Central Coast Council

# Street Design Manual

## Record of Amendments

| Date | Adoption | Amendment | Page No. |
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*'Public spaces are a vital ingredient of successful cities. They help build a sense of community, civic identity and culture. Public spaces facilitate social capital, economic development and community revitalisation.*

*The liveliness and continuous use of public space as a public good leads to urban environments that are well maintained, healthy and safe, making the city an attractive place in which to live and work.'*

*Global Public Space Toolkit, UN-Habitat (For A Better Urban Future)*


Rouse Hill, NSW

# Executive Summary

The Central Coast Street Design Manual (the Manual) and the accompanying set of Standard Drawings and Technical Specifications (The Specifications) form the first set of street design guidelines for the Central Coast Council since its formation in 2016. Following adoption of the Central Coast Greener Places Strategy 2021 and the Central Coast Green Grid 2022, the purpose of the Manual is to provide cohesive design guidance and construction standards for built works within our streets and public spaces separate to other engineering works.

Central Coast Council has a vision to maximise the livability of the Central Coast and this is reflected within the One Central Coast – Community Strategic Plan 2018-2028 which identifies a strong desire in our community to create town centres and neighbourhoods that are Smart, Green and Livable. The Central Coast Regional Plan 2041 (NSW Department of Planning and Environment) also aims to create a prosperous Central Coast with well-connected communities, attractive lifestyles and a protected natural environment.

The streets of the Central Coast are designed and built by many different parties including state and local government, service and utility authorities and private developers. Local council's will commonly develop and utilise a set of public domain guidelines to ensure the delivery of high-quality public domain works within their town centres and in accordance with national standards or other relevant strategies, plans and policies.

The Manual and accompanying set of Standard Drawing and Technical Specifications have been developed to help ensure that a consistent and coordinated approach is taken when delivering public domain projects across the Local Government Area (LGA). In addition to Council's Development Control Plans (DCPs) this document will provide detailed guidance on the minimum standards and requirements expected when delivering public domain works and considers the desired look, feel and materiality of our public spaces with the aim of delivering cooler, greener, more attractive streets for the people of the Central Coast.

The Central Coast region is experiencing rapid growth and expanding towns and communities. Streets form the backbone to any built environment, and the creation of streets that are safe, equitable, green and inviting can help mitigate some of the impacts on our natural environment, help reduce the heat island effect and help to create happier and better-connected communities. Towns and neighbourhoods that are designed to prioritise walking and cycling can improve the health, well-being and overall lifestyles of those that live there.

This document has been developed in consultation with relevant Council staff, analysis of existing Council policy documents, engagement with other Councils and in collaboration with NSW State Government. The recommendations set out in NSW State Government's draft Charter for Public Open Space help underpin the aims of this Street Design Manual.

*'We Acknowledge The Traditional Owners of the Land on Which We Live and Pay Our Respects to Elders Past and Present.'*

# Table of Contents

# PART 1:
# Introduction

## 1.1 Introduction

The Street Design Manual is concerned with the design and development of the streets and shared public spaces within our towns and neighbourhoods. Often referred to as the 'Public Domain', these spaces includes Main Streets, Civic Spaces, Distributor Streets, Collector Streets, Local Streets, Laneways and Industrial Streets. Other areas of open space such as public parks, sports fields, gardens and reserves are not covered within this manual.

Streets can typically make up about 70% of public space within urban areas. Good street design is essential to the quality of our lives. Great streets are ones that are safe, equitable and attractive and provide comfort and shelter from the elements. A well designed street can create a genuine sense of place and help connect the community to the towns and neighbourhoods where they live.

Streets have several functions - not only do they simply provide safe routes from place to place, but can become a place in themselves inviting people to stay, socialise and interact. The quality of a street is not just based on how it is designed and maintained, but also on the activities it supports and the significance it holds for the communities that live there.

**Which streets does the manual cover?**

The Street Design Manual aims to provide additional guidance for the design of publicly accessible streets and shared spaces within our town and neighbourhoods.

In residential areas these streets are typically classified as:

- **Access Lanes**
- **Access Streets**
- **Local Streets**
- **Collector Streets**
- **Distributor Roads**

In urban areas these streets can be identified as:

- **Main Streets**
- **Connector Streets**
- **Urban Collector Streets**
- **Gateway Streets**
- **Green Links**
- **Neighbourhood Streets**
- **Laneways**

**Further definitions of these streets are outlined in Parts 3 & 4*

# 1.2 Aims of the Manual

The aim of the Street Design Manual is to create streets that are:

## Safe & Attractive

Quality green, open and public spaces are important to everyone. Safe, attractive streets that celebrate local character through choice of materials, planting, lighting, furnishings and artwork can foster a deeper sense of identity and community. Great streets that encourage people to walk, stop and stay a while can help stimulate the local economy and increase tourism for the region.

## Community Focused

The potential for safe towns and neighbourhoods is generally strengthened when the local streets are designed with the community in mind. A place that invites people to walk must be comfortable, equitable and offer short walking distances to places with a variety of functions. Streets that discourage use of private vehicles and increase pedestrian activity will encourage passive surveillance and create a safe and inviting public realm. Streets should be well maintained and well-lit to encourage use day and night.

## Green & Sustainable

Trees play an important role in creating great places for our community. Cool shady streets with a green canopy can enhance the amenity of the Central Coast Regions' streets and public spaces, making them attractive and comfortable, encouraging people to walk, cycle and stay longer. Mature street trees mitigate the urban heat island effect by reducing ambient temperatures and helping to mitigate the effects of climate change by capturing and storing carbon dioxide. Trees also provide essential habitat for urban wildlife.

## Healthy & Smart

Multi-modal streets can provide for alternative forms of transport and reduce the reliance on private vehicles. Healthy towns and neighbourhoods emerge when walking and cycling is a safe, viable option that can become a natural part of daily activities. As well as public transport, these alternatives can include electric bikes, scooters, hire bicycle schemes etc. Smart streets should also consider future technologies such as smart lighting and furniture.



# 1.3 Related Documents and Strategies

- Central Coast Regional Plan 2041
- Central Coast Community Strategic Plan 2018-2028 (CSP)
- Draft Local Strategic Planning Statement 2020 (LSPS)
- Central Coast Local Environmental Plan 2022 (LEP)
- Central Coast Development Control Plan 2022 (DCP)
- State Environment Planning Policy (Gosford City Centre) 2018
- Gosford City Centre Development Control Plan (DCP) 2018
- Central Coast Green Grid 2021
- Central Coast Greener Places Strategy 2021-2031
- Central Coast Sustainability and Climate Action Plan 2022-2025 (SCAP)
- Central Coast Active Lifestyle Strategy (under development)
- Central Coast Disability Inclusion Action Plan 2021-2025
- Central Coast Bike Plan 2019-2029
- Central Coast Biodiversity Strategy 2020
- Central Coast Pedestrian Access and Mobility Plan (2019-2021)
- Civil Works Specification - Design Guideline
- Civil Works Specification - Construction Specification
- Civil Works Specification - Standard Drawings
- Landscape Works Specification - Standard Drawings
- Gosford City Centre Interpretation Strategy 2019

# 1.4 Who Are The Guidelines For?

- **Council staff** working in planning, design, project delivery or asset maintenance of streets and public spaces
- **Private developers** and external **design professionals**
- **Infrastructure authorities** working within the public domain
- **Local Residents**

The Street Design Manual plays a role in helping design and construct healthy, people friendly streets across the central coast. The design of any road or street is subject numerous, design guides and design standards. The Manual does not intend to over-ride those, but instead is to be used in-conjunction with them to provide a vison for better public domain design outcomes.

The Manual and associated Specifications have been developed to compliment other Council Policies and Strategies outlined on Page 11, as well as relevant technical guidelines including but not limited to:

**Council's Civil Design Guide & Construction Specifications & Standard drawings:**
www.centralcoast.nsw.gov.au/plan-and-build/development-applications/civil-works-specification

**Austroads Guides:**
austroads.com.au/about-austroads/austroads-guides

**Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling:**
austroads.com.au/publications/road-design/agrd06a

**Movement and Place Guidelines:**
www.movementandplace.nsw.gov.au/

**Cycleway Design Toolbox:**
www.transport.nsw.gov.au/system/files?file=media/documents/2022/Cycleway-Design-Toolbox-Web_0.pdf

***Note that:***

*i) changes to and / or new regulatory traffic signage and pavement marking will require separate approval through the Local Traffic Committee (LTC).*

*ii) proposals for traffic facilities and / or changes to road conditions are managed via the appropriate planning process. Depending on the project, these are reviewed by Development Assessment Engineer's, the Engineering Certification Group and with Council's Traffic Design Team. Some proposals may require separate approval through the Local Traffic Committee (LTC) or Transport for NSW.*

*iii) applications for removal of trees are reviewed by Council's Tree Management, Ecology, Engineering Certification and Heritage Teams depending on the project. The Proponent must also refer to Council's significant Tree and Heritage Tree Registers.*

*iv) lighting submissions are reviewed in consultation with the Council's Infrastructure Services, Roads Investigation Group and Engineering Certification.*

*v) Submissions are to be made as early as possible to allow for the approval process. Refer to Part 6 of this document for further detail on making submissions.*


Peats Ferry Road, Asquith, NSW

# 1.5 A Complete Approach to Street Design

Streets need to balance the needs of the community as well as providing a range of functional requirements. Central Coast Council already has consistent sets of design guidelines for standard engineering works, and the Street Design Manual and specifications have been designed to compliment these.

Our streets sometimes lack the most basic of provisions such as footpaths, street trees and shade during the heat of summer. The competing demands for cars, public transport, pedestrians, cyclists, services and waste always need to be factored in, but the way we design our streets plays a role in the success of our towns and neighbourhoods. A more complete approach to street design can have a direct impact on the health and happiness of our communities.

A range of policies and guidelines have been developed over the last few years to promote greener, safer and more pedestrian friendly streets. The Street Design Manual seeks to embrace the principles set out in documents such as the State Government Architect's 'Better Placed' policy and align with global initiatives such as the Healthy Streets program.

Central Coast Council has an opportunity to improve the way it designs and delivers it's streets, and this document forms the basic toolkit of how to achieve that.

## Making Better Places

Better Placed by the NSW Government Architect sets out the objectives for creating better public spaces for our communities.

'Better Placed is about enhancing the design quality of our built environment, raising expectations and raising standards, about working better and creating better environments. Better Placed is a policy for our collective aspirations, needs and expectations in designing in NSW.'

The Central Coast Street Design Manual aims to build on the aspirations of this document by guiding the design and delivery of great streets that are Healthy, Responsive, Integrated and Resilient.

Streets should be designed to fit with their environment, balance with nature, provide community benefits, be fit for purpose, respond to change, deliver economic value, contribute to the amenity of an area, be engaging, refined and built to last.

## Making Streets Safer

Someone is killed or hospitalised every 41 minutes because of a crash on NSW roads. As a result the NSW Government developed its Road Safety Plan 2021 which features targeted and proven initiatives to help progress towards its road safety goals and a 30% reduction in road fatalities by 2021. The plan aligns the Towards Zero vision with Future Transport 2056, which aims to have NSW transport network with zero trauma by 2056.

The NSW Government is also currently developing a new 2026 Road Safety Action Plan to build on the success of the 2021 Plan with new 2030 trauma reduction targets.

Additional safety movements such as 30 Please.org and the United Nations #Streetsforlife campaign advocate both nationally and globally for reduced traffic speeds on our streets and roads.

Residential and urban streets on the Central Coast should be safe for people who walk or cycle. Designing safer roads, reducing speeds, and providing better facilities for pedestrians and cyclists is therefore a key aim of the Street Design Manual.

## Making Streets Greener

The Central Coast region is growing rapidly, with a projected population increase from 335,300 people in 2016 to 414,615 people by 2036. As the region grows and develops, there will be an increasing need for green infrastructure to help mitigate the stresses being put on the environment as well as the provision of green open places for our growing community.

Well thought out green infrastructure is essential to the development of healthy, sustainable communities. Strategic documents such as NSW Government's Greener Places: An Urban Green Infrastructure Design Framework and Council's own adopted Greener Places Strategy support the concept of developing greener streets and greener places.

There is a wealth of evidence which shows good tree canopy can reduce and mitigate the heat island effect through shade, and a healthy urban forest can increase the biodiversity of towns and cities, help reduce pollution and combat the effects of climate change.

Green Infrastructure is an essential component of any well designed street.


## Making Streets Healthier

The Streets and roads of the Central Coast have for many years been designed and built to accommodate cars. Well designed streets that are safe, comfortable and prioritise pedestrians and cyclists can encourage more healthy lifestyles.

The Healthy Streets initiative in the UK states that: 'Every decision we make about our built environment, however small, is an opportunity to deliver better places for people to live in and thereby improve their health'.

The Healthy Streets program outlines the following 10 indicators of healthy streets:

Everyone feels welcome, easy to cross, shade and shelter, places to stop and rest, not too noisy, people choose to walk and cycle, people feel safe, things to see and do, people feel relaxed and clean air.

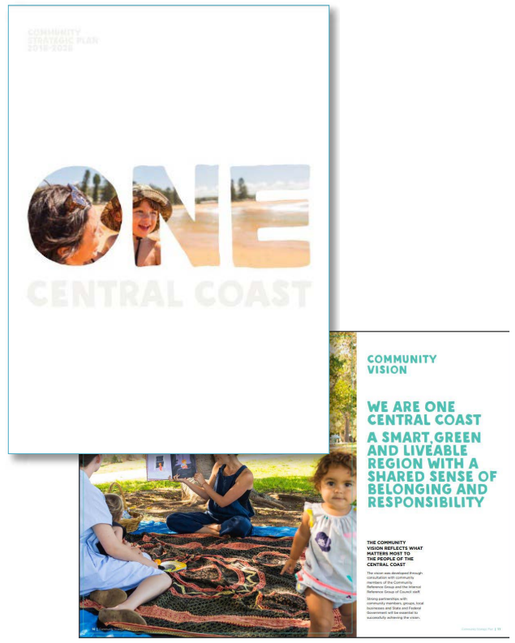
A healthier approach to street design is one that accommodates for people and allows them to incorporate health and exercise as part of their daily routine.


## Community Focus

'We are one Central Coast. A smart, green and livable region with a shared sense of belonging and responsibility' - *Community Strategic Plan*

The streets of the Central Coast belong to everyone. They are the most public of public spaces. Streets should be livable places that encourage life and outdoor activity, provide people with a sense of place, and help foster a sense of belonging.

In line with the themes of the Community Strategic Plan, our streets should be green, smart and creative and provide people with a sense of connectivity and local identity. Well designed streets can bring social, economical and environmental benefits to our towns and neighbourhoods.



# 1.6 Movement & Place

The NSW Movement and Place Framework is a planning framework that seeks to ensure that 'movement' and 'place' are considered together as part of a place based approach to the planning and design of transport networks.

"Movement and Place is a multi-disciplinary, place-based approach to the planning, design, delivery and operation of transport networks. It recognises and seeks to optimise the network of public spaces formed by roads and streets and the spaces they adjoin and impact.

A 'place-based' approach to planning involves taking a collaborative, spatial, long-term approach to develop contextual responses that better meet the needs of local people and their environment. Place-based planning aims to build and support thriving communities through collaboration, partnering, shared design, shared stewardship, and shared accountability

Well-designed places make people want to interact with them. This applies to everyone who uses a place, whether they are businesses, visitors, or members of a local community choosing how they will move around and where they will spend time. Well-designed places make our urban environments healthy, attractive, resilient and equitable (which in turn delivers benefits such as economic productivity).

Our roads and streets are key public spaces for our communities – places where people spend time and socialise – enabling activities that add vitality to neighbourhoods. Aligning movement and place in the design of roads and streets can give users of all ages and abilities better, safer and healthier travel options while creating appealing places where people want to live"

*- NSW Movement and Place Framework*

The Central Coast Street Design Manual aims to align its core principles of street design and classification with the Movement and Place Guide.

## Classifying Street Environments

All roads and streets have both movement and place functions. Streets can be classified by understanding both functions. The movement and place axis helps categorize street environments into four key areas: Main Roads, Main Streets, Local Streets and Civic Spaces.

### Civic Spaces

Civic Spaces are the streets and squares at the heart of our community. These are usually pedestrian streets or pedestrian priority shared spaces. Often located in strategic centres, Civic Spaces often a hold significant meaning, or serve a specific role or function for the community such as market squares. There are many opportunities to create new Civic Space across the Central Coast, or enhance existing ones to provide high quality places that help the local community and economy thrive.

### Local Streets

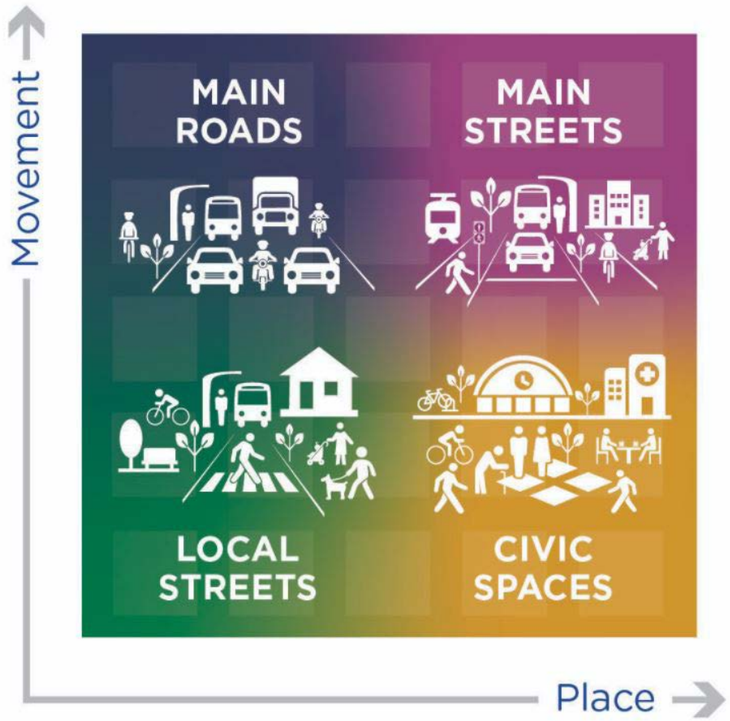
Local streets make up the majority of streets within our residential areas. Local streets often have distinctive qualities that need to be understood; compared to main roads and main streets the movement function of local streets is less intense. These streets are where the majority of the population live and therefore the needs of all users must be taken into account, including people using the street as a place for dwelling, excercising, playing and shopping. Understanding factors that influence how people move in a space is important, such as walking, cycling or taking public transport. Local Streets need to be safe, friendly and provide a real sense of home for the community.

### Main Streets

Main streets are some of the most vibrant places in our cities and towns and often form the central spine of a place. They have both significant movement functions and place qualities and there is often difficulty meeting the requirements of both successfully. Balancing the function of these streets is a common challenge; to support main streets we must improve place qualities whilst also allowing for the efficient movement of people and goods. In some instances trade-offs may need to be considered; by re-allocated road space for footpaths, outdoor dining, and recreation more people will be able to use streets safely in a variety of ways which in turn enhances the overall look, feel and character of the streetscape.

### Main Roads

In classifying main roads consideration needs to be given to the functions of movement and also how main roads can enable a range of social, economic and environmental benefits for towns, business and communities. Main road projects serve to connect communities by providing essential transport corridors for locals, commuters and visitors as well as movement of freight and commercial vehicles. Main roads should still contribute the character of the local community and help create attractive places to live work and play.




*Movement & Place Hierarchy Diagram*

Adelaide, SA

# PART 2:
## Street Design Principles

# 2.2 Street Design Principles

Streets need to meet the needs of pedestrians, cyclists, public transport, and private vehicle users equally. The following eight principles have been developed to guide the design and delivery of new streets, or the revitalisation of existing streets:

## 1. Streets are for People

Streets make up the majority of public spaces on the Central Coast, but rarely meet the most basic human requirements in terms of comfort or enjoyment. Suburban footpaths are often too narrow, lack shade or are missing altogether; whereas town centre streets can be noisy, cluttered and provide limited space for movement. Streets play a vital role in our towns and communities and should be designed as places of comfort, not just routes of travel. Well designed and inclusive streets are good for business and can minimise the amount of travel taken by car.

## 2. Streets can be Changed

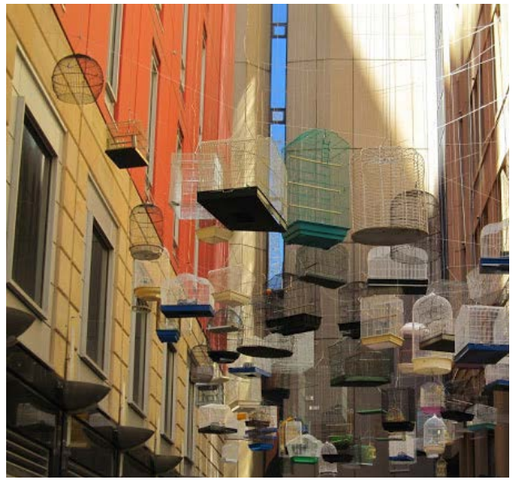
Designers and Engineers can work more flexibly and more creatively to modify existing streets or challenge current design standards to create new streets that give equal priority to pedestrians, cyclists and vehicles. Kerbs can be realigned; road widths can be reduced and footpaths can be widened to provide more room for people and allow space for bigger street trees. Many of the roads on the Central Coast were designed and built in a different era and can be re-configured to meet modern needs. Many city streets were built or altered in a different era and need to be reconfigured to meet new needs. Engineers can work flexibly between buildings to widen footpaths, realign traffic and prioritise pedestrian movement.

## 3. Design with Nature

Streets can operate as eco-systems; Mature streets trees can private vital habitat for wildlife as well as providing critical shade along footpaths to help reduce the heat island effect. Pervious pavements and bio-detention systems can be incorporated to help treat stormwater run-off and high-quality soft landscaping can help re-balance the volume of impervious surfaces whilst helping beautify our towns and neighbourhoods. Tree planting should be designed so that a continuous canopy is created on both sides of every street.

## 4. Make them Safe

NSW Road Statistics show there were over 10,800 serious road injuries in the 12-month period leading up to December 2020, with over 270 deaths. With reduced vehicle speeds, and safer road design these statistics can be reduced. The streets of the Central Coast can and should be designed with slower vehicle speeds, and pedestrians and cyclists should be prioritised and given safer options for travel. Good street design can save lives and build happier communities.



## 5. Make them Engaging

Not all streets should look the same. The streets of our towns and communities should be unique places of interest and excitement. Great street design should consider things like landscaping, lighting, public art and heritage and should encourage people to stop and stay a while. Great streets support local businesses and can help foster a greater sense of pride in our communities.

## 6. Make them Healthy

Well designed streets allow people to make healthier lifestyle choices by providing safer options for walking, cycling and public transport. Street design plays a role in how people move around safely and can increase opportunities for exercise and personal wellbeing. Well shaded footpaths should be provided on both sides of every street and safe, separated bike lanes should be provided on busy roads.



## 7. Connect to Country

The Central Coast has a large and growing First Nations population and an Aboriginal history stretching back at least 40,000 years . With an intimate and complex knowledge of their country, our future streets and shared spaces should be developed in collaboration with the local Aboriginal people.

## 8. Make them Resilient

The Central Coast faces a number of key challenges be it urbanisation, flooding, climate change or bushfire. New streets can be designed to mitigate some of these issues, while our existing streets can be retrofitted to create a greener and more resilient future for our community.

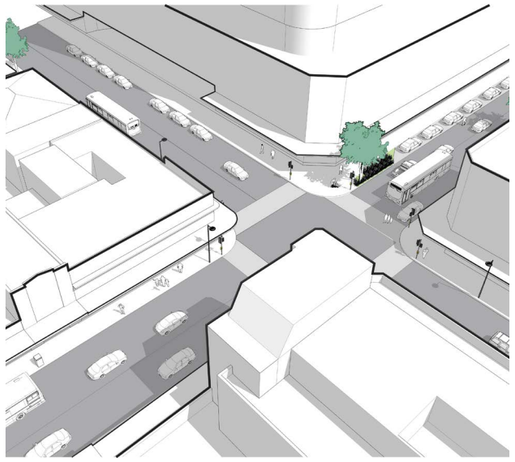
# 2.3 Stages of Renewal

Most existing streets can be changed over time. Full reconstruction of existing streets can be costly to any organisation and so the opportunity exists to provide interim, low-cost solutions to improve streets, test ideas and review their consequences. Such low-cost initiatives can include painted bike lanes or painted pedestrian thresholds at road intersections.

