpaths, bike paths and parking lanes.
- > Determined by the space available, location and centre type.
- > Make use of existing infrastructure such as 'pole vaults' which attach to existing parking signage — to avoid additional street clutter.



WAYFINDING AND SIGNAGE

Providing an appropriate wayfinding standard is important to maintain safe and legible environments which:

- > Assist in the process of orientation and navigation through the use of map, directional and location information.
- > Adopt a recognisable ‘family’ of elements throughout the municipality.
- > Improve the design quality and visitor experience.
- > Guide colour selection by the colour palette.
- > Provide a wayfinding system that has appropriate scale of signage elements for users (vehicular, pedestrian, cyclist).
- > Ensure signage provides the user with concise information for orientation and navigation.
- > Adopt robust and durable materials to reduce ongoing maintenance.



Signage and wayfinding must reflect the street type and user experience. The following guidelines relate to each type of ITS transit corridor:

Great walking streets

- > Provide navigational guidance to key destinations and transport stops and stations.
- > Convey information in formats that are accessible.
- > Provide directions to key destinations in the area.
- > Consider pavement marking to demarcate areas for allowable commercial and other activity.

Safe cycling streets

- > Provide clear pavement markings showing designated space.
- > Inform users of upcoming changes through clear signage or pavement markings.
- > Consider signal priority and bike detection.

Express public transport routes

- > Ensure stops are easily locatable and signage is consistent.
- > Consider digital wayfinding to provide real-time information.
- > Consider public transport priority traffic signalling.

Efficient driving routes

- > Ensure pavement markings and signage are used consistently and communicate messages quickly, clearly and intuitively.

The SDG provide technical details for wayfinding and signage based on *Glen Eira's Municipal Signage Guidelines*.

LANDSCAPING

The following criteria have been established to assist designers identify suitable tree species for use throughout the City of Glen Eira.

1. Trees must have a mature size that matches the constraints of the proposed location. Consideration should be given to distance from street, awnings, overhead powerlines, adjacent buildings.
2. Where appropriate tree species should be selected to maximise mature tree canopy.
3. All trees must be appropriate for the site-specific environmental conditions.
4. All designs must provide sufficient underground soil volumes that are appropriate for the specie of tree that is being specified. These may consist of underground vaults and the use of structural soils.
5. Trees must be resilient to future temperature extremes predicted to occur in response to climate change. This may require trees to be adaptable to a 1.5–2 degree increase in mean temperature over the next 50 years.
6. Trees must be selected to take into account the local environmental conditions, including wind, micro-climates, soil types, pollution, traffic, solar aspect and adjoining uses.
7. Trees should be in line with the existing neighbourhood character of the surrounding streetscapes.
8. Trees should contribute to the interest of the space due to colour, texture, form, fruit or a combination of these. The trees should contribute to the character of the place. Each should have their own character.
9. Select trees that contribute to the use of the space, eg. to provide shade and shelter, to highlight entrances and gateways, to provide form and character, to assist with wayfinding or to add colour and aroma.
10. Where appropriate trees should be selected that provide positive bio-diversity and environmental outcomes. Every opportunity should be taken to link areas of native vegetation into corridors.
11. Consider how trees will work together, eg. as a copse, row or group. Ensure trees will ‘work’ in their proposed condition.
12. Avoid trees that will contribute to excessive bark, nut or fruit drop, particularly over pavement areas. For over pavement and parking areas, avoid trees whose fruit are known to leave enduing stains.
13. Where fruit producing trees are used, ensure that they are improved cultivars that minimise fruit drop.
14. Avoid trees that are known to be susceptible to pests and diseases (eg. lerps, caterpillars, leaf curl etc.)
15. Avoid trees that are known to shed limbs in hot weather.
16. Consider trees that contribute to a sustainable environment through:
 - low irrigation demands;
 - drought tolerance;
 - low fertiliser demands;
 - contribution to native habitat; and/or
 - low maintenance requirements (including replacement).

REFERENCES

The Glen Eira Street Design Guidelines Background Paper has been informed by the following documents:

Movement and Place in Victoria, DoT (February 2019)

Movement and Place in Victoria Technical Appendix, DoT *Movement and Place in Victoria Practice Note: Cycling*, DoT

Movement and Place — The Urban Road and Street Design Guidelines DRAFT, DoT (June 2020)

Glen Eira Integrated Transport Strategy (2018)

Glen Eira Council and Community Plan 2017–2021

Glen Eira City Plan 2020.