Other ideas can include pop-up parklets or temporary seating areas to encourage public engagement. These examples of 'Tactical Urbanism' are being used successfully across the globe and can be a great way to change a street before committing to high-cost re-development. Whilst not all streets need to be delivered in stages, many streets can benefit from this approach.

## Existing

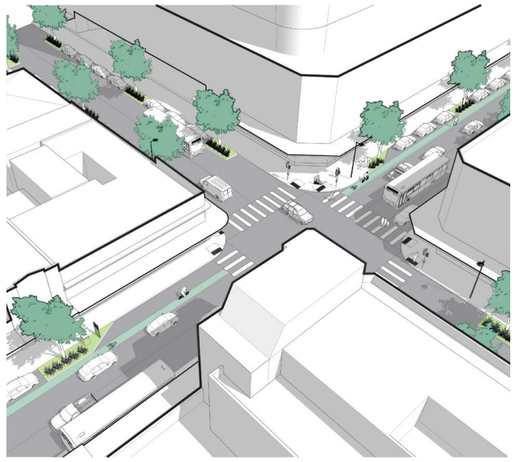
A review of existing streets on the Central Coast illustrates how cars have been prioritized over the years, with little attention given to the quality of our public footpaths. Pedestrians and cyclists are often discouraged from travelling on foot or by bicycle due to a lack of safe, accessible, or well-shaded paths of travel. The lack of attractive, walkable streets or bike lanes encourages people to use their cars more and increases road congestion throughout the region.



**Existing**
*Typical Current Streetscape*

## Interim Design

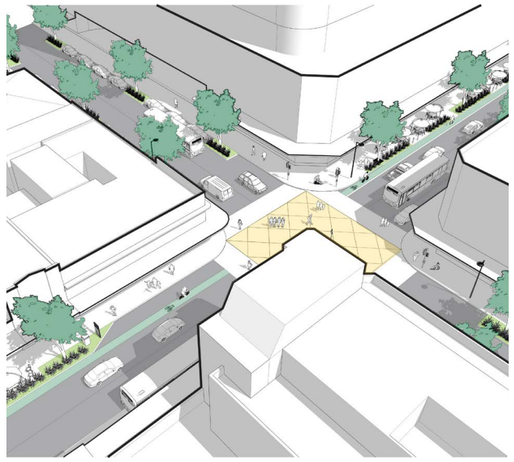
Use of low-cost materials and temporary design initiatives can change streets easily and at low risk. This can be a great way to test a number of design ideas and review their relative success or any unintended consequences. Streets can be transformed by the addition of painted bike lanes or by prioritising pedestrian movement at road thresholds and intersections. Low-cost public art can be introduced, as well as temporary planter boxes. Car parking spaces can be given over to seating areas, and footpaths can be widened to improve the pedestrian experience.



**Interim Redesign**
*Programing and Low Cost Materials (1-2 yrs)*

## Full Reconstruction

A full reconstruction of an existing street can take a number of years and must take a holistic urban design approach. Pedestrians and cyclists must be given equal priority to cars and streets must be designed to accommodate high-quality landscaping and street tree planting as well as public art, heritage, ecology, lighting etc. The practicality of streets must also be given due consideration, with essential services and waste collection integrated into the design.



**Full Reconstruction**
*Full capital reconstruction (5-10yrs)*

# 2.4 Residential Street Zones

The Street Design Manual identifies and gives different names to different zones of the street. Each zone serves a different purpose and function and should be arranged to ensure the best street experience possible. Not all streets will include every zone, but every street will include at least two of these zones.

## Interface Zone

The area adjacent to a building or property boundary. These zones should provide even, equitable access to building entries in urban settings, or provide landscaped zones against property boundaries in suburban settings. The interface between buildings should be free of physical or visual obstructions but on wider streets can be used for seating.

In residential streets, the interface should consist of a minimum 0.9m strip for the location of underground services which is either turfed or landscaped with low level plants (less than 1m mature height). Tree planting is generally not appropriate in this zone due to conflicts with services and inadequate space for root growth.

In residential streets it is recommended that a consistent, pervious, fence-line, no more than 1m high, is provided along the boundary to demarcate the property and improve the visual aspect of the street. Any fence-line should be in keeping with the character of the area and be made from attractive materials e.g. timber, brick, ornate metal-work. Solid, metal fencing is not recommended along front property boundaries.

## Pedestrian Zone

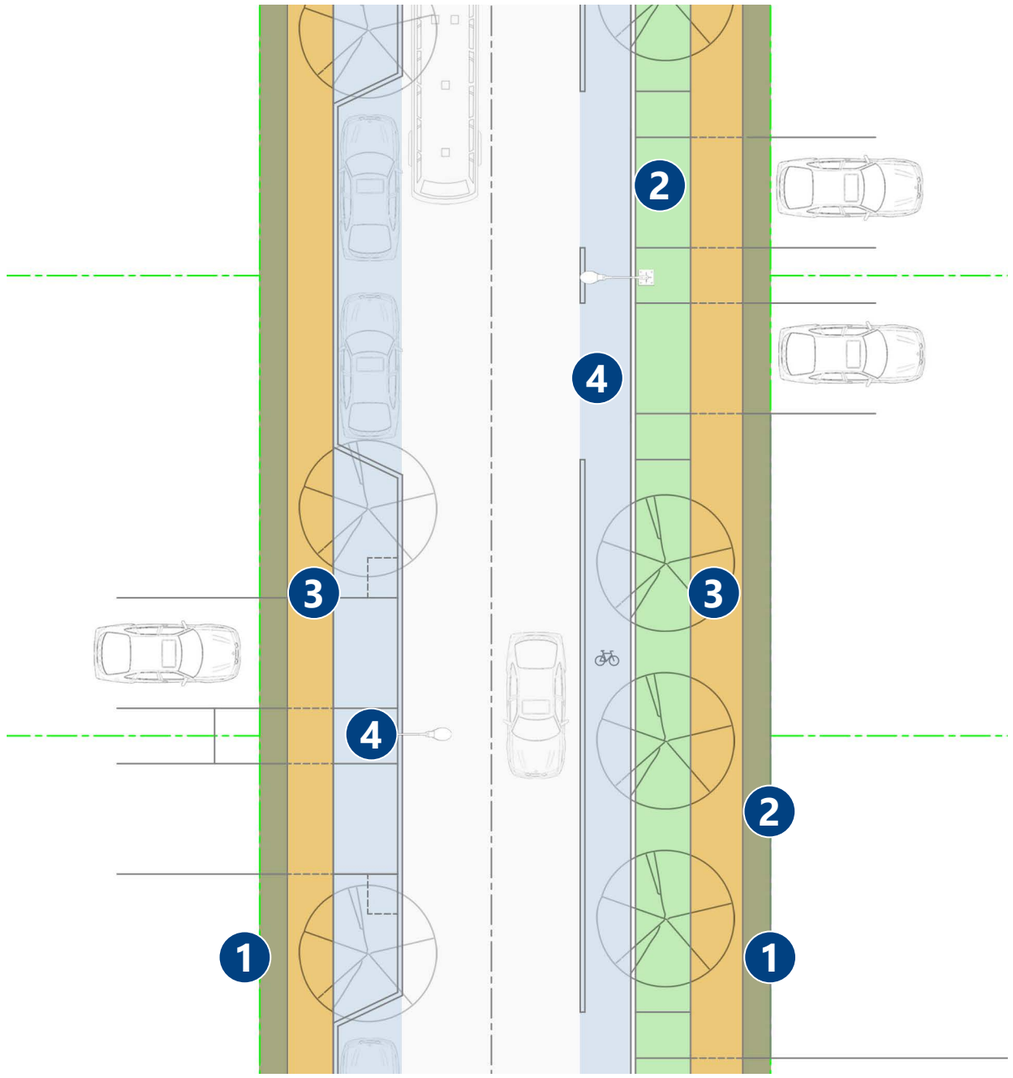
An area of varying width depending on the street type that provides an unobstructed, accessible path of travel between 1.5-3.0m in residential areas. This zone should be clear of furniture, light poles, planting or waste collection. The pedestrian zone should be well lit, well shaded and provide a continuous path of travel for the entirety of the street.

## Flexible Zone

The flexible zone is defined as the space between the kerb and the line of moving traffic. Historically used for on-street parking, this space can be designed or modified over time to accommodate wider footpaths, outdoor dining, bike lanes, street tree planting, water sensitive urban design systems (WSUD), or electric vehicle (EV) charging stations. Well designed Flexible Zones will provide space for vital green infrastructure and help naturally calm and slow down traffic speeds.

## Landscape & Furnishings Zone

Landscape zones should be provided to either one or both sides of residential streets, with a minimum width of 2m to allow adequate space for street trees, planting and furniture. Where Two trees should be provided per lot to provide a connected shade canopy over time. Native grasses and ground-covers are encouraged as understorey planting, with turf provided as a minimum. Lighting or furniture can be placed in this zone in locations that do not conflict with tree planting. Any planting or furnishings should be provided in a consistent and well coordinated manner to create a continuous theme along the street.




### Street Zones- Residential

*The diagram illustrates different zoning options for either side of the street. Flexible zones can be identified on either one or both sides. Green infrastructure is an essential component, and a continuous line of streets trees must be provided to both sides.*

1. Interface Zone
2. Landscape Zone
3. Pedestrian Zone
4. Flexible Zone

# 2.5 Urban Street Zones

### Interface Zone

These zones should provide accessible entry to buildings in urban settings. Access to any building threshold should be free of trips and hazards and footpaths should fall away from the building at 2-2.5% for drainage purposes. The interface zone should be free of physical or visual obstructions but on wider streets can be used for seating or outdoor dining against the building.

### Pedestrian Zone

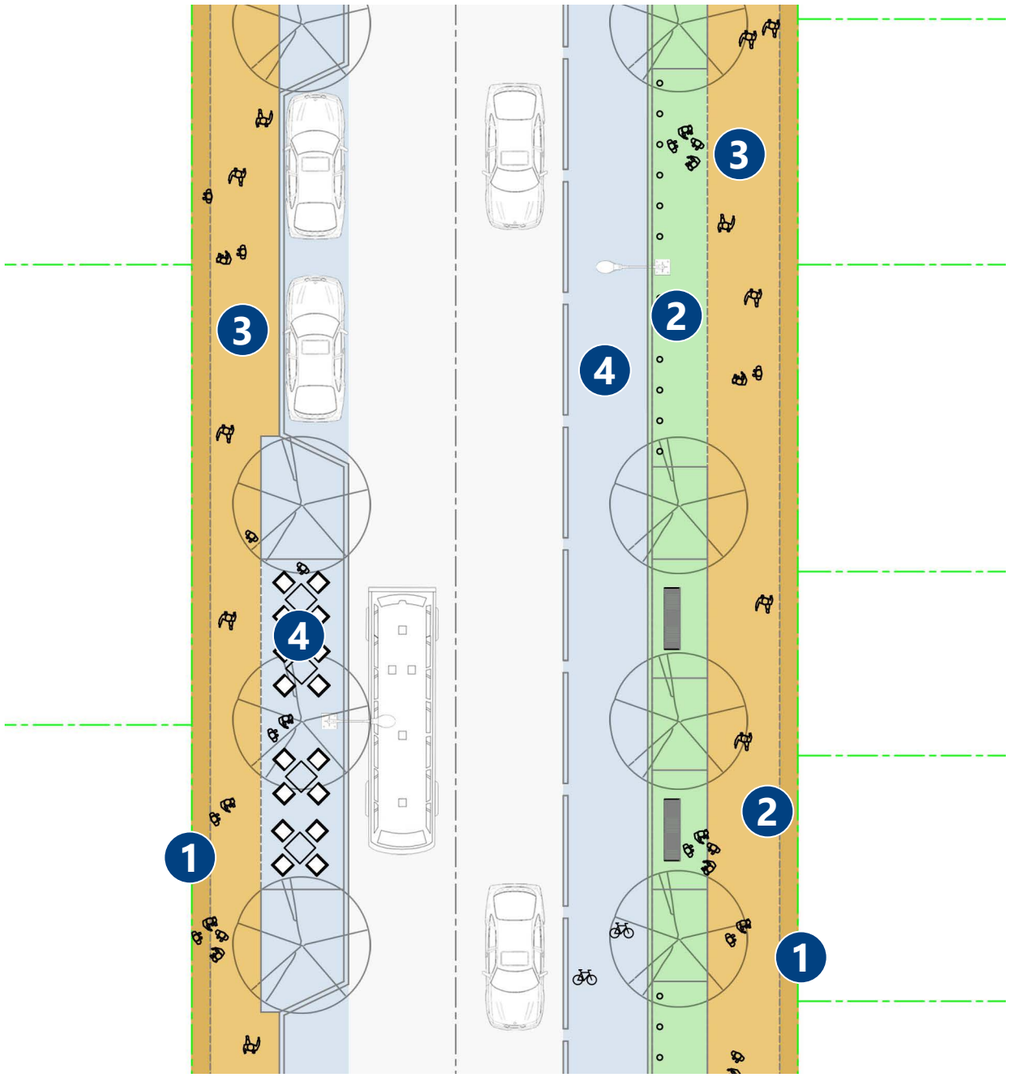
An area of varying width depending on the street type that provides an unobstructed, accessible path of travel between 2.4-4.5m in urban streets. This zone should be clear of furniture, light poles, planting or waste collection. The pedestrian zone should be well lit and well shaded and provide a continuous path of travel for the entirety of the street.

### Flexible Zone

The flexible zone is defined as the space between the kerb and the line of moving traffic. Historically used for on-street parking, this space can be designed or modified over time to accommodate wider footpaths, outdoor dining, bike lanes, street tree planting, water sensitive urban design systems (WSUD), parklets, or electric vehicle (EV) charging stations. Well designed Flexible Zones will provide space for vital Green Infrastructure and help naturally calm and slow down traffic speeds.

### Landscape & Furnishings Zone

In Urban settings where there is no flexible zone available, an area of the verge may be given to street tree planting, outdoor furniture, and light poles. These should not intrude into the designated pedestrian zone. Depending on the location, street trees should be provided approximately every 15m, with appropriate tree species and planting techniques being used. Any planting or furnishings should be provided in a consistent and well coordinated manner to create a continuous theme along the street.



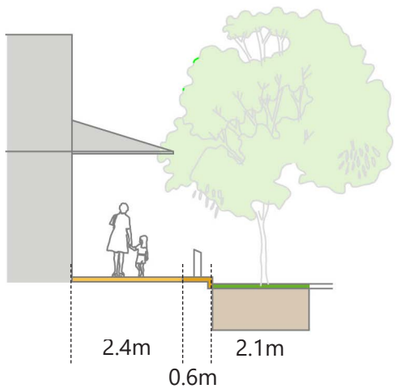

### Street Zones- Urban Centres

*The diagram illustrates different zoning options for either side of the street. Flexible zones can be identified on either one or both sides. Green infrastructure is an essential component, and a continuous line of streets trees must be provided to both sides.*

1. Interface Zone
2. Landscape Zone
3. Pedestrian Zone
4. Flexible Zone

# 2.6 Street Geometry

Depending on the street, the appropriate amount of space needs to be allocated for safe pedestrian movement, services, infrastructure and the variety of functions the particular street needs to cater for.

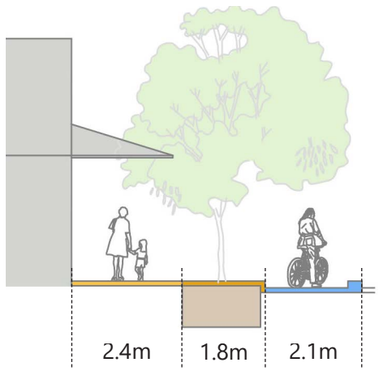



## Narrow Town Centre Street - Type 1

Urban centres often have streets with footpaths that are too narrow to accommodate tree planting or infrastructure and barely provide conditions for accessible pedestrian movement.

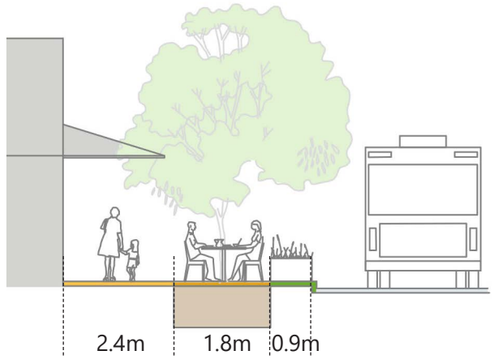
A clear, unobstructed footpath min. 2.4m wide must be provided, plus 0.6m space allowed for light-poles and bollards against the back of kerb. Where safe to do so, tree planting should be located in the road reserve/ flexible zone with a recommended width of 2.1 provided for structural soil or soil cell systems beneath the road surface.

If footpaths cannot be provided on both sides of a street, a shared street is preferred on one side. Locate utilities and other obstructions against the kerb where possible.



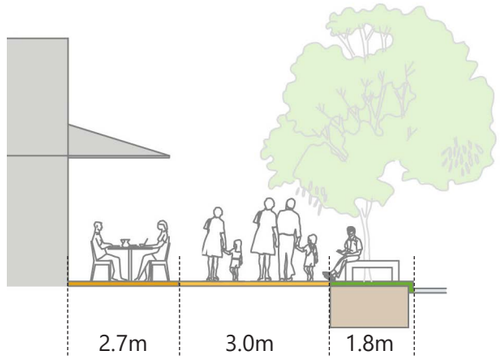

## Narrow Town Centre Street - Type 2

Medium-density streets should maintain a clear, unobstructed footpath of 2.4m or more. Trees should be planted between the clear path of travel and back of kerb, and coordinated with the location of light-poles, furniture, access driveways and other infrastructure. Tree pits should be a minimum of 1.8m wide using structural soil or soil cells beneath the footpath surface. The Flexible Zone should be considered for cycle lanes or other green infrastructure such as water sensitive urban design.



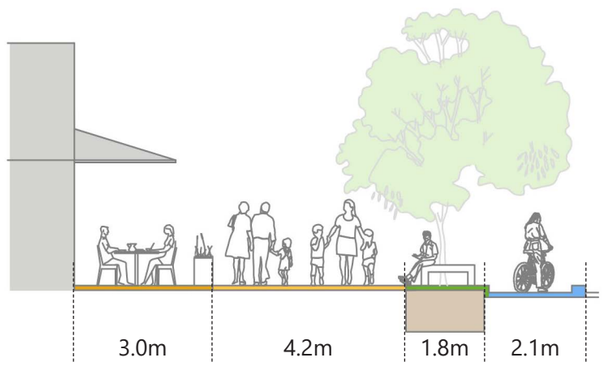

## Neighbourhood Main Street - Type 1

Small neighbourhood streets with a medium amount of pedestrian traffic must provide a minimum 2.4m clear footpath with additional space for seating, planting or outdoor dining. Tree pits must be a minimum 1.8m wide and provided at 10-12m intervals along the street to create canopy and shade. Seating areas can be incorporated between trees and be 1.8m-2.7m wide. A 0.9m buffer zone must be provided with elements such as planter beds used to create separation between pedestrians and vehicles.



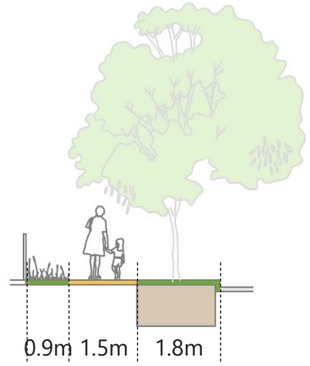

## Neighbourhood Main Street - Type 2

Main streets must provide a minimum clear footpath of 3.0m to allow adequate space for people to comfortably pass one another. Space for commercial activity to extend from storefronts should be allocated on the building side with a recommended width of 2.7m. Tree pits, planters, and seating should provide a buffer between pedestrians and moving vehicles. Tree pits must be a minimum 1.8m wide and be provided 10-12m intervals along the street to create canopy and shade.




## Main Street

Busy commercial streets with predicted heavy pedestrian flows must be designed, when possible, with a width of 8–10m (excluding the carriageway) allowing for commercial activity, street furniture, transit stops and shelters or queuing spaces, landscaping, and green infrastructure. Tree pits should be a minimum of 1.8m wide, with the Flexible Zone being considered for cycle lanes or other green infrastructure.




## Residential Streets

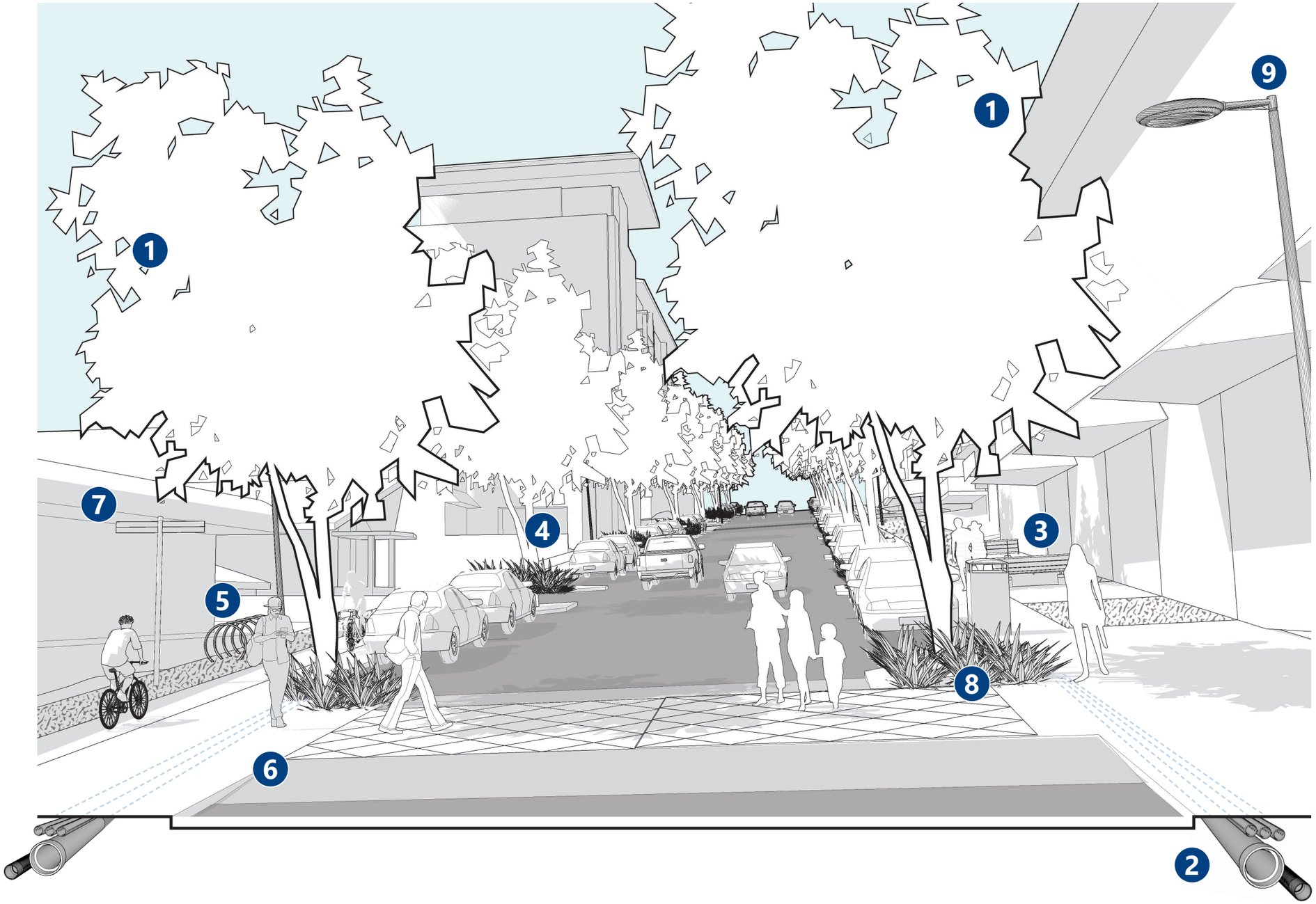
Typical residential streets must be wide enough to adequately allow footpaths and street tree planting on both sides. A 0.9m landscaped strip adjacent to the boundary must be provided for services; footpaths must be a minimum 1.5m wide footpaths and a 1.8m minimum width verge provided for tree planting.

# 2.7 Coordination of Elements

Street Design is made complex by the range of stakeholders involved and the large amount of competing factors that need to be considered. Space needs to be found within each street for pedestrians, vehicles, cyclists, street trees, landscaping, WSUD, seating, lighting, furniture and services. Careful coordination of all these elements is needed to ensure they are free of clutter and provide adequate space for pedestrian movement.

## Street Elements:

1. New street trees are required to meet Council's Sustainability and Climate Action Plan targets. The design, location and choice of species needs to be given careful consideration to allow to grow to full maturity without creating future conflicts or maintenance issues.
2. Service pits must be fully coordinated and correctly aligned with any proposed paving layouts and levels.
3. Seating and outdoor dining areas must be addressed holistically along the street and provided where space is adequate.
4. Bins/ waste collection points must be fully coordinated with waste services; provision of bins in urban areas should be well coordinated with all other furniture elements and the location of bin collection points must not detract from the street experience.
5. Bike racks must be looked at strategically and may be required.
6. Kerb ramps must be aligned with pedestrian path of travel and coordinated with proposed paving materials and elements.
7. Signage to be coordinated with other furniture and not detract or clutter the look and feel of the street.
8. WSUD devices may be required and coordinated with a wider stormwater collection strategy.
9. Light-poles must be coordinated with location of street trees.



# 2.8 Street Types

The Street Types proposed in this Design Manual attempt to build on from Street Types previously identified in Council's various DCPs, and provide guidance on how to design better streets for the future. It is important to note however that individual subdivision plans or town centres masterplans must take a place-based design approach and therefore not all street types may be covered by this manual.

Design recommendations are provided for each street type with ideas on how to stage the process for existing streets, or how to design new streets.

## Residential Streets:

- **Access Lanes** are generally used for small lot housing and have very limited through traffic. The maximum capacity for these laneways is 100 vehicles per day and are currently designed for a maximum speed of 30km/h although consideration should be given to 10km/h shared zones.
- **Access Streets** are minor streets that have limited through traffic. The capacity of these streets is up to 500 vehicles per day and are currently designed for a maximum speed of 30km/h.
- **Local Streets** can carry up to 2000 vehicles per day and are currently designed for maximum street speed of 40km/h.
- **Collector Streets** are linked to major roads. The capacity of these streets is between 2000 and 5000 vehicles per day. They are currently designed for a maximum speed of 50km/h.
- **Distributor Roads** are major roads that are designed for considerable traffic loads, generally greater than 5000 vehicles per day. These roads are generally used to facilitate access to major facilities such as shops and schools. They are generally designed for a maximum speed of 50km/h.

## Urban Centre Streets:

- **Laneways** are generally located at the rear of commercial buildings and historically have been used for deliveries and waste collection. Existing laneways can be revitilised to become active pedestrian zones for retail with consideration given to 10km/h speed limits.
- **Neighbourhood Streets** are generally located in urban areas with housing, apartments or town housing and should be quiet, shady and safe for residents with a maximum speed of 40km/h.
- **Green Links** used in specific town centres to connect urban parks or areas of natural open space. Double rows of trees or planted centre medians and a landscaped understorey should be considered with a maximum speed limit of 40km/h.
- **Gateway Streets** Major entry streets to town centres must provide a unique experience that signals the arrival to a certain place. Gateway Streets should be inviting, and make use of landscaping and public art and designed with a maximum speed limit of 50km/h.
- **Collector Streets** are typically major roads through or around town centres catering for between 2000-5000 vehicles per day with a typical speed limit of 60km/h.
- **Connecting Streets** generally cater for mixed business use and often connect into the high street. Similar to collector streets, these streets cater for high traffic volumes and current speed limits vary from centre to centre with a maximum of 50km/h.
- **Main Streets** generally located through the centre of a town or commonly along one side of a major road, these streets form the heart of a town or local centre and cater for the majority of business, retail, cafe's and restaurants as well as high volumes of traffic. Current speeds are typically 40km/h but consideration should be given to 25-30km/h zones in major pedestrian areas.
- **Civic Spaces** can be identified in any town or neighbourhood centre and are places of social, cultural or historical significance. Civic Spaces must be designed with a focus on the pedestrian experience with a higher focus on materials, lighting, public art and heritage interpretation etc. Vehicle movement should be limited in these areas. Civic Spaces should generally be designed as 10km/h shared zones, or fully pedestrianised.

## Industrial Areas:

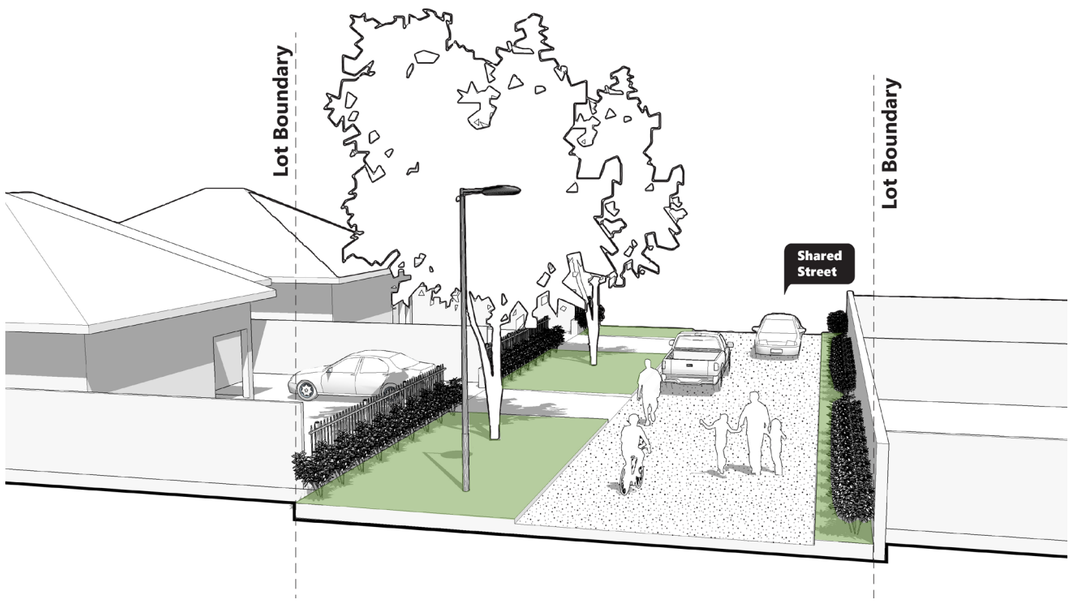
- **Industrial Streets** generally located in areas zoned for industrial use, these streets are generally designed with a 50km/h speed limit and cater for high traffic volumes and heavy vehicle movement. Facilities for pedestrians and cyclists are rarely accounted for in these zones and should be given due consideration.

Hornsby, NSW

# PART 3:
# General Residential Streets


Rouse Hill NSW

# 3.1 Access Lanes




## General

**Access Lanes** are generally used for small lot housing and have very limited through traffic. The maximum capacity for these laneways is 100 vehicles per day and are currently designed for a maximum speed of 30km/h.

Laneways can be used to provide rear access to properties or garages and can avoid the need for driveways crossings on the main street. Poorly designed laneways however commonly have rear fences backing onto them with no little or no passive surveillance from houses.

Narrow nature grass strips are often created along rear fence lines but can be difficult to maintain. Provision of roll-kerbs invites people to park over the verge, damaging tree root systems and blocking pedestrian movement.

Laneways that are not through roads must provide adequate turning space for a service vehicle (garbage/ removal truck ) to turn.

## Recommendations

- Where possible create 10km/h shared zones to avoid requirements for separation of vehicles and pedestrians.
- Avoid blank walls or rear fences backing onto laneway; provide planting along boundary fences instead of turf.
- Corner houses to address the laneway entry and create greater passive surveillance using non-service room windows, decks, balconies etc. Avoid blank walls.
- Consider change of material such as coloured concrete to emphasise shared zone.
- Ensure laneways are well landscaped with adequate canopy cover.
- Consider waste collection and ensure each property has a designated space for bin storage on collection day.

## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | 100 vehicles per day |
| Recommended Speed Limit | 10km/h Shared Zone |
| Recommended Verge width | Shared zone |
| Recommended Carriageway Width | Shared zone |
| Total Street Reserve Width | 11m (houses on one side)<br><br>14.5m (houses both sides) |
| Kerbing | Flush Kerb (shared zones) |
| Footpath Provision | 1.5m min. or<br><br>Shared zone |
| Cycleway Provision | n/a |
| On-Street Parking | No |
| Landscaping | 1-2 Street Trees per house in verge. Provide garden beds along property boundaries |
| WSUD | n/a |

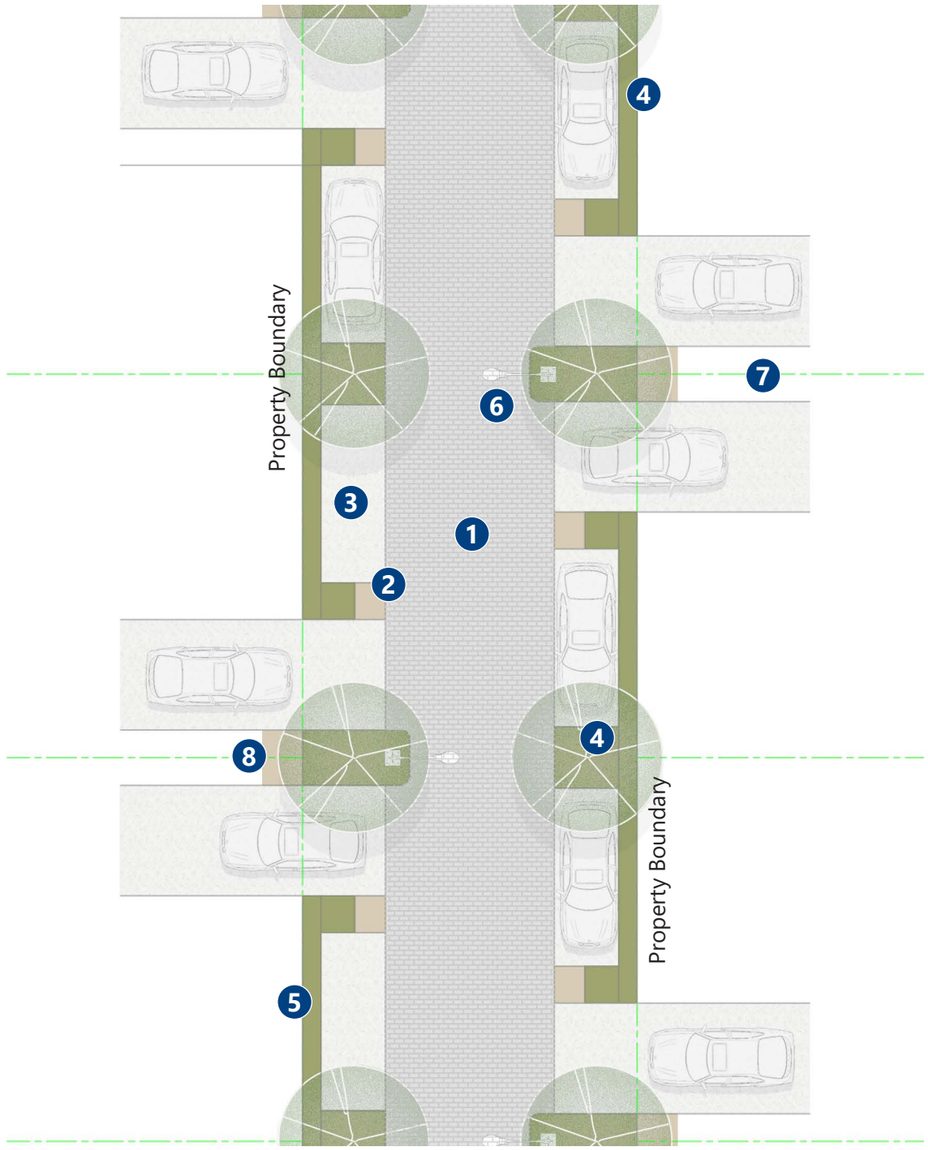
*Table 3.1*

## Examples:

*This laneway off Buckley Avenue, Fairwater has been designed to create an attractive, welcoming entry point that feels safe. The corner house has been turned to address the laneway which helps provide for passive surveillance.*

*This laneway at Riviera Glade in the same suburb of Fairwater has also been designed with houses facing onto the public space which creates a much safer, more welcoming pedestrian experience. The laneway is well landscaped with trees and vegetation that will provide shade, and different paving materials have been used to help indicate that this is a low speed shared zone.*

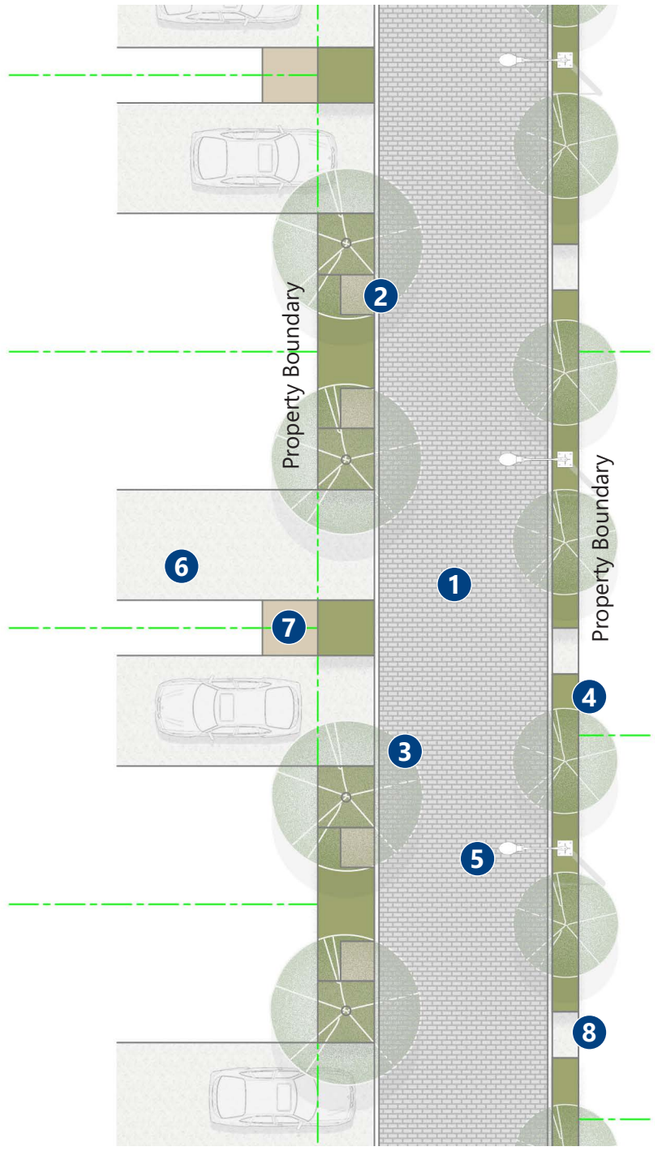
## Access Lane - Typical Layout Option 1




1. Shared vehicle/pedestrian zone; material choice can highlight pedestrian priority
2. Designated bin collection point
3. On-street parking is well-defined
4. Provide adequate space and soil volume for street tree planting and shade
5. Provide soft landscaping
6. Provide street lighting and consider crime prevention through environmental design (CPTED)
7. Where subdivision and housing development occurs concurrently, locate driveways side by side
8. Ensure Bins can be stored within property boundary

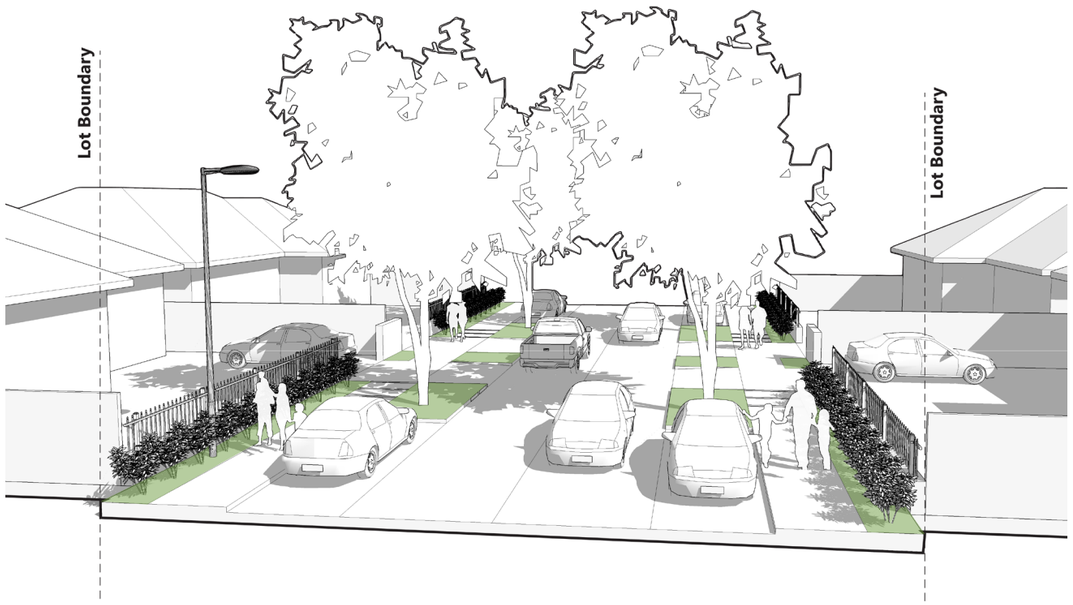


## Access Lane - Typical Layout Option 2




1. Shared vehicle/pedestrian zone; material choice can highlight pedestrian priority
2. Designated bin collection points
3. Provide adequate space and soil volume for street tree planting and shade
4. Provide soft landscaping
5. Provide street lighting and consider CPTED issues
6. Where subdivision and housing development occurs concurrently, locate driveways side by side
7. Ensure bins can be stored within property boundary
8. Provide/ allow for safe pedestrian access to rear of properties

# 3.2 Access Streets




## General

**Access Streets** are minor local streets that have limited through traffic. The capacity of these streets is up to 500 vehicles per day and they are typically designed for a maximum speed of 30km/hour.

Footpaths must be provided on both sides of the street and consideration should be given to the creation of defined edges to the property boundary such as low fencing or hedging. Smaller setbacks to houses also give streets a more friendly, welcoming neighbourhood feel.

Provide a minimum planting zone of 1.5m for street trees and consider planting native grasses and ground-covers rather than turf.

## Recommendations

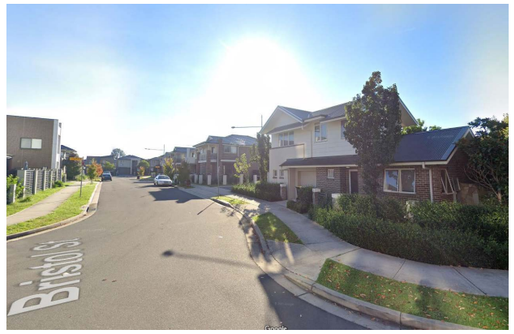
- Provide footpaths minimum 1.5m wide on both sides of the streets.
- Provide min. 1.5m wide planting zones on both sides of street for street trees.
- On-Street parking can be provided with additional tree pits/ WSUD devices created within the road verge.
- Provide defined property boundaries through the use of consistent low fencing or hedging.
- Provide planted borders between the back of footpath and the property boundary.
- Turn corner houses to face the access street to avoid long lengths of blank fencing.
- Provide specific locations for bin storage on collection day.

## Design Guide:

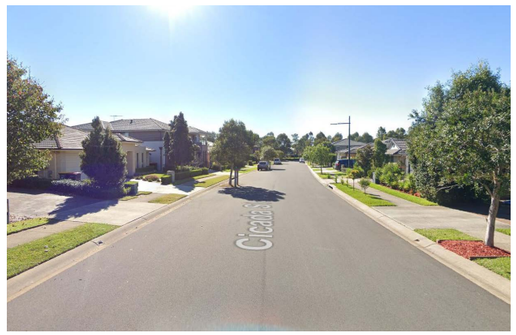
| | |
|---|---|
| Indicative Traffic Volume | 500 vehicles per day |
| Recommended Speed Limit | 30km/h Shared Zone |
| Recommended Verge width | 4.0 |
| Recommended Carriageway Width | 5.5 |
| Total Street Reserve Width | 13.5m |
| Kerbing | Vertical Kerb |
| Footpath Provision | 1.5m both sides |
| Cycleway Provision | n/a |
| On-Street Parking | Yes |
| Landscaping | 1-2 Street Trees per house in verge. Provide garden beds along property boundaries |
| WSUD | Yes - In Road |

*Table 3.2*

## Examples:

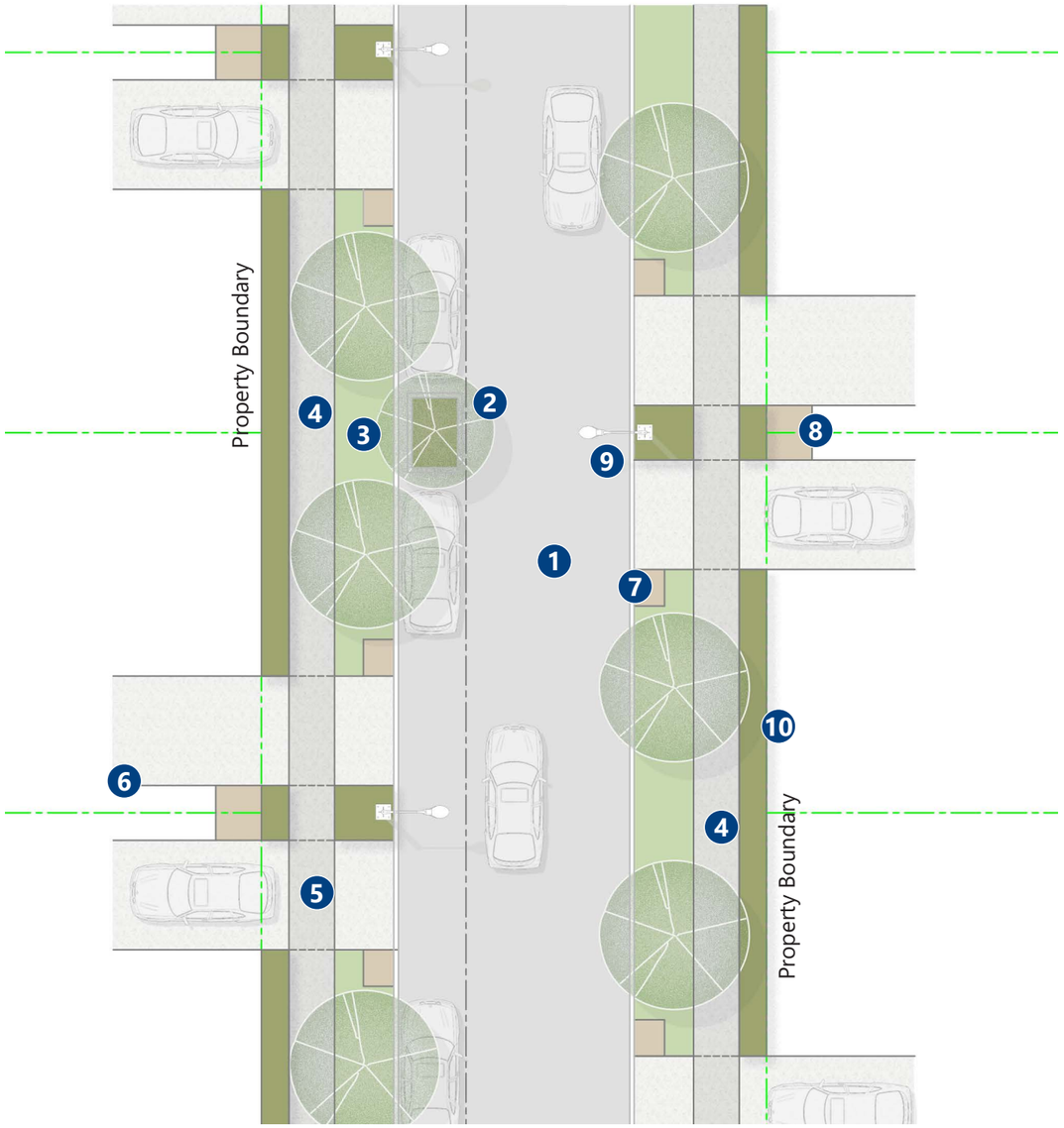



*Bristol St in Thornton Park, Penrith demonstrates an attractive minor local street with connecting footpaths on both sides of the street. A defined edge between public and private space has been created along the property boundaries and street trees will provide shade over time. The corner house addresses the street created a more welcoming feel.*