Glen Eira Open Space Strategy Refresh 2020

Glen Eira Cycling Action Plan (December 2019)

East Village Comprehensive Development Plan by VPA (2018)

Glen Eira Our Climate Emergency Response Strategy 2021-2025

Caulfield Racecourse Reserve Land Management Plan by Ethos Urban (February 2020)

Glen Eira Footpaths Activity Guidelines

Glen Eira COVID-19 Public Space Program: Extended Footpath Trading and Parklets Guidelines (October 2020)

EAT Street Bentleigh Public Space Redevelopment Concept

Glen Eira Urban Forest Strategy (2020)

Glen Eira Street Tree Palette

Glen Eira Public Transport Advocacy Plan (December 2019)

Glen Eira Walking and Accessibility Action Plan (December 2019)

Elsternwick Activity Centre Structure Plan

Carnegie Activity Centre Structure Plan

Bentleigh Activity Centre Structure Plan

Glen Huntly Activity Centre Structure Plan

Caulfield Station Activity Centre Structure Plan (VPA)

Caulfield Village Activity Centre Structure Plan

Caulfield South UDF

Bentleigh East UDF

Caulfield Park UDF

The Future of the Stop Design Guidelines for the Modernisation of Melbourne's Tram Network, Yarra Trams (July 2019)

July 2019 Wayfinding Guidelines for Victoria DRAFT, DoT (February 2020)

Cycling Guidelines DRAFT, DoT (2020)

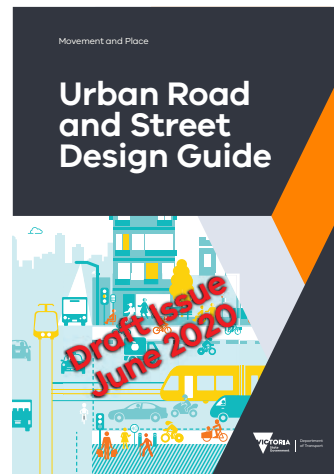
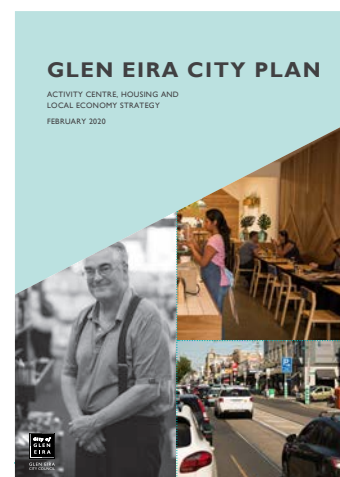
Walking Space Guides, NSW (2020)

CoM Bike Lane Design Guidelines

NACTO Urban Street Design Guidelines

Bankstown Complete Streets Project (2019)

Municipal Signage Style Guidelines, Glen Eira City Council (2021)



GLOSSARY

CPTED

Crime prevention through environmental design

DoT

Victorian Government's Department of Transport

ITS

Glen Eira *Integrated Transport Strategy*

MAC

Major Activity Centres

NAC

Neighbourhood Activity Centres

NACTO

National Association of City Transportation Officials

NEIC

National Employment and Innovation Clusters

Off-road cycle path

Cycle paths located within public open space, easements or environmental corridors and are free from vehicle movement and/or car parking.

Protected cycle facility

Cycle infrastructure located within the carriageway or at kerb level that provides physical protection from parked and/or moving vehicles through raised buffer treatments (such as a kerb).

Shared cycle facility

Cycle paths located within the carriageway which are shared with vehicles and car parking. Rather than linear linemarking, cycle designation is shown through symbols on the ground.

Shared zone/slow point

An area along a corridor, typically associated with an activity or major public transport node which requires special road treatment (to varying degrees) that is designed to prioritise pedestrian and cycle movement and slow vehicle speeds. A shared zone may be raised to kerb level or treated with an alternative road pavement to distinguish the node from the rest of the corridor. These areas may also be integrated with street furniture and enhanced landscape treatments to encourage the gathering of people.

Traffic calming measure

Located along corridors at intersections with local streets where the carriageway could be reduced, through kerb outstands and improved crossing points. These areas can also accommodate new landscape and paving treatments.

WSUD

Water sensitive urban design

Movement definitions

M1: Mass movement of people and/or goods on routes with a state or national-level movement function or provides primary access to state-level places

M2: Significant movement of people and/or goods on routes connecting across multiple municipalities or provides primary access to regional-level places

M3: Moderate movement of people and/or goods on routes connecting municipalities or provides primary access to municipal-level places

M4: Movement of people and/or goods within a municipality

M5: Local movement

Place definitions

P1: Place of state or national significance

P2: Place of regional significance

P3: Place of municipal significance

P4: Place of neighbourhood significance

P5: Place of local significance



A1
/2

CONTACT

Glen Eira City Council

City Futures Department

Phone: 9524 3333

cityfutures@gleneira.vic.gov.au

City Futures

PO Box 42

Caulfield South VIC 3162