*Cicada Street at The Ponds development, Western Sydney demonstrates an attractive, walkable street with footpaths on both sides. Street tree planting will provide shade over time, and additional trees have been planted into the carriageway to provide additional green infrastructure and help create a less monotonous streetscape experience.*

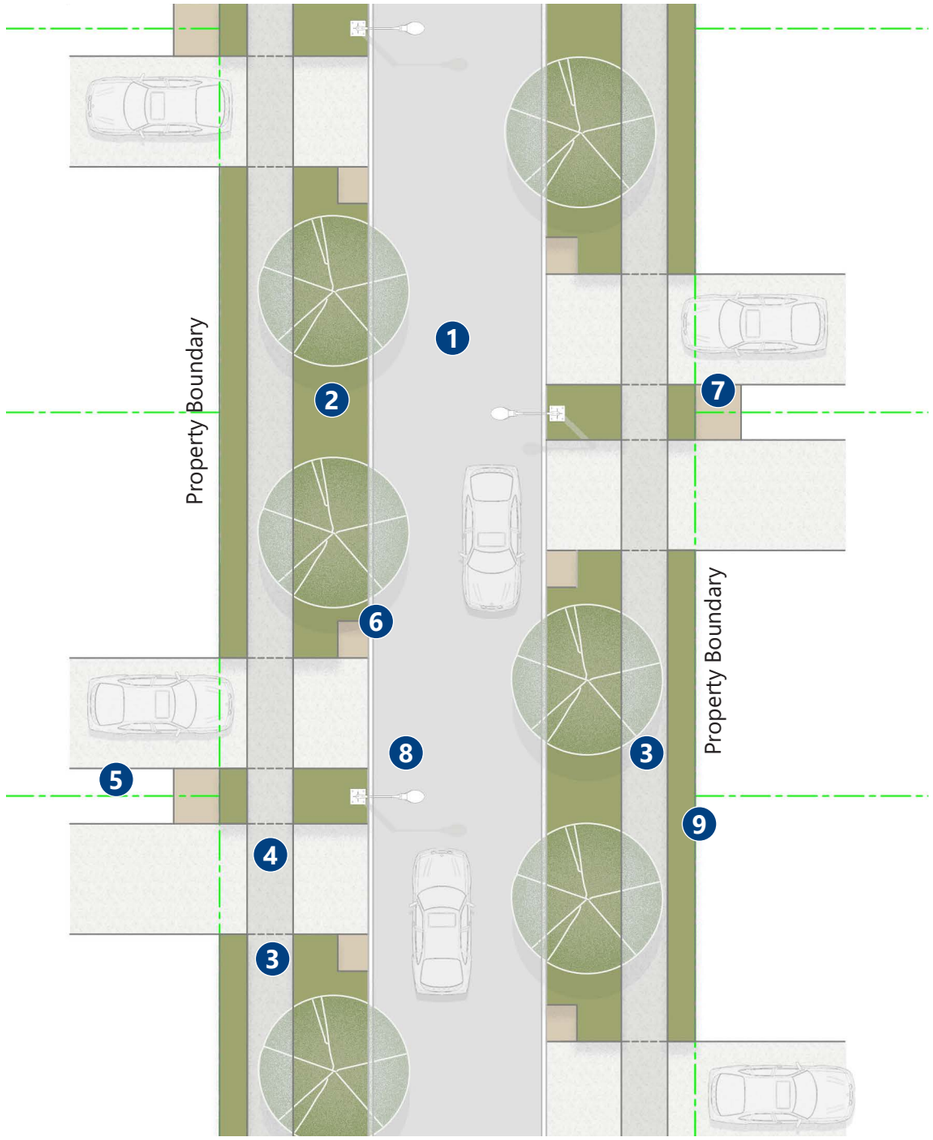
## Access Street - Typical Layout Option 1




1. 2-Way low speed street
2. Flexible Zone can incorporate tree planting and/or WSUD devices
3. 1.5-2m wide verge for street tree planting
4. Min. 1.5m wide footpath to both sides
5. Where subdivision and housing development occurs concurrently, ensure pedestrian priority across driveways
6. Where subdivision and housing development occurs concurrently, locate driveways side by side
7. Designated bin collection area
8. Ensure bins can be stored within property boundary
9. Street Lighting
10. Consistent fencelines and 0.9m of landscaping against property boundaries



## Access Street - Typical Layout Option 2




1. 2-Way low speed street; no on-street parking
2. 2m min. wide landscaped verge for street tree planting
3. Min. 1.5m wide footpath to both sides
4. Where subdivision and housing development occurs concurrently, ensure pedestrian priority across driveways
5. Where subdivision and housing development occurs concurrently, locate driveways side by side
6. Designated bin collection area
7. Ensure bins can be stored within property
8. Street lighting
9. Consistent fencelines and 0.9m of landscaping against property boundaries

# 3.3 Local Streets


## General

**Local Streets** can carry up to 2000 vehicles per day and should be designed for maximum street speed of 40km/h. Consideration should be given to a 30km/h speed limit to help create safer more walkable neighbourhoods.

Local Streets generally feed into a Collector Street and should provide adequate provision for pedestrians and cyclists. Local Streets should have full tree coverage with canopy trees located on each side of the street. On street Parking should be allowed for, with provision of WSUD devices within the carriageway.

Local streets can be designed with a 4-6m wide verge on one side to allow for a shared pathway. Property boundaries must be well defined with low fencing or hedging. Some local streets will also need to cater for bus routes. A bin collection area must be identified and designed into new streets; houses must provide a storage area within the property for non-collection days.

## Recommendations

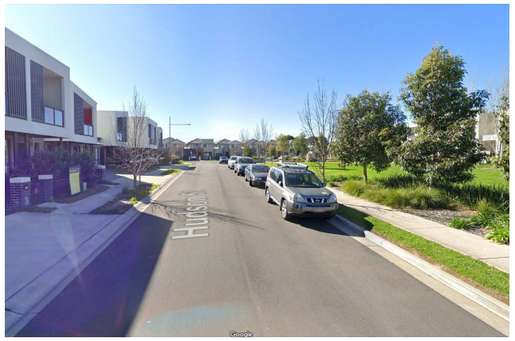
- Where possible provide a 1.8m footpath on one side of the street, and either a) a 2.5m shared path on the opposite side, or b) a 1.2m wide painted cycle lane within the road reserve.
- Provide 1.5m (min.) wide cycle lanes in the road carriageway as a second option.
- Provide street trees and on-street parking within the flexible zone on one side of the street.
- Consider WSUD catchment devices within the road reserve.
- Provide defined property boundaries through the use of consistent low fencing or hedging.
- Provide planted borders between the back of footpath and the property boundary.
- Provide specific locations for bin storage on collection day; bins must be stored within the property boundary on non-collection days

## Design Guide:

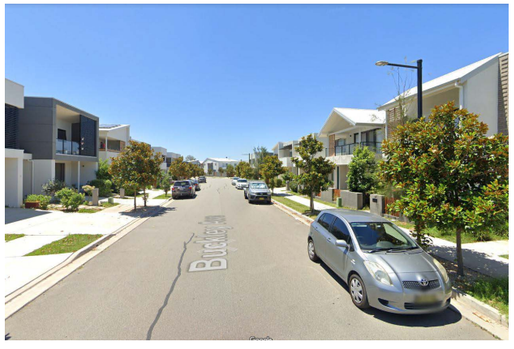
| | |
|---|---|
| Indicative Traffic Volume | 2000 vehicles per day |
| Recommended Speed Limit | 30km/h |
| Recommended Verge width | 2.4 - 6.4m |
| Recommended Carriageway Width | 7.8m |
| Total Street Reserve Width | 16.6m |
| Kerbing | Vertical Kerb |
| Footpath Provision | 1.8m footpath one side<br><br>2.5 shared path one side |
| Cycleway Provision | Shared Path or 1.5m (min.) cycle lane in road where space allows |
| On-Street Parking | Yes |
| Landscaping | 1-2 Street Trees per house in verge. Provide garden beds along property boundaries |
| WSUD | Yes - In Road |

*Table 3.3*

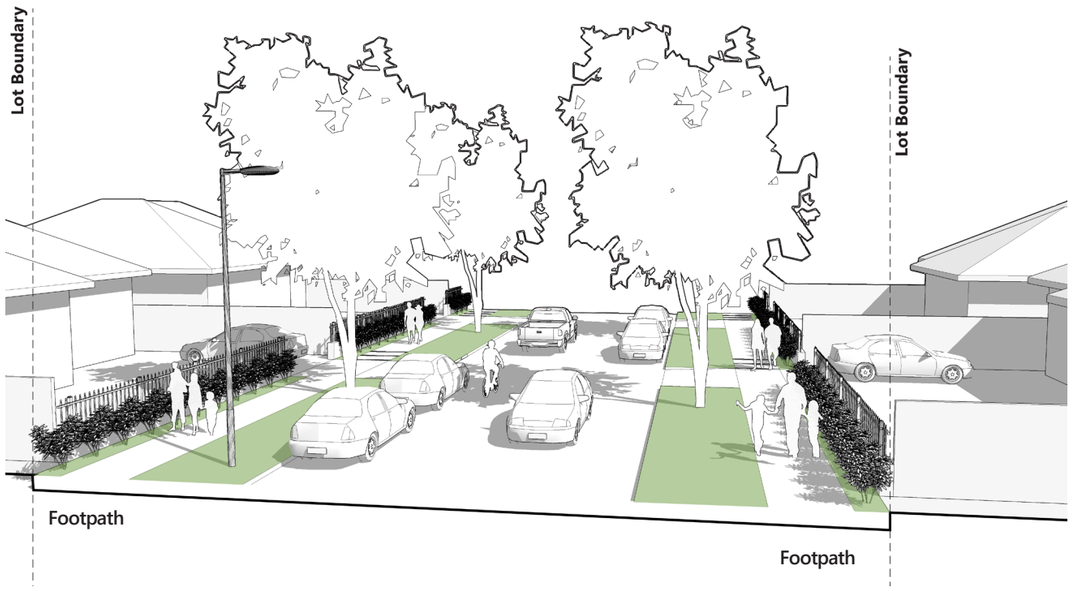
## Examples:

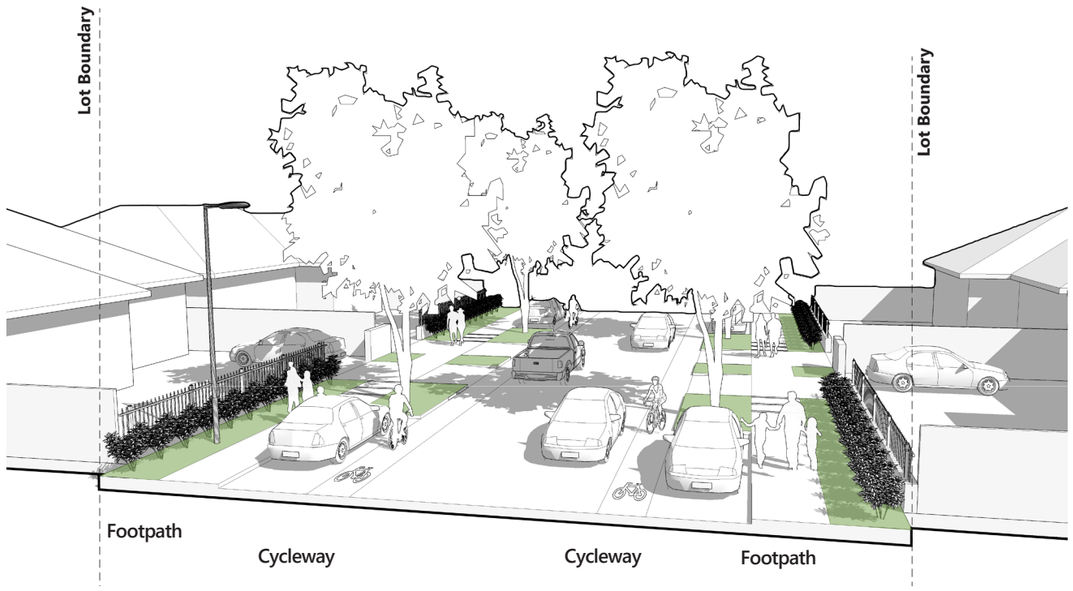



*Hudson St in Thornton Park, Penrith overlooks an urban park. Footpaths have been provided on both sides, and a well defined edge to the property boundaries. Small setbacks ensure the street feels safe and well overlooked and adequate street tree planting provides essential green infrastructure.*

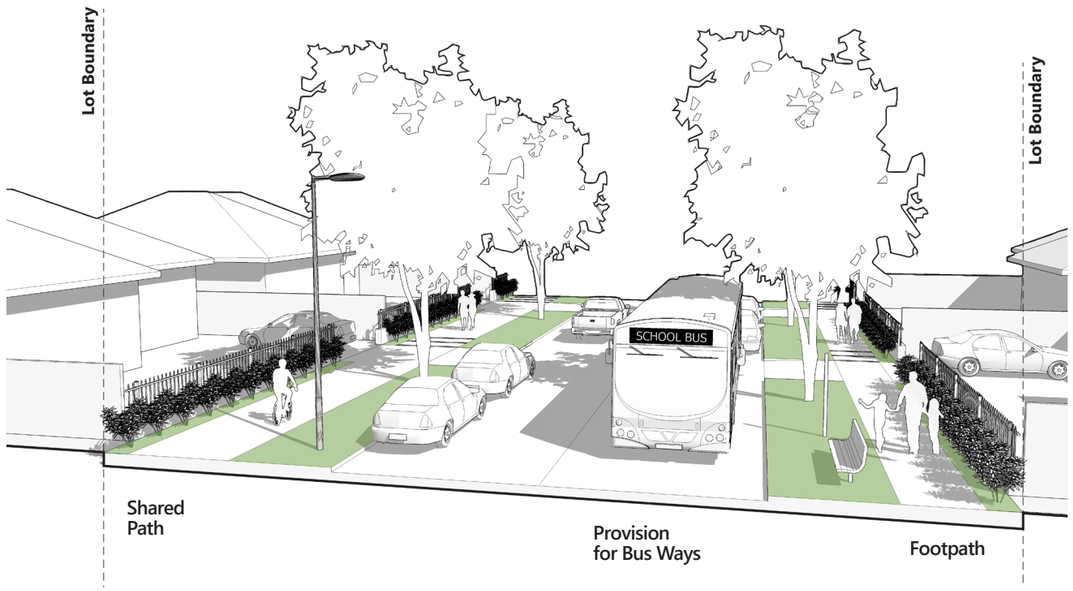



*Buckley Avenue, Fairwater demonstrates a well designed local street. Footpaths are provided on both sides, property boundaries are neat and well defined, street trees have been incorporated outside each property and the street is well lit. The street has a safe, friendly feel and will look green and well shaded in time.*



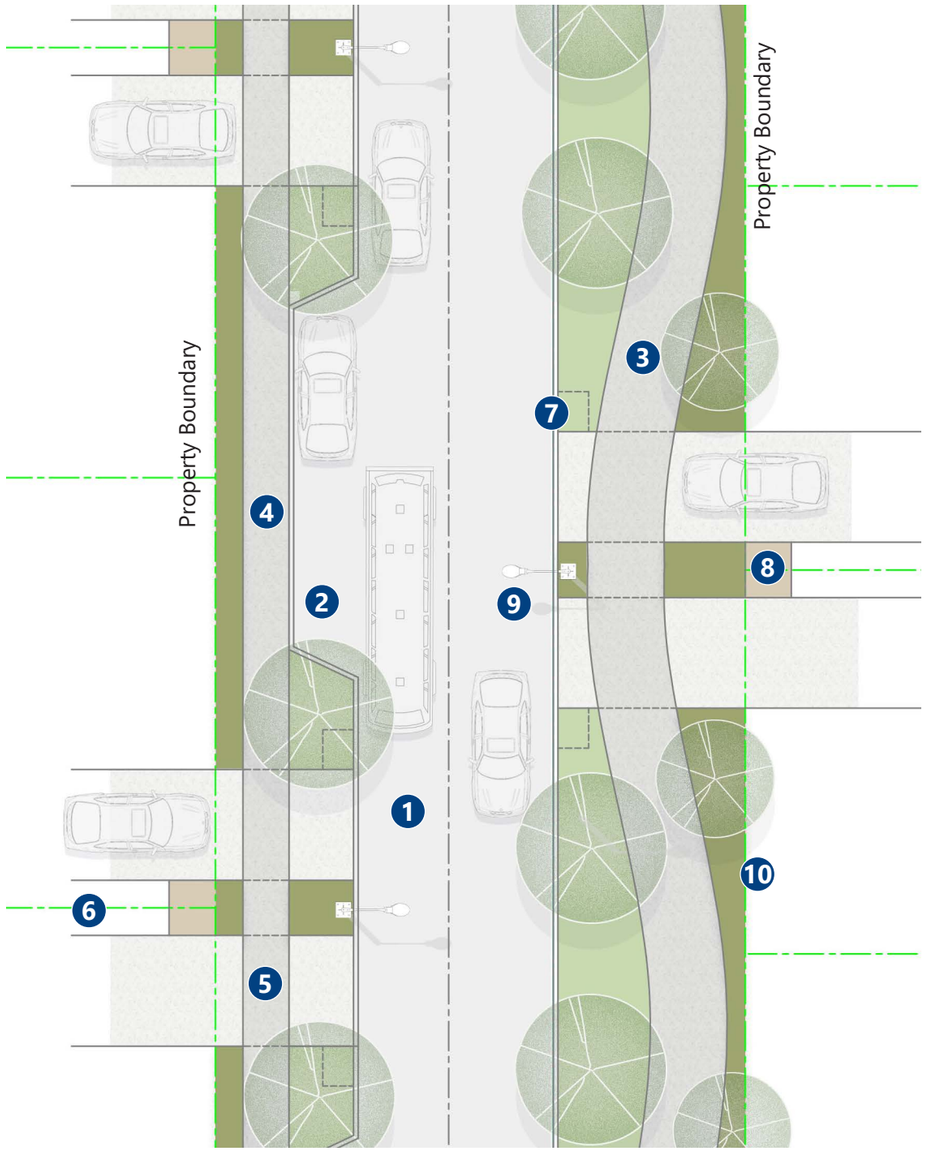








Local Street Options

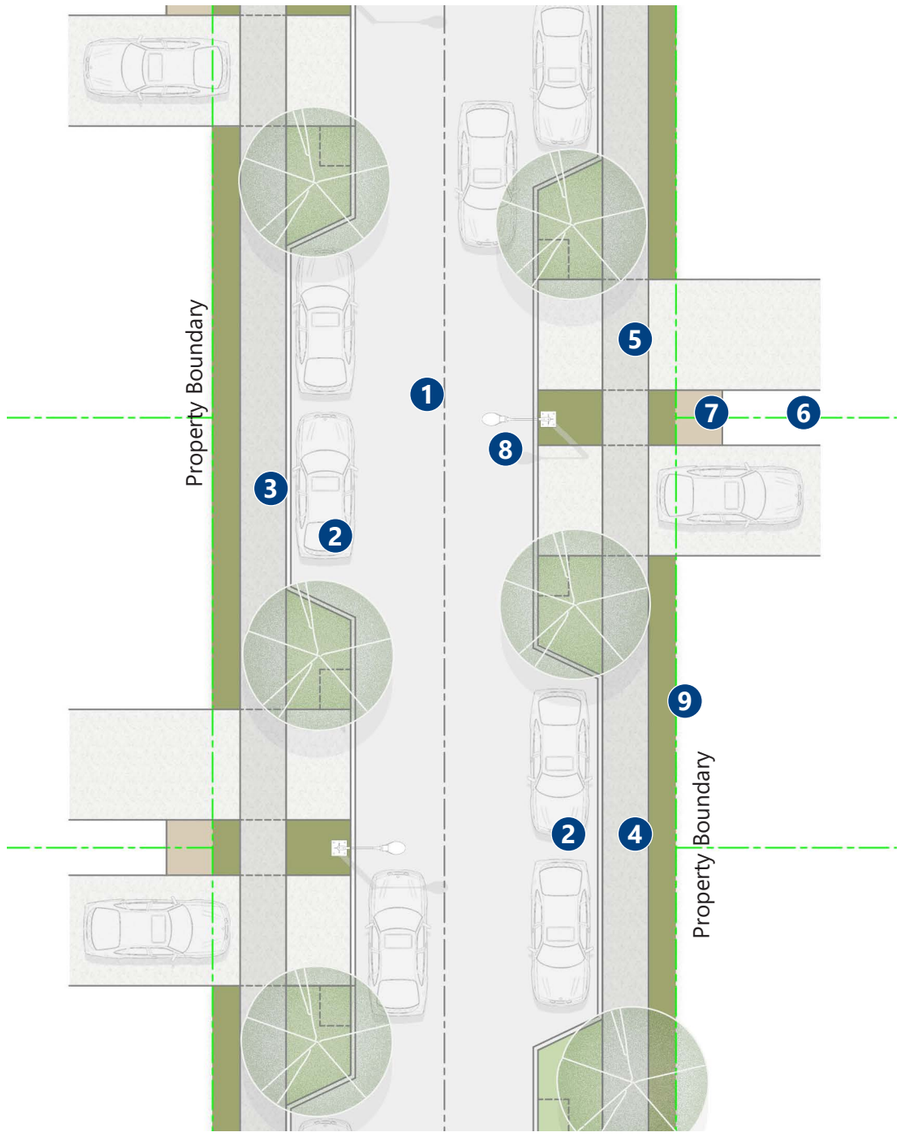
## Local Street - Typical Layout Option 1




1. 2-Way low speed street
2. On-street parking to one side; naturally slow traffic by varying the kerb line, allowing for street tree panting behind the kerb and parking in the road reserve/ flexible zone
3. 4-6m wide verges on selected streets allow for landscaping, vegetation and shared footpaths
4. Min. 1.5m wide footpath one side of street
5. Where subdivision and housing development occurs concurrently, locate driveways side by side
6. Where subdivision and housing development occurs concurrently Footpath has pedestrian priority across driveways
7. Designated bin collection area
8. Ensure bins can be stored within property
9. Street lighting
10. Consistent fencelines and 0.9m landscaping against property boundaries

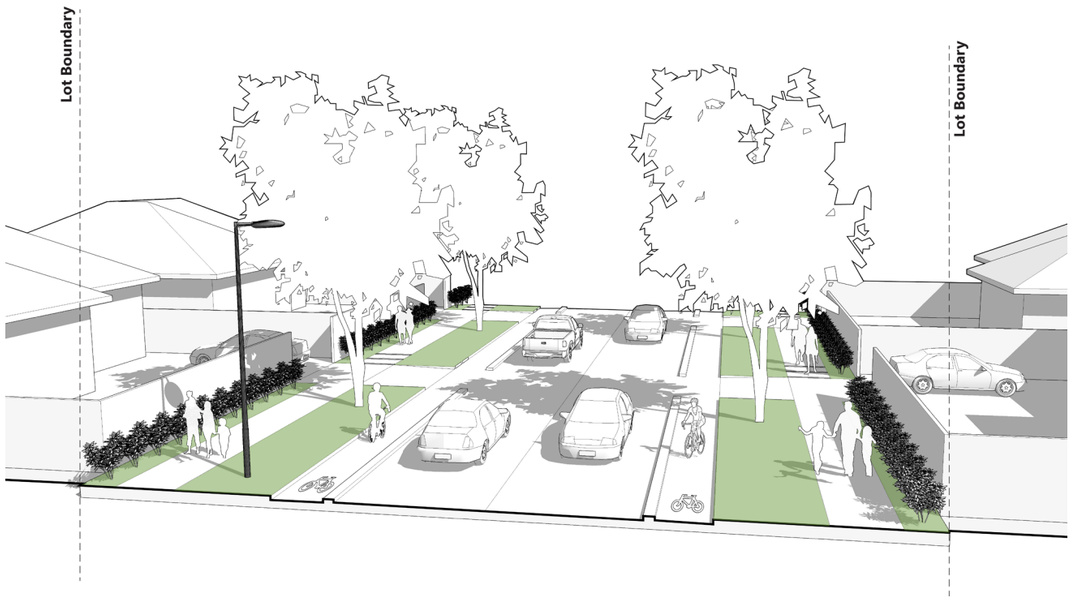


## Local Street - Typical Layout Option 2




1. 2-Way low speed street
2. On-street parking to both side; create blisters for street trees/ driveway and help slow traffic
3. Min. 1.5m wide footpath one side of street
4. Min. 1.8m wide footpath to other side
5. Where sub-division and housing developments occur concurrently, ensure the footpath has pedestrian priority across the driveway
6. Where subdivision and housing development occurs concurrently, locate driveways side by side
7. Ensure bins can be stored within property
8. Street lighting
9. Consistent fencelines and 0.9m of landscaping against property boundaries

# 3.4 Collector Streets




## General

**Collector Streets** are linked to major roads. The capacity of these streets is between 2000 and 5000 vehicles per day. They are currently designed for a maximum speed of 40km/h. The primary focus for Collector Streets however is still the creation of safe, friendly neighbourhoods and consideration should be given to 30km/h streets or zones where possible.

Cycle lanes must be designed in accordance with Transport for NSW's (TfNSW) Cycleway Design Toolbox.

## Recommendations

- Provide 1.5m min. footpaths either side of the street.
- Provide 1.5m (min.) wide cycle lanes in the road carriageway where possible
- Provide street trees and on-street parking within the flexible zone on both sides of the street.
- Consider WSUD catchment devices within the road reserve.
- Provide defined property boundaries through the use of consistent low fencing or hedging.
- Provide planted borders between the back of footpath and the property boundary.
- Provide specific locations for bin storage on collection day; bins must be stored within the property boundary on non-collection days

## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | 2000-5000 vehicles per day |
| Recommended Speed Limit | 30km/h |
| Recommended Verge width | 4.0m each side |
| Recommended Carriageway Width | 11.6m |
| Total Street Reserve Width | 19.6m |
| Kerbing | Vertical Kerb |
| Footpath Provision | 1.5m footpath both sides |
| Cycleway Provision | 1.5m (min.) cycleways both sides of street |
| On-Street Parking | Yes |
| Landscaping | 1-2 Street Trees per house in verge. Provide garden beds along property boundaries |
| WSUD | Yes - In Road |

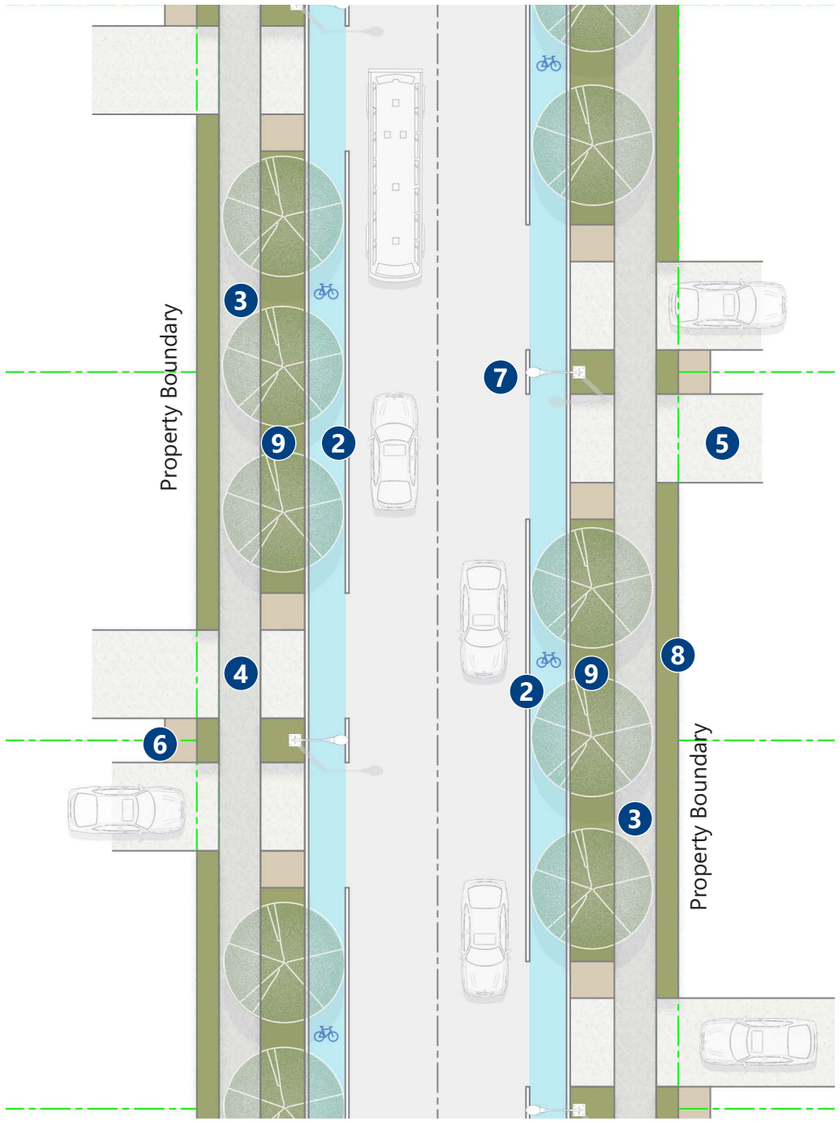
*Table 3.4*

## Examples:

*Fairwater Road, Fairwater represents an attractive collector road, with ample street tree planting, footpaths on each side of the road, well defined property boundaries and street lighting. Street Parking is provided on both sides of the road in this example, but some of this space could be used more effectively for green infrastructure or WSUD devices. Cycling is provided for on the road, but dedicated, well-defined cycle lanes would provide safer options for cyclists.*

*Lord Sheffield Crescent, Thornton Park also demonstrates a well designed collector street. Dedicated cycle lanes have been provided on each side of the carriageway, footpaths have been provided on both sides of the street, and well planted street trees provide shade and greenery to the neighbourhood. The properties have well defined boundaries, and the small setbacks mean that houses overlook the street and provide good surveillance. The street is well lit, well landscaped and creates a strong sense of place.*

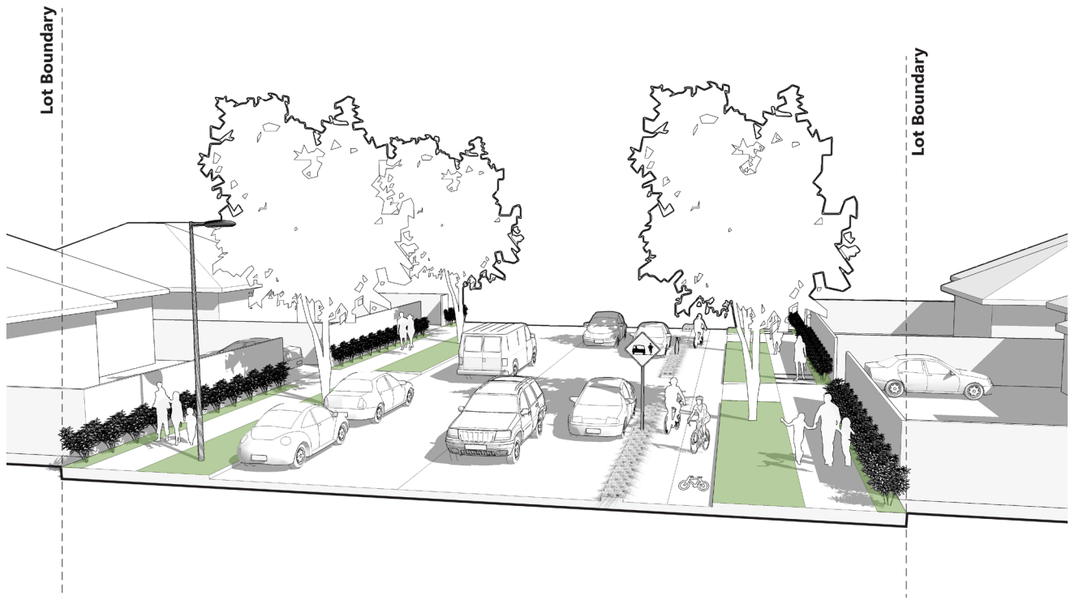
Collector Street - Typical Layout Option 1




1. 2-Way Street, no on-street parking
2. Separated bike lanes both sides
3. Min. 1.5m wide footpath both sides
4. Where subdivision and housing development occurs concurrently, locate driveways side by side
5. Where subdivision and housing development occurs concurrently, ensure footpath has pedestrian priority across driveways
6. Ensure bins can be stored within property boundary
7. Street Lighting
8. Consistent fencelines and 0.9m of landscaping against property boundaries
9. Street Planting and Landscaped Verge on major streets and routes



# 3.5 Distributor Streets




## General

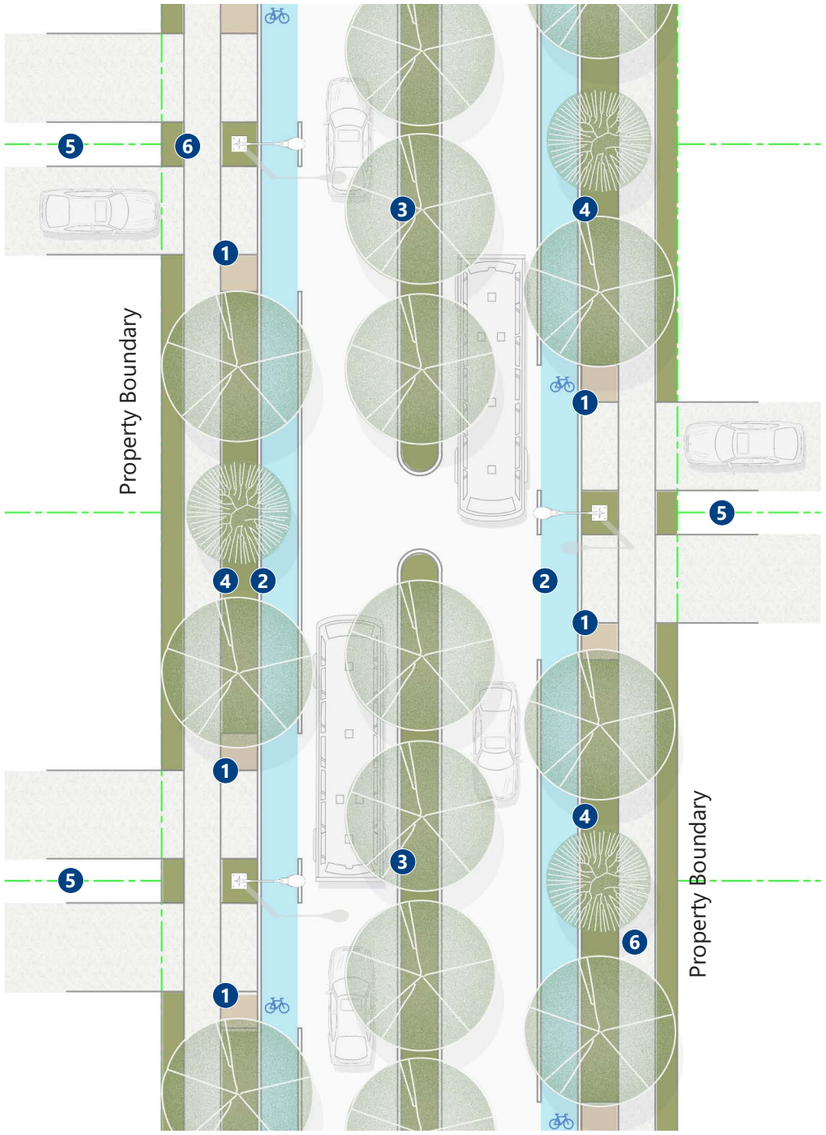
**Distributor Streets** are major roads that are designed for considerable traffic loads, generally greater than 5000 vehicles per day. These roads are generally used to facilitate access to major facilities such as shops and schools. They are generally designed for a maximum speed of 50km/h and should cater adequately for cyclists and pedestrians.

Cycle lanes must be designed in accordance with Transport for NSW's (TfNSW) Cycleway Design Toolbox.

## Recommendations

- Provide 1.5m min. footpaths either side of the street.
- Provide 1.5m (min.) wide cycle lanes in the road carriageway as a second option.
- Provide street trees and on-street parking within the flexible zone on both sides of the street.
- Consider WSUD catchment devices within the road reserve.
- Provide defined property boundaries through the use of consistent low fencing or hedging.
- Provide planted borders between the back of footpath and the property boundary.
- Provide specific locations for bin storage on collection day; bins must be stored within the property boundary on non-collection days

## Distributor Street - Typical Layout Option 1




1. Designated bin collection area
2. Separated bike lanes both sides
3. Landscaped central median with canopy street trees
4. Planted verges with canopy street trees
5. Where subdivision and housing development occurs concurrently, locate driveways side by side
6. 1.5m wide footpaths both sides

## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | 5000+ vehicles per day |
| Recommended Speed Limit | 40-50km/h |
| Recommended Verge width | 4.5m each side |
| Recommended Carriageway Width | 10.4m |
| Total Street Reserve Width | 20.4m |
| Kerbing | Vertical Kerb |
| Footpath Provision | 1.5m footpath one side<br><br>2.5m shared path one side |
| Cycleway Provision | 2.5m shared path both sides<br><br>or<br><br>1.5m (min.) cycle lane one side |
| On-Street Parking | Yes |
| Landscaping | 1-2 Street Trees per house in verge. Provide garden beds along property boundaries |
| WSUD | Yes - In Road |

*Table 3.5*

## Examples:

*Peats Ferry Road (Pacific Highway) Hornsby is a major distributor road running through the main town. This highway was recently upgraded by Hornsby Shire Council to increase landscape and tree coverage, provide for better pedestrian movement and to reduce traffic speeds using design interventions rather than reducing speed limits.*

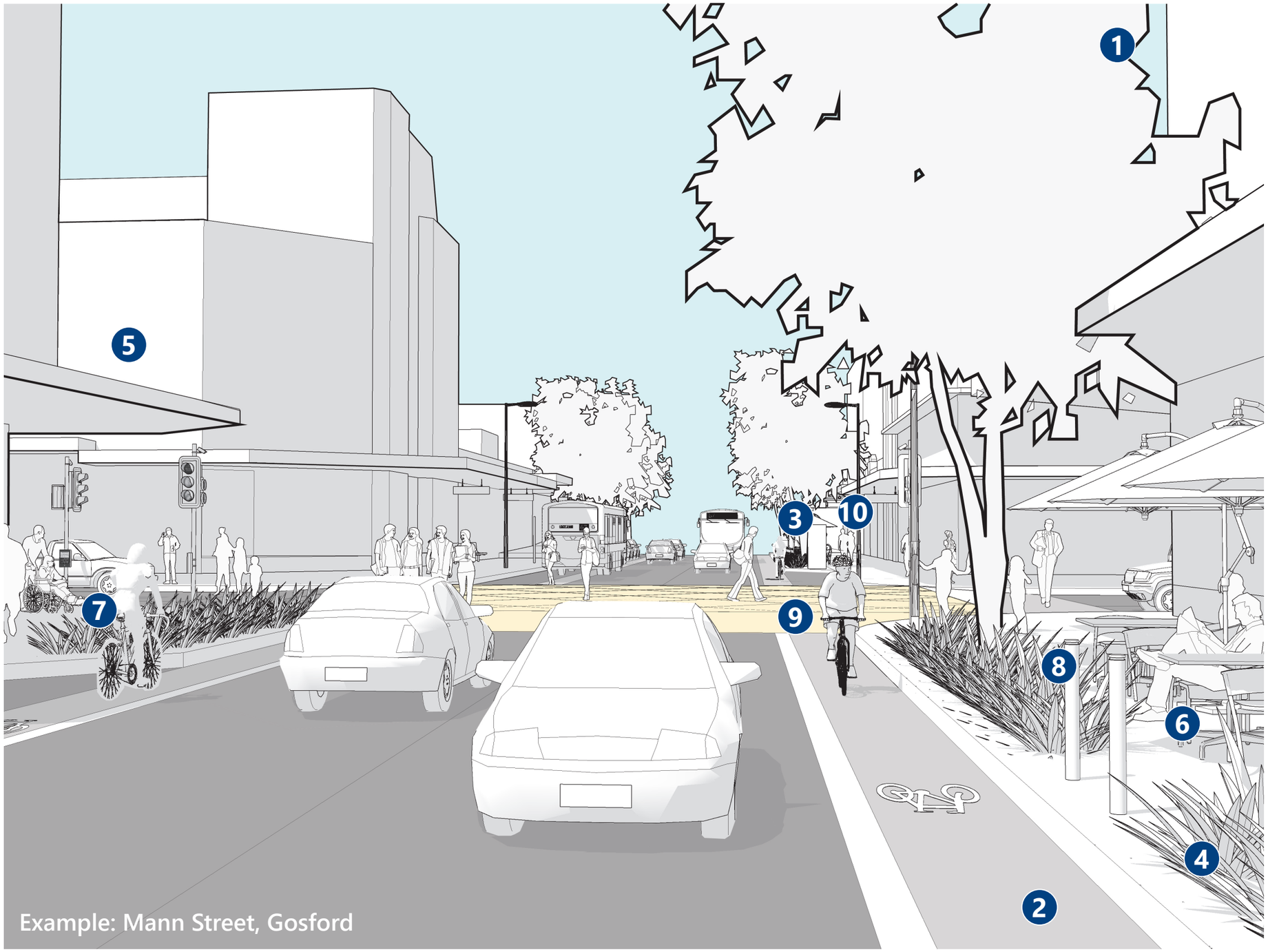
*Peats Ferry Road (Pacific Highway) through Hornsby West-Side. This section of road has recently been upgraded to include tree planting using structural soil cells to increase canopy cover, and improve the general look and amenity of the area. Traffic speeds are reduced through implementation of trees rather than reducing speed limits.*

# PART 4:
## Urban Centre Streets

Rouse Hill Town Centre, NSW

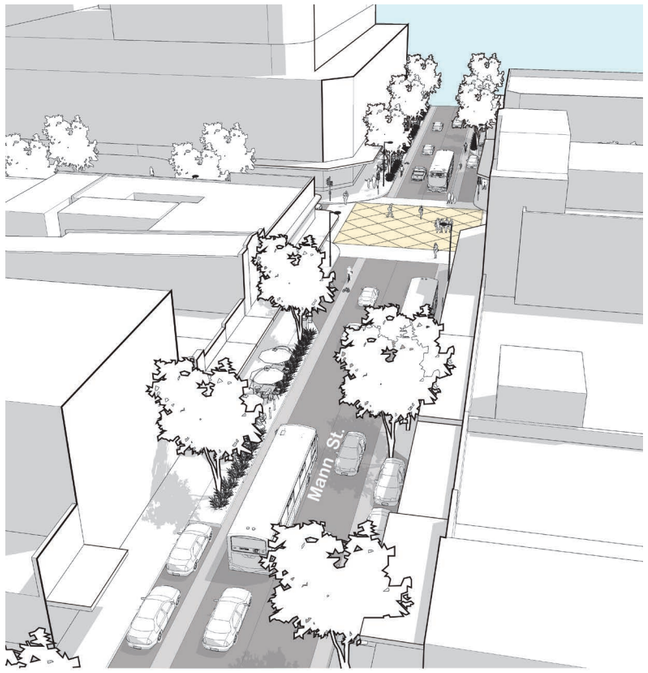
# 4.1 Main Streets

1. Street trees- Refer Specifications
2. Integrated cycleways - Refer Cycle Network Plan
3. Street Parking
4. Low-level planting that employs WSUD Mechanisms
5. Continuous building awning, where applicable
6. Outdoor dining opportunities on footpath
7. Street Paving - refer specifications and Appendices
8. Street furniture, Street lamps, bollards and bins- Refer Standards
9. Raised-to-kerb pedestrian crossings at key street intersections
10. Way-finding information- location maps, heritage interpretations (where applicable) and signage



Example: Mann Street, Gosford

# Main Streets




## General

**Main Streets** are the principal street of urban centres that typically facilitate the most amount business, activation and movement.

Main Streets should promote multi-modal transportation including buses and cyclists. Wider footpaths are provided on either side of the street for greater pedestrian movements and activation.

The continuous building awnings provide shade and protection from weather. Flexible zones can be identified in key strategic locations in the form of widened footpaths. The space is used for outdoor dining, landscape, public art, street furniture etc.

The maximum speed of the street should be 40km/h, with consideration given to 30km/h areas and even shared pedestrian zones in situations where vehicles may be redirected.

Cycle lanes must be designed in accordance with Transport for NSW's (TfNSW) Cycleway Design Toolbox.

## Recommendations

- Provide 1.5m (min.) wide cycle lanes within the street carriageway.
- Provide 3m (min.) footpaths either side of the street. Refer paving patterns and material specifications.
- Provide 3m wide continuous building awning.
- Provide street trees and on-street parking as well as flexible footpath zones for oudoor dining/street furniture/ landscaping on both sides of the street.
- Provide way-finding, heritage interpretation display panels.
- Consider WSUD best practice mechanisms in the landscape zones with low-level planter beds.
- Provide safe pedestrian crossings by employing signs, signals, kerb-cuts, tactile slip-resistant surfaces and raised-to-kerb, tabletop crossings where identified.

## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | Varies centre-to-centre |
| Recommended Speed Limit | Varies<br>30km-40km/h |
| Recommended Verge width | 3m-5.1m each side |
| Recommended Carriageway Width | 9m-13.2m |
| Total Street Reserve Width | Varies (Approx. 20m) |
| Kerbing | Vertical Kerb |
| Footpath Provision | 3m(min.) footpath on either side<br>Additional 2.1m in the Flex-Zones |
| Cyleway Provision | 1.5m (min.) cycle lane on the street carriageway |
| On-Street Parking | Yes |
| Landscaping | Street trees as per Street Tree Species Plan. Provide low-level planting and grass beds between the footpath and the road carriageway, where applicable |
| WSUD | Recommended |

*Table 4.1*

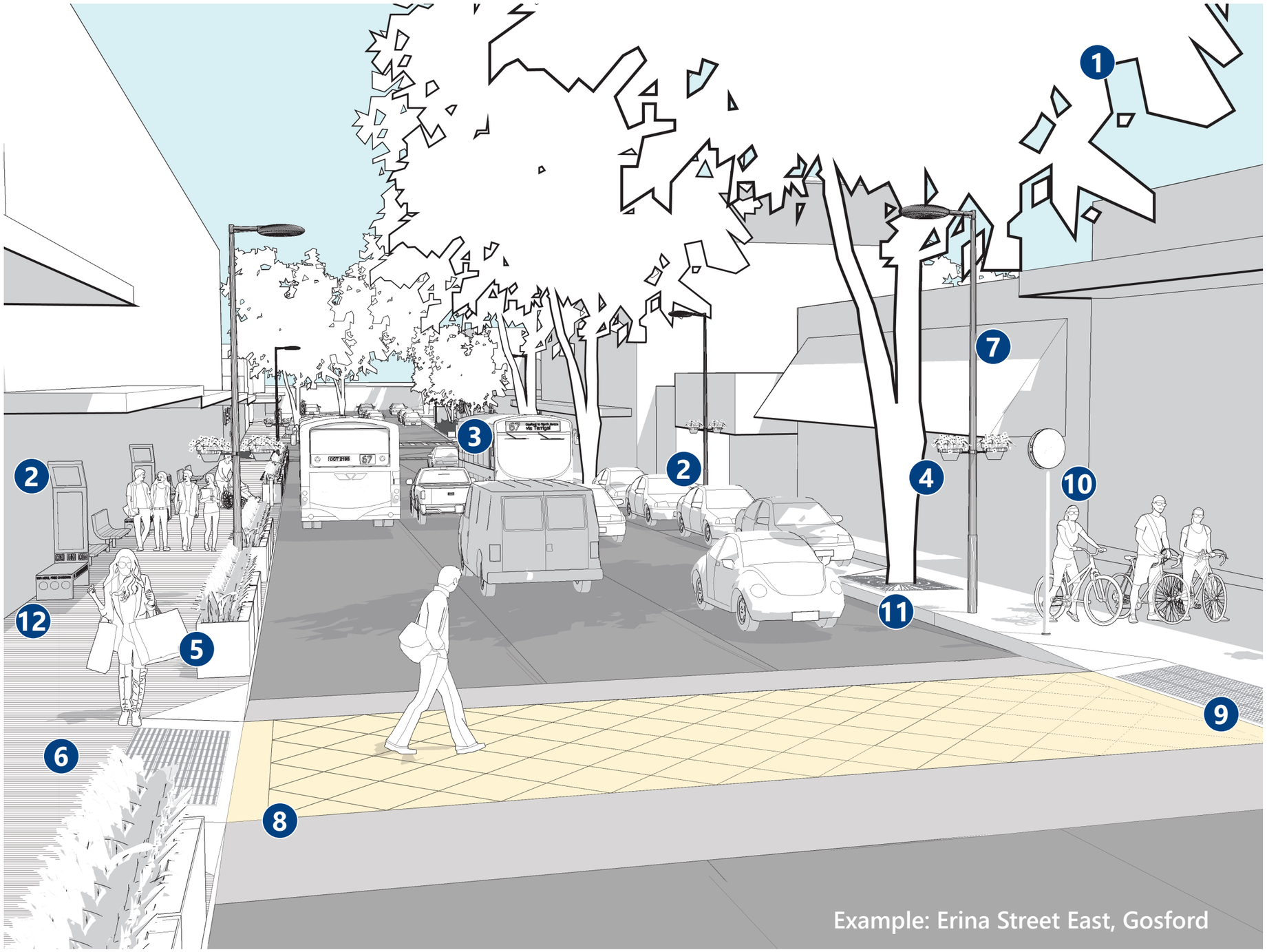
## Examples:

*Main Street of Rouse Hill Town Centre, in the Hills District, Sydney is a key component of the master-planned community. The vibrant street that runs through the commercial core provides a safe pedestrian environment with attractive landscape. The ground level of the buildings along the street activate the public domain.*

*Crown Street in Surry Hills, Sydney is part of a long urban street that connects the northern and southern districts in Sydney CBD. The character of the street supports a comfortable pedestrian environment that is activated by the ground level uses. The street features mature trees with large canopies on either side, with street parking and painted cycle lanes in parts of the street.*

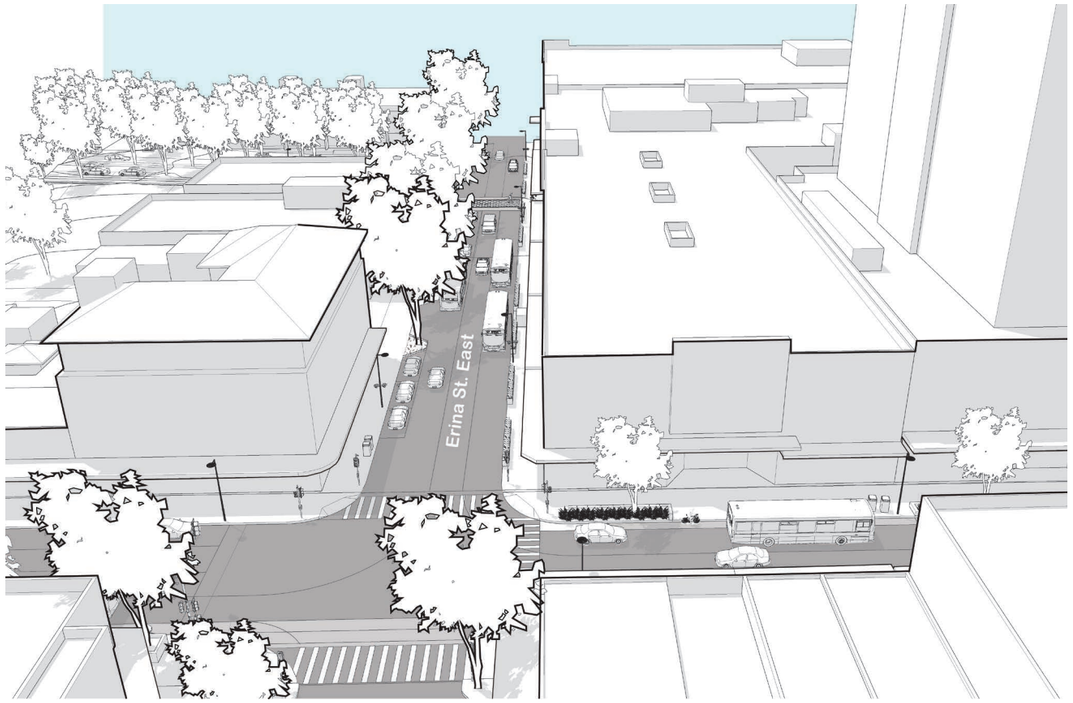
# 4.2 Connector Streets

1. Street trees- Refer Specifications
2. Street Parking
3. Low-level planting that employs WSUD Mechanisms
4. Hanging planters that feature local native species
5. Movable planter troughs at impermeable paved areas
6. Street paving - refer specifications and appendices
7. Street furniture, Street lamps, bollards and bins- Refer Standards
8. Raised-to-kerb pedestrian crossings at high pedestrian traffic linkages
9. Slip-resistant tactiles
10. Way-finding information- location maps, heritage interpretations (where applicable) and signage
11. Street tree grate- refer specifications
12. Renewble energy-powered smart benches, wifi connectivity, bus information




Example: Erina Street East, Gosford

# Connector Streets




## General

The role of **Connector Streets** is to provide connectivity to the main street from close quarters of the urban centres. Connector Streets support efficient traffic movement while providing street parking and tree canopy. Connector often also cater for shops and local business.

Depending on surrounding uses and the traffic network, Connector Streets can have minor variations to their general street profile.

## Recommendations

- Provide 3.5m min. footpaths either side of the street.
- Provide street trees and on-street parking on both sides of the street where possible.
- Emphasis native local flora in the street landscape found at hilltop nature reserves.
- Consider large canopy trees in the areas where street trees are possible only on one side of the street.
- Consider WSUD best practice mechanisms in the landscape zones with low-level planter beds.

## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | Varies centre-to-centre |
| Recommended Speed Limit | 40-50km/h |
| Recommended Verge width | 3.5m-4m each side |
| Recommended Carriageway Width | Varies<br>12m-12.5m (Ave.) |
| Total Street Reserve Width | Varies (Ave. 20m) |
| Kerbing | Vertical Kerb |
| Footpath Provision | 3m-4m footpath on either side |
| Cycleway Provision | None |
| On-Street Parking | Yes |
| Landscaping | Street trees as per Street Tree Species Plan. Connector Streets must provide special emphasis on featuring native local flora.<br>Provide low-level planting and grass beds between the footpath and the street carriageway, where applicable |
| WSUD | Recommended |

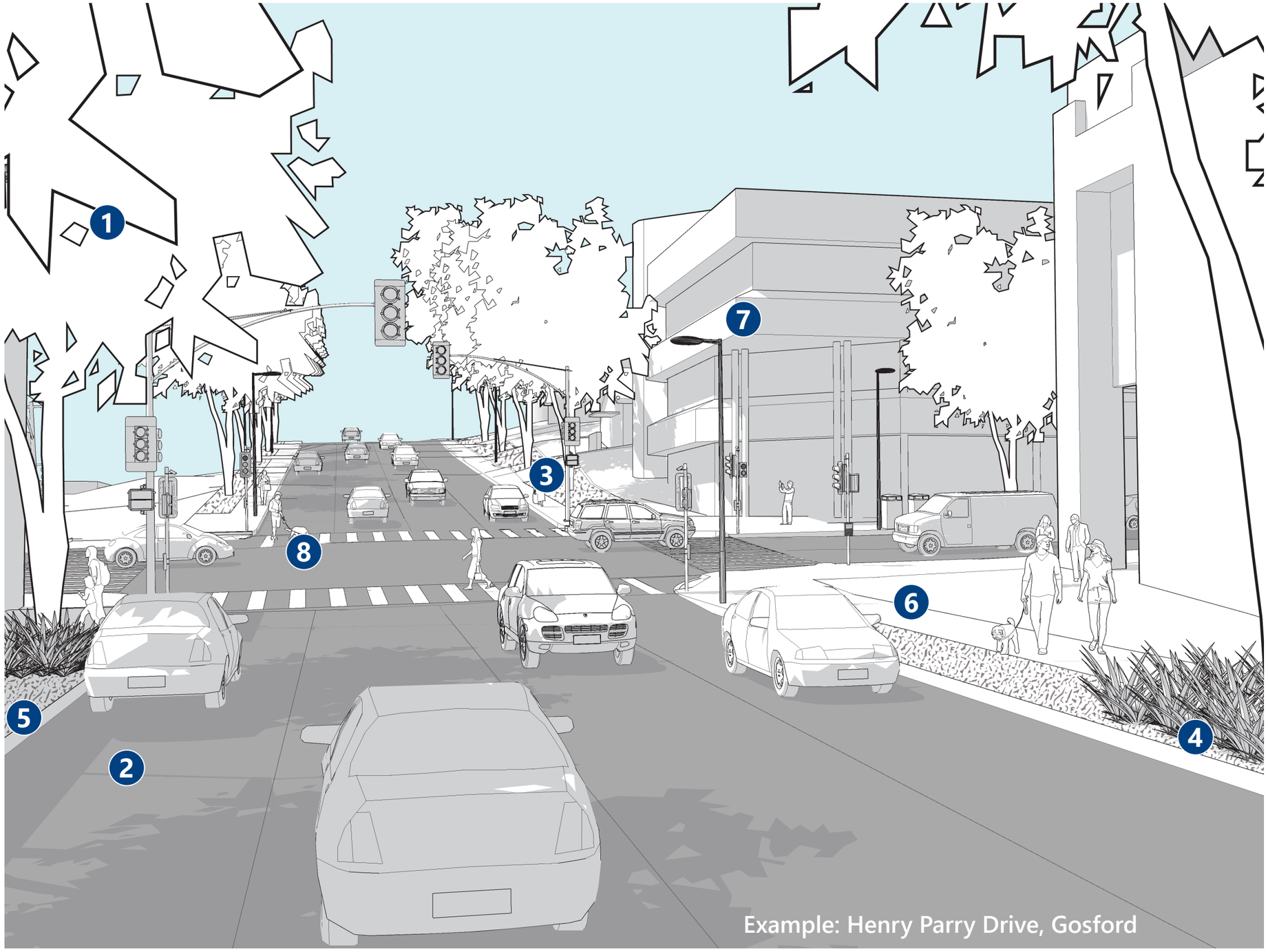
*Table 4.2*

## Examples:

*Maclear Street at Potts Point, provides connectivity to Darlinghurst Street in the densely built up urban area around Kings Cross, Sydney. The street caters for shops and local businesses, particularly emphasising the street corners. Maclear Street features an established tree canopy and lower level planting beds, plus street parking, wide footpaths, street furniture and bicycle stands.*

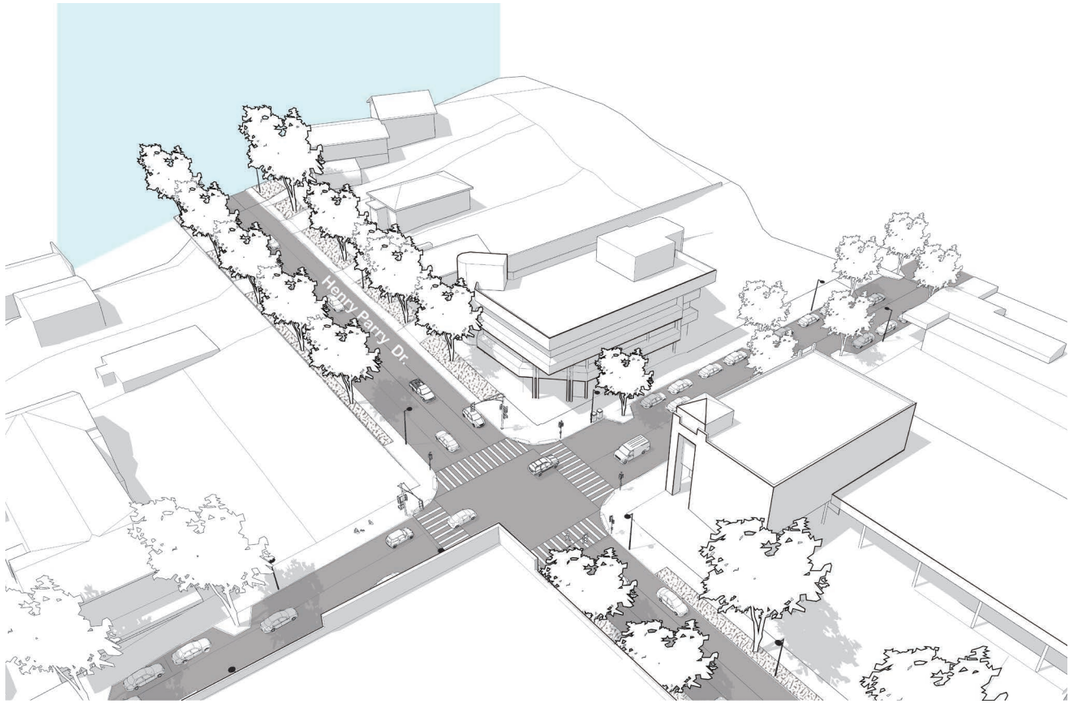
*Riverbank Drive, adjacent to The Ponds Shopping Centre, provides an urban interface to the primary residential area in the western suburb of The Ponds, Sydney. The street features a canopy of tall, slender trees, low-level grass beds (residential side), and wide footpaths. It has good connectivity to the inner parts of residential areas and the regional open space network that is associated with Ponds Creek.*

# 4.3 Urban Collector Streets




1. Street trees- Refer Specifications
2. Wider carriageway that allows multiple traffic lanes
3. Generous landscape setbacks/ building setbacks
4. Low-level planting that employs WSUD Mechanisms
5. Grass beds
6. 1.5m (min.) Footpaths
7. Street furniture, Street lamps, bollards and bins - Refer Standards
8. Zebra Crossings at major street intersections

# Urban Collector Streets




## General

**Urban Collector Streets** provide connectivity between urban centres in the region. These streets promote efficient traffic movements at all times. The designated pedestrian areas are separated by the landscaped verge.

Urban Collector Streets provide opportunities for street trees with large canopies. On-street parking is discouraged (except in the vicinity of urban areas or within the centres) on Urban Collector Streets.

Cycle lanes must be designed in accordance with Transport for NSW's (TfNSW) Cycleway Design Toolbox.

## Recommendations

- Consider providing minimum of dual-carriageways in either direction of traffic.
- Provide 1.5m (min.) footpaths on either side of the street.
- Provide generous landscape buffer (1.5m mim.) within the verge, that can accommodate street trees with large canopies.
- Provide a consistent minimum building setback with landscape complementary to that of the street landscape.
- Consider WSUD best practice mechanisms in the landscape zones with low-level planter beds.
- Consider providing shared paths on wider street reserve corridors.

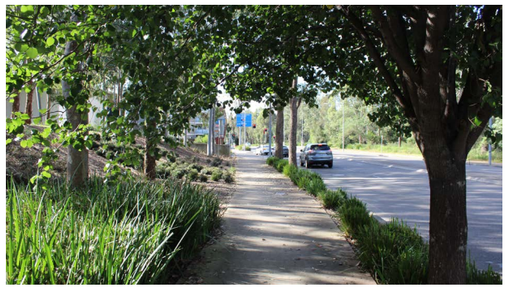
## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | Varies centre-to-centre |
| Recommended Speed Limit | 50-60km/h |
| Recommended Verge width | 3.5m-4m each side |
| Recommended Carriageway Width | 12m-13m |
| Total Street Reserve Width | Varies (Approx. 20m) |
| Kerbing | Vertical Kerb |
| Footpath Provision | 1.5m footpath on either side |
| Cyleway Provision | Potential Cycleways on shared paths on wider Street Reserve Corridors |
| On-Street Parking | Discouraged except in the urban areas |
| Landscaping | Street trees as per Street Tree Species Plan. Provide low-level planting and grass beds between the footpath and the road carriageway, where applicable |
| WSUD | Recommended |

*Table 4.3*

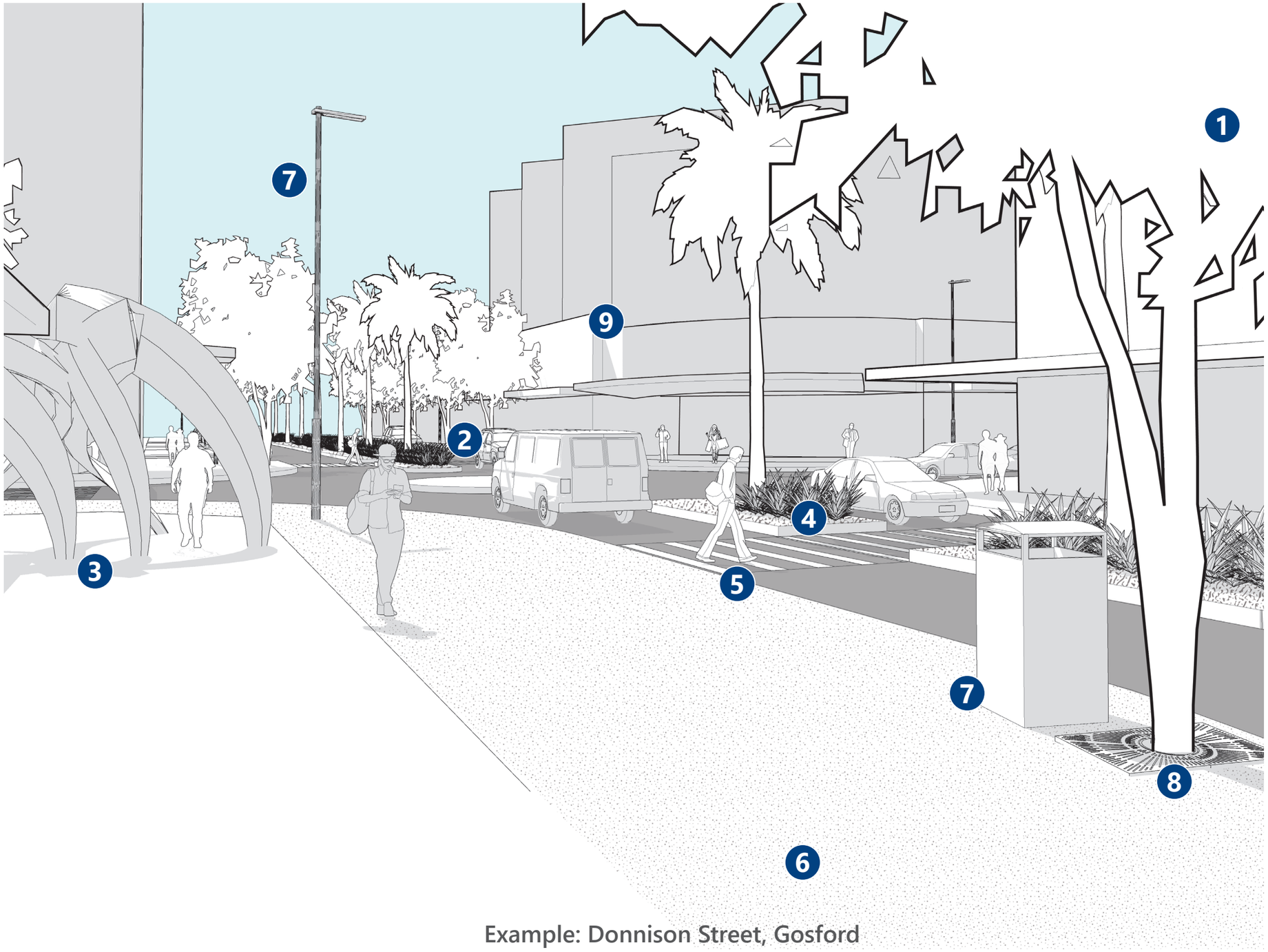
## Examples:

*Norwest Boulevard in the suburb of Norwest and Bella Vista is a street delivered as part of Norwest Business Park Development that connects with Windsor Road. The primary role of the street is to move traffic effectively. The street has a landscaped median of native grass and low shrubs as well as large canopy trees at regular intervals. The street does not accommodate on-street parking.*



*White Heart Drive in Rouse Hill provides the peripheral transport connectivity to the Rouse Hill Town Centre and the Shopping Mall. The street provides generous building setbacks and a landscape buffer/ earth embankment. It is a divided carriageway with two lanes on either side and does not accommodate on-street parking.*

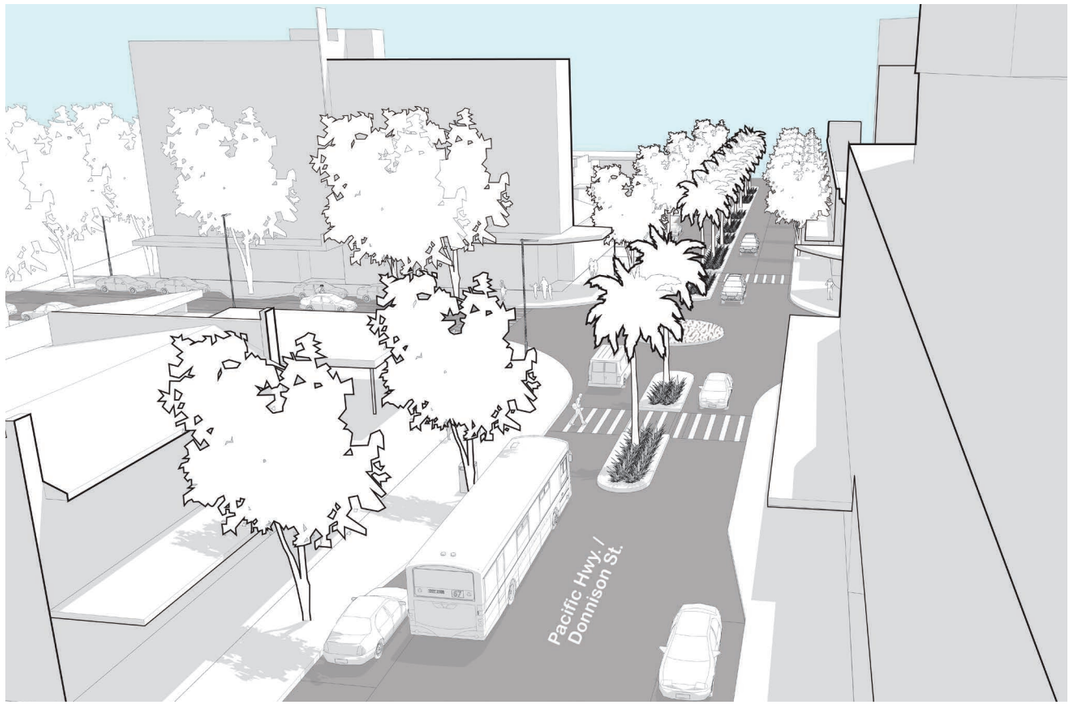
# 4.4 Gateway Streets




Example: Donnison Street, Gosford

1. Street trees
2. Landscaped median with feature trees and low-level planters
3. Public Art
4. Low-level planting that employs WSUD Mechanisms
5. Defined pedestrian crossings
6. Wider footpaths
7. Street furniture, Street lamps, bollards and bins- Refer Standards
8. Street Tree Grate
9. Building articulation at the street corners

# Gateway Streets




## General

**Gateway Streets** announce arrival to the urban centres via key entry points in the street network. The objective is to create a unique streetscape identity with reference to local character.

The street geometry, built form, landscape treatment and public art can be employed to emphasise the character of Gateway Streets.

Gateway streets are location specific and occur only in a limited length of the street. The street turns into a Connector Street or an Urban Collector Street upon passing the threshold.

## Recommendations

- Provide 3.5m (min) footpaths either side of the street
- Consider amending the geometry of a standard street profile to make unique such as inclusion of a landscaped median, landscaped round-about, landscaped wider verge etc.
- Consider special street tree species in the added landscaped area
- Consider public art and murals
- Provide on-street parking where possible
- Consider WSUD best practice mechanisms in the landscape zones with low-level planter beds

## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | Varies centre-to-centre |
| Recommended Speed Limit | 40-50km/h |
| Recommended Verge width | 3.5m-4m each side |
| Recommended Carriageway Width | 15.1m |
| Total Street Reserve Width | Varies (Approx. 23m) |
| Kerbing | Vertical Kerb |
| Footpath Provision | 3m-4m footpath on either side |
| Cyleway Provision | None |
| On-Street Parking | Yes |
| Landscaping | Special landscape treatment in the additional area of median or verge. Street trees as per Street Tree Species Plan. Provide low-level planting and grass beds between the footpath and the street carriageway, where possible |
| WSUD | Recommended |

*Table 4.4*

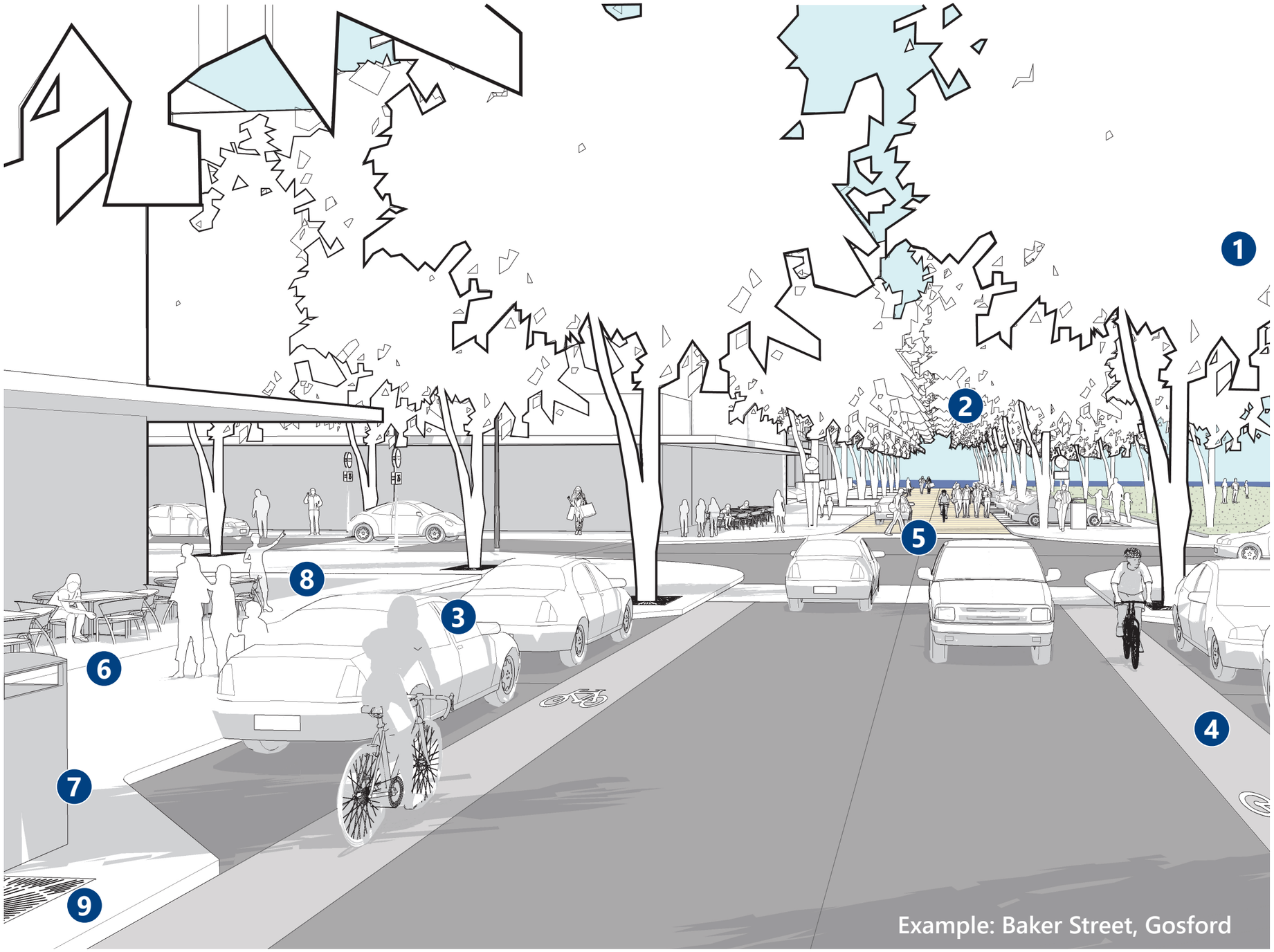
## Examples:

*Macquarie Street in Sydney is a gateway to the Sydney CBD. With the adjacent signature open spaces and generous building setbacks, the street offers a welcoming appeal to all uses of the street. The exotic palm species dating back to 1915, make a bold, attractive entry statement.*

*Fitzroy Street is the major access street to the beachside suburb of St Kilda in Melbourne. As the most celebrated street in St Kilda, from gigs and festivals to outdoor adventures, shopping and world-class hospitality, it features characteristics that include Light Rail, cycle ways, public art as well as a landscaped median.*

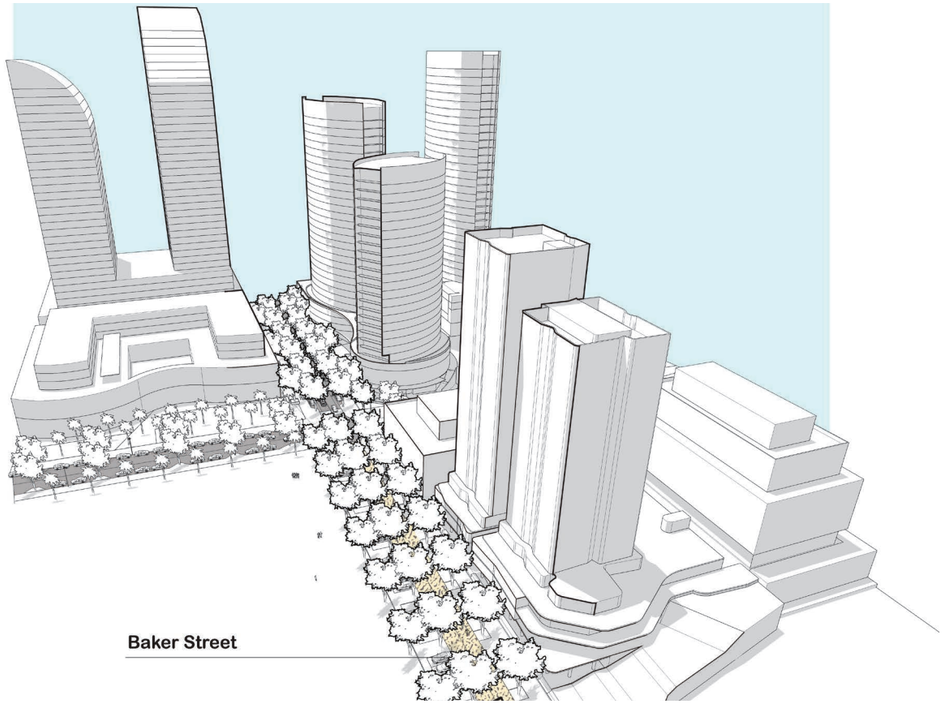
# 4.5 Green Link Streets

1. Street trees
2. Unifying street trees with significant canopies
3. Street Parking
4. Integrated cycleways - Refer Cycle Network Plan
5. Partial shared streets
6. Pedestrian activation opportunities
7. Street furniture, Street lamps, bollards and bins- Refer Standards
8. Street pavers - refer specifications and appendices
9. Street Tree Grate




Example: Baker Street, Gosford

# Green Link Streets




## General

**Green Links** are special character streets that emphasise tree canopy as well as promote active transport links. Green Links provide connectivity to the public open space amenities such as parklands, waterfronts and hilltop reserves from inner parts of the urban centre.

Green Link Streets are envisioned to feature significant tree coverage with additional rows of trees within the private domain of development lots to provide a consistent building setback as per development controls.

Cycle lanes must be designed in accordance with Transport for NSW's (TfNSW) Cycleway Design Toolbox.

## Recommendations

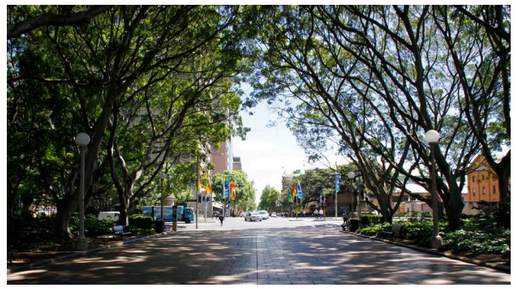
- Provide 3.5m min. footpaths either side of the street.
- Provide large canopy unifying street trees at co-ordinated regular intervals.
- Provide on-street parking.
- Provide 1.5m (min.) wide cycle lanes within the street carriageway.
- Provide significant trees in the consistent minimum building setback (where possible) with landscape complementary to that of the street landscape.
- Provide way-finding, heritage interpretation and public art.
- Consider WSUD best practice mechanisms in the landscape zones with low-level planter beds.

## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | Varies centre-to-centre |
| Recommended Speed Limit | Varies 10km/h-40Km/h |
| Recommended Verge width | 3.5m-4m each side |
| Recommended Carriageway Width | 12.2m |
| Total Street Reserve Width | Varies (Approx. 20m) |
| Kerbing | Vertical Kerb |
| Footpath Provision | 3.5m-4m footpath on either side |
| Cyleway Provision | 1.5m (min.) cycle lane on the street carriageway |
| On-Street Parking | Yes |
| Landscaping | Large canopy unifying street trees at co-ordinated regular intervals. Type of trees as per Street Tree Species Plan. Provide low-level planting and grass beds between the footpath and the street carriageway, where applicable |
| WSUD | Recommended |

*Table 4.5*

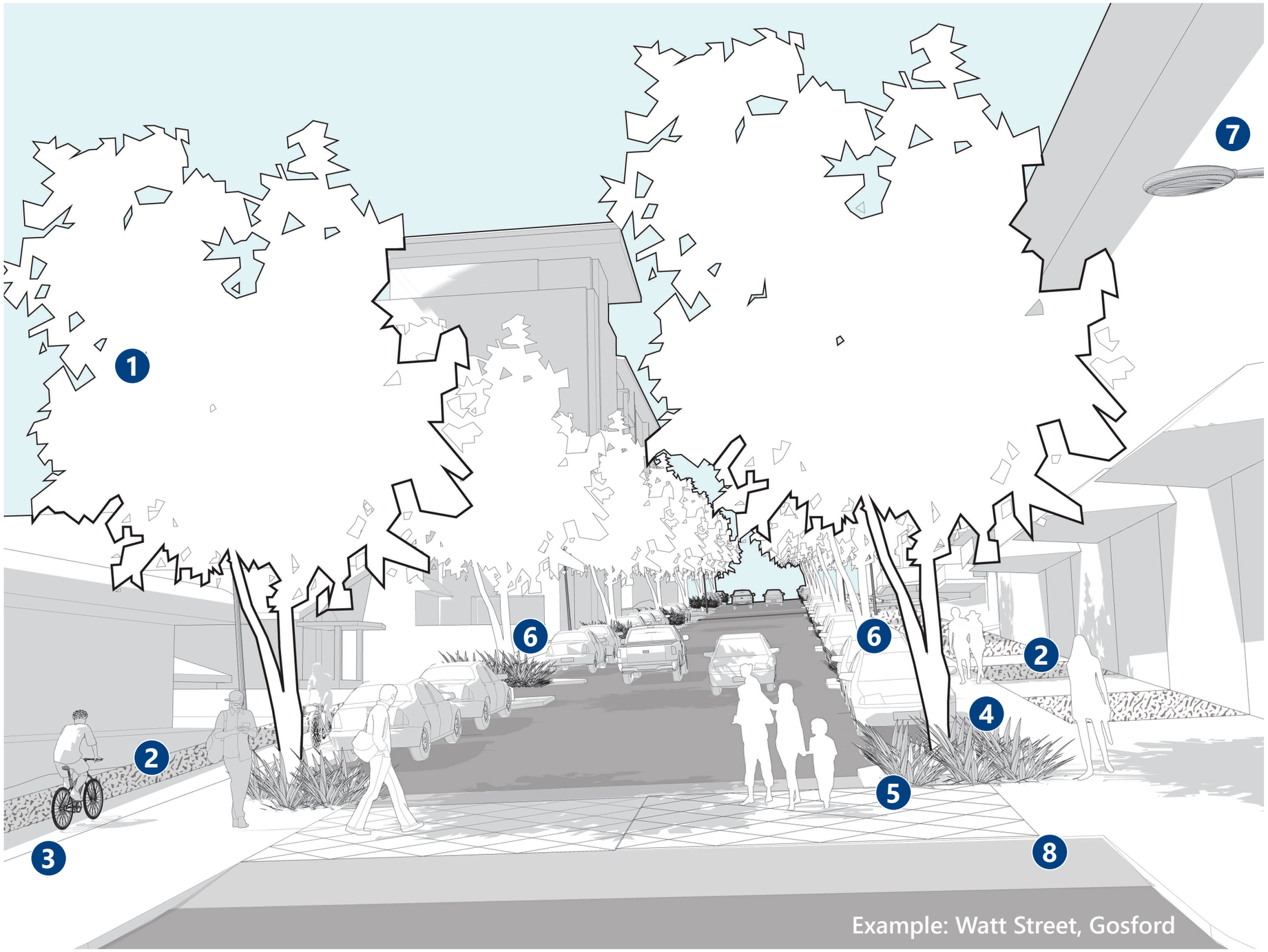
## Examples:



*The central pathway across Hyde Park in the Sydney City provides a memorable pedestrian experience under the connected canopy of large mature trees. The landscape of the park, seating, fountain and street lighting add further to the experience. The stone-paved pathway is extensively used by pedestrians as well as park maintenance vehicles.*

*South Darling Street in Paddington, between Oxford Street and Flinders Street, is an attractive shaded street in the City of Sydney with rows of mature trees on either side. Being a historic part of the city, it features charming Victorian Style Terrace homes on both sides of the street that provide a uniform built scale to the street. The width of the street allows the tree canopies to connect with one another to form a tunnel effect.*

# 4.6 Neighbourhood Streets




1. Street trees
2. Landscaped Verge
3. 2.5m wide shared footpath, where possible
4. 1.5m (min.) Footpaths
5. Low-level planting that employs WSUD Mechanisms
6. Street parking
7. Street furniture, street lamps, bollards and bins
8. Raised-to-kerb pedestrian crossings at high pedestrian traffic linkages

# Neighbourhood Street


## General

**Neighbourhood Streets** are local community based roads within Urban Centres. There will be a hierarchy of Neighbourhood Streets based on land zoning and the density such as mixed-use, medium density residential zone versus  ow-density residential zone. These streets are recommended to promote livability of the neighbourhood that encompass tree canopy, pedestrian and cyclist movements as well as aesthetic appeal.

They are generally designed for a maximum speed of 50km/h.

Cycle lanes must be designed in accordance with Transport for NSW's (TfNSW) Cycleway Design Toolbox.

## Recommendations

- Provide 1.5m min. footpaths either side of the street.
- Provide 2.5m wide shared path in the place of footpath on one side of the street where possible, depending on the hierarchy of Neighbourhood Street and the bicycle network of the centre.
- Provide street trees (refer Street Tree Species Plan) and on-street parking on both sides of the street, between property driveway access points.  Low-level planting/ grass beds are recommended at the base of the tree, where possible. Consider best practice WSUD mechanisms.
- Provide low-level planting/ grass beds between the footpath and the property boundary.
- Provide consistency of property boundary wall/ built edge interface to the street in terms of scale, materiality, texture and colour.



## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | Varies centre-to-centre |
| Recommended Speed Limit | 50km/h |
| Recommended Verge width | 4m-4.5m each side |
| Recommended Carriageway Width | 11.2m |
| Total Street Reserve Width | Varies (Approx. 20m) |
| Kerbing | Vertical Kerb |
| Footpath Provision | 1.5m footpath on either side<br>2.5m shared path on one side where applicable |
| Cycleway Provision | 2.5m shared path |
| On-Street Parking | Yes |
| Landscaping | Street trees as per Street Tree Species Plan.  Provide low-level planting and grass beds along property boundaries and at the bases of street trees |
| WSUD | Recommended |

*Table 4.6*

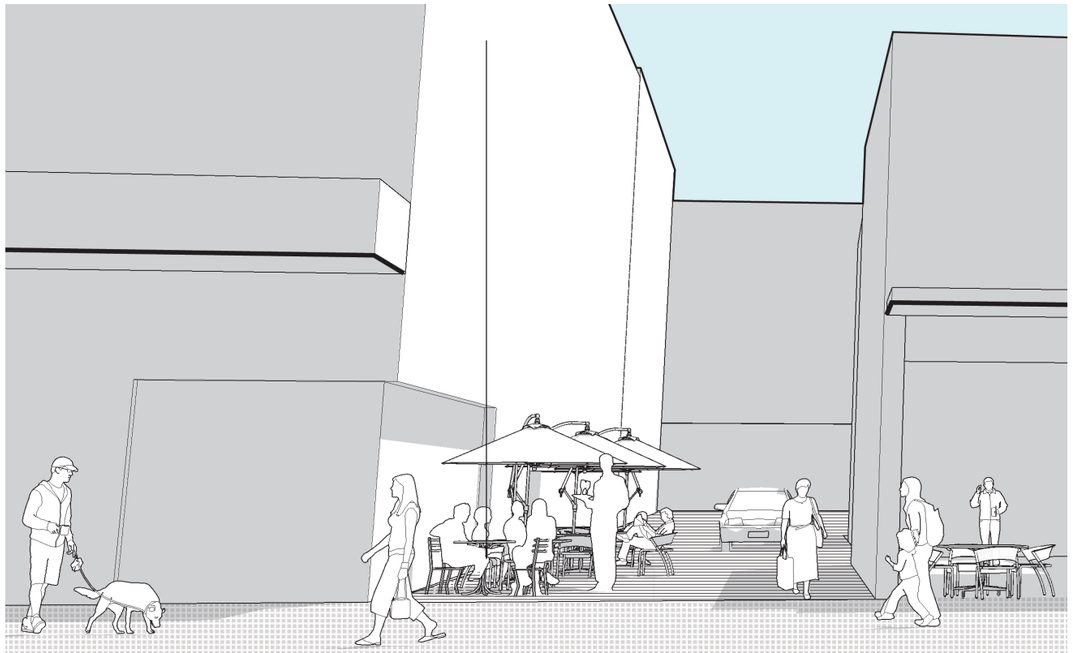
## Examples:

*Burns Road, Waroonga is set within a low-density residential neighbourhood in the North Shore of Sydney.  The street is renowned for its leafy character provided by the large established trees. Generous building setbacks in relatively large properties, low fences and hedges strengthen the character of lush greenery that also contribute to the health and well-being of the residents as well as higher property values.*

*Peats Ferry Road, between Lodge Street and Wattle Street, in Asquith has undergone a recent renewal program to better cater for the community. The works have included new street trees, a landscaped median that employs best practice WSUD principles, a wide footpath and a shared path, on-street cycle lanes and street parking.  The neighborhood comprises mid-density residential development and Asquith Boys High School.*

*This road was recently upgraded to incorporate a landscaped median and additional street trees.*

# 4.7 Urban Laneways



Example: Paul Lane, Gosford

## General

**Urban Laneways** play an important part of circulation in the urban centres. Depending on the location, laneways perform different roles to the functionality of the centre.

The rear lanes and the mid-block lanes are important service links that facilitate car park access, delivery and garbage collection etc. Pedestrian lanes and shared lanes foster pedestrian activity by providing connectivity.

There are opportunities to enhance laneways through activation and display of public art and murals, in the urban areas.

## Recommendations

- Provide 1.2m (min.) footpaths on either side of the Laneway, unless it is a shared zone.
- Avoid extensive lengths of high blind walls. Provide built form break points and articulation.
- Provide adequate passive surveillance .
- Provide visual and physical activation where appropriate.
- Consider unifying paving treatment in the shared laneways.
- Provide street trees where the width of laneways or their geometry permits. Consider moveable planters, pots and overhanging planters in the urban areas where pedestrian circulation is high.
- Provide public art, murals etc, in the urban areas.

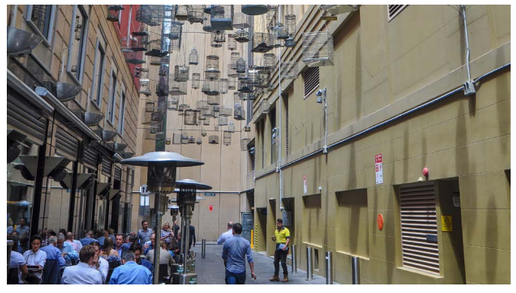
## Design Guide:

| | |
|---|---|
| Indicative Traffic Volume | Varies centre-to-centre |
| Recommended Speed Limit | 10km/h Shared Zone |
| Recommended Verge width | Shared zone |
| Recommended Carriageway Width | Shared zone |
| Total Street Reserve Width | Varies |
| Kerbing | Flush Kerb (shared zones) |
| Footpath Provision | 1.2m min. or<br><br>Shared zone |
| Cycleway Provision | n/a |
| On-Street Parking | No |
| Landscaping | Street Trees where the the widths of laneways or their geometry permits |
| WSUD | n/a |

*Table 4.7*

## Examples:

*Spice Alley at Kensington Street in Chippendale in Sydney is a popular dining destination that attracts many locals. The laneway has been transformed with food outlet and restaurants. The laneway features a unifying brick paving treatment and colourful overhanging lanterns adding to its vibrancy.*



*Angel Place in the heart of Sydney is one of the most celebrated laneways in the city. Surrounded by tall buildings on both sides, the laneway includes restaurants on one side with outdoor dining. The unique attraction of the laneway is its overhanging 'bird cages', in the form of public art. The laneway is paved with cobblestones and granite pavings uniformly.*

# PART 5: Components of Street Design

## 5.1 Components of Street Design

Great street design happens when a number of components are designed and incorporated to provide the full range of practical and aesthetic functions. Design elements help the street feel safe and comfortable, contribute to the character of a place, provide sensory or visual delight or simply help keep the street green and cool.

The following Street Design Components are outlined in this chapter:

- Street Trees
- Planting
- Water Sensitive Urban Design
- Street Furniture
- Outdoor Dining
- Heritage Interpretation
- Public Art

Rouse Hill, NSW

## 5.1.1 Street Trees

### Objective

Trees are an essential part of any streetscape, and increasing canopy cover is a major priority for Central Coast Council. Trees are often absent in our existing streets, yet they help mitigate the effects of climate change, provide essential shade and cooling in the heat of summer and help improve storm-water management.
Tree lined streets create healthier communities and encourage greater pedestrian movement and activity.

Conditions for Street Trees are often less than optimal. Competition for space, ongoing pressure from development, and historically poor planting practices or stock selection means that many urban trees often have a reduced life expectancy.

This section outlines some of the key factors to be considered when retrofitting existing streets, or planning and designing new ones to achieve better outcomes and success rates for urban trees.

### Recommendations

- All Trees that are procured and installed on Central Coast Council projects must be done in accordance with **AS 2303:2018 Tree stock for landscape use**.
- Ensure all tree planting details are in accordance with the **Landscape Works Specification - Standard Drawings.**
- Where possible provide a minimum verge width of 2.4m for adequate root growth,
- Provide a minimum of 4m³ of soil medium dug no more than 0.3m deeper than the root-ball.
- Ensure all tree locations have been coordinated with on-site services and built elements.
- Ensure a tree maintenance report is provided to Council for review in accordance with the Landscape Specifications.

### Space Below Ground:

The amount of soil space below ground is directly attributable to healthy root growth. Where root space is limited or impacted by adjacent structures such as roads, buildings and footpaths then tree growth is adversely impacted. Unless the tree can break free from the confines of its available root zone and find water and nutrition elsewhere, then the size, health and longevity of the tree will be reduced. Typical street tree planting practices have often neglected this factor, and standard tree pits rarely provide adequate room for root growth.

Where space permits, trees should be provided with a minimum of 2.4m verge space between structures such as roads and footpaths and a minimum soil volume of 4m³ should be made available for new street trees.

### Space Above Ground:

Trees need adequate space above ground and may conflict with buildings if planted too close. Over-ground services can also limit a trees potential for full growth. Poor tree selection or lack of consideration when placing street trees has often seen them inadvertently removed due to the damage they cause.

Trees are also commonly pruned by service providers to maintain clearance zones around power lines. Poor practice often leads to badly damaged or deformed trees, or introduces wounds to the tree which are susceptible to infection and decay thus reducing life expectancy.

The design of new streets, or the retro-fitting of existing streets must therefore give consideration to the provision of space for trees both above and below ground.

*Inadequate space below ground*

*Inadequate space above ground*

Tree species selection is essential when planning the location of trees - 'the right tree in the right place' will ensure the longevity of individual trees and help built an urban tree canopy for future generations.

*Poor tree selection*

## Soil & Nutrition:

Many urban soils lack the fundamental nutrients required for optimum tree growth and it is not uncommon for soils to contain contaminants that adversely affect the health of individual trees. The abundance of adequate nutrition is critical to the long term survival of a street tree and as such the quality of the soil in which a new tree will be planted needs to be addressed at the appropriate stage of the process.

Successful street tree planting is reliant on the availability of suitable soil and many practical solutions exist to either ameliorate existing site soils, or import new soils to ensure the long term survival of street trees. Soils can be amended with either quick or slow-release fertilisers to temporarily restore soil nutrients. De-compaction and aeration can also improve poor growing conditions that aid with the natural succession of mycorrhizae into the soil. Tree selection is also a factor in determining soil improvement measures with native v non-native species often requiring different soil types for example.

Table 5.1.1a provides a summary of expected actions and responsibilities for anyone involved. It is a requirement of Council that all entities involved with the planning, design and installation of street trees follow the actions and responsibilities outlined here to ensure best practice is observed when installing trees. Further information is provided in the **Landscape Work Specifications - Standard Drawings**.

## Coordination with Services:

Conflicts with services are one of the most important factors to get right when planning and designing streets, or attempting to retro-fit existing ones. Where possible, all new tree planting locations should be coordinated with service locations to avoid planting over or in the vicinity of underground pipes and cables. When planted incorrectly, tree roots can cause damage to services (especially water and sewer mains as they seek water) and are often removed if services need repairing.

All street tree plans should be prepared by a suitably qualified Landscape Architect, AFQ 5 or AFQ 8 Arborist and demonstrate evidence that the locations have been fully coordinated with any services proposed for the site.

## Stock Size and Quality:

All Trees that are procured and installed on Central Coast Council projects must be done so in accordance with **AS 2303:2018 Tree stock for landscape use**.

Assessment of tree stock (above ground): In accordance with the standards, all trees installed on Council projects are required to be assessed prior to planting by a suitably qualified Landscape Architect or AFQ 5 qualified Arborist to review criteria including: True to type; Height and calliper; Health, Crown symmetry; Significant injury; Stem taper; Self-supporting; Stem and branch structure; Formative pruning; Included bark; Trunk position; Compatibility of graft unions; and Freedom from pests and disease.

| Section | Action | Responsibility |
|---|---|---|
| **1** | Identification of Soil Resources (Survey of soil type, depth of topsoil and subsoil, chemical and physical properties) | 1. Head Contractor or Soil Scientist engaged by Head Contractor<br>2. Records to be kept by Head Contractor |
| **2** | Assessment of Soil Suitability | 1. Head Contractor to develop a plan or engage a Soil Scientist to do so<br>2. Records and evidence to be kept by Head Contractor<br>3. Soil Scientist to provide amelioration advice |
| **3** | Identification of Landscape Types | 1. Developer, Consultant and Council to define landscape types and 'value'<br>2. Soil Specifications<br>3. Developer, Consultant and Council |
| **4** | Soil Specifications | 1. Developer, Consultant and Council to define which landscape types are applicable<br>2. Head contractor to understand testing requirements |
| **5** | Stripping and Stockpiling Plan | 1. Head Contractor or Contractor conducting bulk earthworks, advice from soil scientist where needed.<br>2. Records to be kept by both Contractors. |
| **6** | Topsoil Amelioration Process | 1. Landscape Contractor to execute recommendations on site<br>2. Landscape Contractor to keep records of inputs and process |
| **7** | Certification and Validation | 1. Landscape Contractor to conduct sampling or engage a Soil Scientist to do so<br>2. Soil Scientist to provide interpretation / sign off/ additional amendments<br>3. Landscape Contractor to keep record of certification or conduct corrective actions (and record of input) |
| **8** | Subgrade Preparation | 1. Head Contractor or Landscape Contractor |
| **9** | Topsoil Spread | 1. Landscape Contractor to execute<br>2. Landscape Contractor to keep records of quantities. |

*Table 5.1.1a - Soil Preparation - Expected Actions and Responsibilities*

## Assessment of tree stock (below ground):

Similarly, and in accordance with the standards, all trees installed on Council projects are required to be assessed prior to planting by a suitably qualified Landscape Architect or AFQ 5 qualified Arborist to review criteria including: Rootball diameter; Rootball depth; Height of root crown; Non-suckering rootstock; Pests, diseases and weeds; Rootball occupancy; Root direction; and Root division.

All trees should be assessed and signed off prior to installation, and any rejected trees replaced with trees that meet AS2303:2018.

## Tree Species Selection:

When selecting tree species for an individual project, a number of factors must be taken into account:

- Climatic conditions: Consider local climatic conditions as well as mico-climatic conditions such as wind, sunlight, salt-air, radiant heat etc.
- Constraints: Consider overhead power cables and proximity to buildings, awnings or other infrastructure when assessing appropriate tree species. Smaller tree species with smaller canopies can still be used in places with overhead constraints.
- Native verse Non-Native: Native trees tend to be better suited to Australian conditions, provide quicker growth and canopy cover and are often better suited to harsher climate conditions. Exotics can be used in certain instances, but deciduous trees can cause additional maintenance issues due to leaf fall.
- High performing Species: Select trees that establish quickly and have performed consistently well in the local conditions.
- Low Maintenance: Select trees that once established require minimal ongoing maintenance such as watering, fertilising, pruning etc.
- Environmental Weeds: Avoid trees that are listed as invasive species or that pose a risk of becoming environmental weeds in the local area (refer Central Coast Council DCP)
- Urban Habitat: Where possible select native trees that will provide maximum habitat for native wildlife.
- Heat Island Effect: Where possible select trees that provide maximum canopy cover to roads and footpaths - good street design should allow adequate room for mature canopy growth.
- Tolerance to Pest & Disease: Select trees that meet the requirements of AS2303:2018 and consider using a diverse range of species to reduce the impact of a particular pest or disease within the area.
- Look and Feel: Establish a strong planting theme for each street.
- Scale and Form: Select the right tree for the right place; consider the eventual size, shape and form of the tree at maturity - does it fit?

For Street Species for Individual Town Centres refer to the Street Tree Maps provided in the Appendix.

## Establishment & Maintenance:

In spite of the above requirements for street tree planting being met, a tree will likely fail if ongoing maintenance is not correctly observed, particularly in the first two growing seasons. Regular watering, regular monitoring for pests, damage or disease and selective formative pruning must be undertaken to help ensure the long term survival of new trees.

It is a requirement of any developer or contractor to submit a proposed tree maintenance schedule in accordance with the requirements of the Standard Drawings and Technical Specifications. Each maintenance plan should be observed and, a log book of maintenance provided to Council staff as required.



## Watering

Trees require water for the majority of their life processes including the uptake of nutrients, photosynthesis and the transpiration process. Water demand in urban areas is often higher due to the heat island effect raising localised temperatures and in some cases reducing humidity (which can hasten the transpiration process) meaning urban trees can lose more water than in their natural environment.

Compacted soils, pipes drainage systems, and surrounding built surfaces such as roads and footpaths also limit the amount of water which is available for the tree root system to absorb.

A watering regime must be undertaken by the developer of contractor in accordance with the frequency outlined in Table 5.1.1c and in the amounts outlined in Table 5.1.1b

For each street tree planting project, a maintenance schedule must be provided to Council at Construction Certificate stage which includes the keeping of a maintenance log-book by the contractor which records among other thing the amount of watering being undertaken during the tree establishment phase.

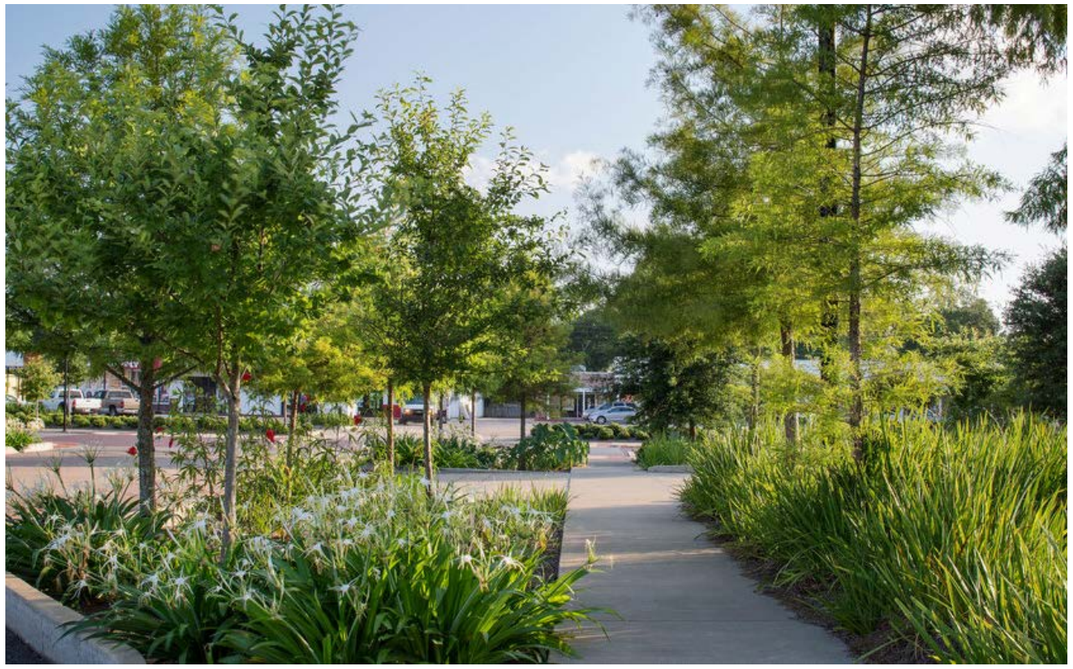
| Container/ Root Ball Size | Amount of Water* |
|---|---|
| 45L | 5 - 10L |
| 100L | 15-20L |
| 150L | 20-30L |
| 200L | 30-40L |
| 250L | 35-50L |
| 300L | 45-60L |
| 400L | 60-80L |
| 500L | 75-100L |
| 1000L | 150-200L |
| * Trees in free draining soils may require the higher amount of water; trees may also require more water on hotter days or in periods of minimal rainfall | |

*Table 5.1.1b - Watering Amounts*

| Time of Year | Required Watering Frequency: 1st Month | Required Watering Frequency: 2nd & 3rd Month | Required Watering Frequency: Establishment Period |
|---|---|---|---|
| **Sep-Feb** | 4 x per week | 3 x per week | 2 x per week |
| **Mar-May** | 3 x per week | 2 x per week | 1 x per week |
| **Jun-Aug** | 2 x per week | 1 x per week | 1 x per fortnight |

*Table 5.1.1c - Watering Frequency Requirements*

## 5.1.2 Soft Landscaping



### Objective

In addition to just Street Trees, 'soft landscaping' within our towns and neighbouroods can make a dramatic impact on the quality of a place, greatly improve micro-climatic conditions and enhance both human health and biodiversity. Places should be pleasant, inviting and memorable as well as being ecologically sound. The Central Coast community increasingly recognises the need for improved and less wasteful land use practices, with more attention focused on the successful design, installation and establishment of native plant communities in appropriate environmental conditions that will sustain them.

True landscape design can provide optimum habitat for urban wildlife and help cool our towns and suburbs to improve thermal comfort. Carefully planned and designed landscapes should be considered from the outset for any new growth areas, or integrated as part of any urban renewal projects.

### Recommendations

- Integrate trees and soft landscaping into any proposed development as early as possible with full consideration given to the creation of natural plant communities and systems.
- Incorporate ecologically sound landscape design principles into all development ensuring plants can thrive and grow in place
- Design contextually appropriates landscapes that respond to and enhance the existing 'sense of place'.
- Enhance key views and vistas using intelligent landscape design - borrow the existing landscape where possible.
- Use soft landscaping to mediate poor sensory experiences such as noise, wind, heat etc.
- Use soft landscaping to integrate natural sounds, sights, smells - reconnect the urban form back to the natural environment as much as possible.



### Principles of Plant Design

Good horticulture is often a case of putting the right plant in the right place. By matching plants to their intended environments, designers can help ensure that the plants will be healthy, establish well and need minimum ongoing care. Too often designers force plants into the wrong places, or try to develop 'generic' environments with overly rich soils and environments, when in fact some native plants may prefer the opposite.

Hastily preprepared landscape plans, which demonstrate a lack of thought, or simply conform with established practices and plant selection can result in low quality landscapes that struggle to establish and thrive.

Development proposals submitted to Council should demonstrate that any landscape design component has been given full consideration in terms of what plants grow where, and how the soil is to be conditioned and prepared to optimise plant growth. Plants should be selected that celebrate our region and it coherently into the larger environment.

Basic Design Principles include:

- Choose plants that re adapted to the local environment
- Design different landscapes for different environments
- Create seasonal interest with a broad range of native plants
- Match plants to micro-climates and micro-climates within the built environment
- Create diverse plant populations
- Select plants that grow together
- Know your soil
- Create resilient landscapes

### Preserve and enhance the natural ecosystem

Trees and plants help slow down storm-water and help transfer it back to the ground naturally. This reduces hazardous run-off which can damage property or pollute our oceans and water systems.

Urban landscape design works with the natural ecosystem to provide shelter for wildlife and promote biodiversity. To do this, designers should consider the native plants and animals that our urban areas already host and use successful landscape design to support this.

### Design for health and well-being

When developing a landscape proposal, the design consultant should consider the following questions:

- How will this landscape design benefit the people who live here?
- Does the proposed landscape design reflect the region or local culture?
- Does this landscape design promote a sense of place and identity?
- Does it promote health? Studies report that spending time in nature is excellent for your health. It can lead to decreased stress levels, reduced blood pressure, better asthma management, a clearer mind and a feeling of overall peace.
- Does it increase recreation? Landscaping can promote and enhance recreational opportunities like beach access, walking trails, river and lake access, community gardening and birdwatching.
- Does it increase pleasure: Landscaping can provide practical benefits like noise buffering between neighborhoods. Beautiful landscapes also make people happy with the flowers, trees and the wildlife they provide. This happiness can lead to a stronger connection to the land and to each other.

## 5.1.3 Water Sensitive Urban Design (WSUD)

### Objective

Water Sensitive Urban Design (WSUD) is a concept of water cycle management that reduces water pollution, while also contributing to sound urban design through quality visual aesthetics and often usability.

Prior to the 1990s stormwater treatment was relatively uncommon and tended to focus solely on the removal of gross pollutants such as dropped litter through the installation of structures like 'trash racks' at the end of drainage pipes. This means that many areas on the Central Coast contain no stormwater treatment. If sediment, nutrients or gross pollutants enter the stormwater system in the gutter, or local park, their flow is likely to continue until reaching natural systems including rivers and oceans.

### Recommendations

- The design of WSUD structures should aim to integrate cultural, environmental, social and economic considerations whenever possible. This includes incorporating story telling and place-making, crime prevention through environmental design, maximising the benefit to local wildlife whilst being easy to maintain.
- WSUD structures required as part of private development should be placed on private land wherever possible and continue to be maintained as part of a strata or community title scheme in perpetuity. Where public dedication is required, handover cannot occur until the WSUD structure is demonstrated to be fully operational.
- In large greenfield areas, consideration is to be given to achieving a neutral or beneficial environmental outcome in terms of resultant stormwater quality post development.



### Contemporary WSUD structures

#### Raingardens

Raingardens, also known as bioretention basins, consist of a bed of sand and low growing plants that remove total suspended solids, gross pollutants and some nutrients before entering the stormwater system. Their effectiveness depends on the bed of sand not being covered in clay or other fine particles. They can consist of varying sizes, from a few square metres to around one hectare.

#### Infiltration trenches

Infiltration trenches are a simple structure that allows stormwater to flow through porous material such as gravel, prior to entering the subsoil or groundwater. It is intended that suspended solids, gross pollutants and some nutrients remain in the porous material.

#### Porous landscaping treatments

Porous landscaping treatments include porous paving, grassed verges, rock lined drainage channels and tree pits combined with porous media that allow stormwater to flow to tree roots. These treatments are highly suited to the existing urban environment as they may not result in the loss of any public domain space for dedicated WSUD structures.

#### Constructed wetland

A constructed wetland differs from a wet basin by having a shallower depth, reduced flood storage capacity and having a larger area of the water body being covered in aquatic plants. This means that they are more effective at removing nutrients than wet basins as plants are the primary mechanism for sequestering nitrogen and phosphorous.

#### Restored semi-natural systems

This include the reinstatement of streams that may have previously been removed or seriously modified by agriculture, such as where a bed and bank is no longer present. The reinstated stream may include a chain of ponds with aquatic vegetation as well as the planting of deep-rooted native vegetation to retain the streambank and encourage stormwater infiltration. The restored semi-natural system can be incorporated into pedestrian trails and other public domain features such as benches.

## Why does the Central Coast need best practice Water Sensitive Urban Design?

The Central Coast contains several intermittently closed and open lakes and lagoons (ICOLLs), also known as wave-dominated estuaries. These include the Tuggerah Lakes system, Terrigal and Avoca Lagoons and Brisbane Water. These systems are characterised by a narrow entrance that restricts tidal movement, with only a small proportion of water being exchanged in each tidal movement. Their position in the landscape and low tidal exchange also means that over time they become a sediment sink. With development in the catchments of ICOLLs this accelerates the sedimentation process and increases the level of nutrients present. This can replace windblown sandy beaches that were deposited during the last ice age with finer sediments derived from clays that have eroded from grazing land and urban areas and entered the stormwater drainage system.

This change in environmental quality over time has been noticed by the community who generally support programs to enhance quality in ICOLLs. In December 2020 the NSW Government's Tuggerah Lakes Expert Panel released their final report into water quality in the Tuggerah Lakes System which stated, among other things:

*The Tuggerah Lakes Expert Panel is highly concerned that without best practice policy and catchment management in place, along with improved funding and State government resources, significant and potentially irrecoverable threats to the water quality of Tuggerah Lakes are likely.*

*This position supports the need for best practice WSUD to be included in the public domain in the catchments of ICOLLs, in both greenfield development areas and in urban renewal areas such as at The Entrance. Where possible Council should aim to achieve a Neutral or Beneficial Effect (NoBE) on water quality, meaning that the quality of stormwater leaving a site should be the same or better as to if the development was not in place.*


Example of WSUD system


Rouse Hill, NSW

## 5.1.4 Street Furniture

### Objective

Street furniture contributes significantly to the look, feel and character of a town or place and provides for a range of pedestrian needs and functions. The principles outlines in this chapter provide guidance on the selection, distribution and location requirements for furniture within our centres. Standard furniture palettes for individual centres are identified in Appendix I.

Central Coast Council is seeking to streamline and coordinate its furniture selection policy to help assist with selection, maintenance and management concerns and the maps and furniture schedules outlined in Appendix I provide information for individual centres. In certain special places however, bespoke furniture can be considered in order to enhance the unique character or heritage of a place.

All furniture selection is subject to review and approval.

### Recommendations

- Street furniture should contribute to the individual character of a place and enhance the look and feel of a particular street.
- Bespoke furniture should be considered in Special Areas where the unique local character, heritage or identity should be celebrated.
- Furniture should be coordinated across a particular centre to create a unified approach and help streamline purchasing or maintenance requirements.
- Furniture selection should be universal and provide comfort and functionality for all user groups.
- Furniture selection should consider longevity through the use of robust materials and products that can be easily sourced, maintained or replaced.



### General Layout and Selection

As outlined in Part 3 - Street Design Principles, typical streets or footpaths within centres are divided into zones, to maximize functionality and create the clearest paths of travel for pedestrians. Where possible, street furniture must always be located within the Landscape 7 Furnishings Zone or along building frontages provided there is no intrusion into the Pedestrian Zone.

Generally:

- Locate street furniture elements near meeting places, retail uses, community buildings and other areas where demand is likely to be highest.
- Locate street furniture elements along the kerb to maximise building access and maintenance of a clear building line for walking canes.
- Avoid overcrowding of streets and creating obstructions to pedestrians by using a minimum number of elements (consider placing on an as-needs basis).
- Locate street furniture and lighting well clear of building entrances, emergency access points and service covers in footpaths.
- Locate street furniture elements such as seats and bins a minimum of 600mm back from the kerb to avoid collisions by vehicles.
- Space street furniture a minimum of 1m apart to maximise access and maintenance.
- Align street furniture elements on footpaths to maximise clear sight-lines in the public domain.

### Universal Access:

All furniture within the Public Domain should meet the requirements and actions outlined in the Central Coast Disability Inclusion Action Plan 2021-2025 and should be accessible in accordance with the *Disability Discrimination Act 1992 (DDA).*

### Seating

In general, seats should be specified in accordance with the furniture plans and schedules in provided in Appendix I. Bespoke furniture can also be developed or selected for special places subject to Council approval. Any proposed furniture must be contextually appropriate and comprised of high quality, robust materials that are vandal proof and require minimum maintenance.

Placement: Seating should be suitably located throughout our town centres to provide maximum amenity value. Generally, seating should be:

- Located within the Furnishings Zone or against buildings when space allows.
- Located in Town and Village Centres or in neighbourhood chopping strips.
- Located at all pedestrian waiting points such as bus stops, taxi ranks or outside public buildings.
- Located along major streets with high pedestrian volumes, placed in pairs approximately every 50m.
- Located in civic centres or 'special places' in pairs or logical groupings approximately every 30m.
- Provide seating in a range of sunny and shady places.
- Consider seating that caters adequately for social distancing requirements.
- Providing seating that is comfortable and allows people to stay and linger.
- Design for formal and informal seating opportunities to create places that are inviting to stay.
- Protect seats from high volume traffic.
- Face seats away fro road when placed along kerb (towards road when against buildings).
- Place seats perpendicular to road where space permits

*Attractive furniture, suitably located*

## Bin Enclosures

Depending on location, all bin enclosures must fit Council's standard 120L and 240L bins to suit its waste collection service requirements. In general, bin enclosures should be specified in accordance with the furniture plans and schedules provided in Appendix I. Any proponent involved with developing public domain plans are required to contact waste services to discuss any public waste requirements as early as possible, or as a minimum prior to any lodgment of plans for approval.

Bin enclosure requirements may vary from centre to centre, but all enclosures must be robust, flame resistant, vandal proof and have restrictive access to deter birds and wildlife. Bin enclosures must also be designed to prevent dumping of domestic waste bag by members of the public. All enclosures must be lockable in accordance with Council's waste team requirements.

Generally, bin enclosures should be:

- Suitably located to provide even coverage across town centre and close to main litter sources such as fast food outlets, bus stops, parks or places where people gather to stop, eat or linger.
- Located at street corners in areas with high volumes of pedestrian activity subject to accessible.
- Easily accessible by Council's waste collection service.
- Placed in groups to separately provide for general waste and co-mingling and recycling collections
- Sensitively designed and located so as not to be obtrusive and not to become a focal point; bins should be conveniently located close to group seating areas, but down-wind of congregation areas where possible.
- Designed to suit the broader site context; bin enclosure can incorporate artwork or reference elements of local history and culture.
- Refer Council's DA Guidelines for Resource and Waste Management Planning

*Poorly located bin enclosure potentially deters people from using seat*

*Bike racks with shade cover, located at a busy transport hub*



## Bike Racks

Bike racks are to be specified in accordance with the furniture plans and schedules provided in the Appendix of this document. Bike racks are to be made of robust, durable materials and vandal proof. Material choice and finishes must be of a quality that is not easily damaged or scratched by continued locking/ moving of bikes.

Generally, bike racks should be:

- Located at major destinations such as shopping centres, libraries, sports or educational facilities and other locations with high pedestrian activity or at major transport hubs.
- Located in parks, public squares and civic spaces.
- Located in well-lit, visible spaces in full public view. Located in groups of four and be accessible from roads, footpaths and bike lanes.
- Located so that bikes do not protrude into the pedestrian zone of any street space or so that bikes do not protrude into the road reserve.

## Bollards

Fixed and retractable bollards are to be provided to protect laneways, shared zones, parks and civic spaces and public buildings. Public domain plans are to be provided to Council for approval as early as possible. Bollards are to be in accordance with the furniture plans and schedules provided in the Appendix and are to be comprised of robust materials that are vandal proof with a durable finish. All removable bollards must be lockable in accordance with the requirements of Council's town Centre Management Team.

Generally, bollards should be placed at 1.5m max spacing unless approved otherwise.

## Drinking Fountains

Drinking fountains are to be provided in parks and civic spaces and adjacent to public buildings. Drinking fountains are to be universally accessible and comply with relevant industry standards. Fountains are to be robust, vandal proof, accessible, dog friendly, allow for refilling of water bottles and easy to maintain. Public domain plans should be provided to Council for approval as early as possible showing locations and water supply for any drinking fountains.

Generally, drinking fountains are to be:

- Located in areas of high pedestrian activity such as parks and civic spaces.
- Universally accessible.

## Planter Boxes

Planter boxes can be used to provide simple, temporary separation between areas of pedestrian activity and areas of vehicle movement. Planter boxes are to be attractive, robust, easily maintained and moveable. Planter boxes are not suitable for tree species, and should not be considered as an alternative to well designed street tree planting.

Generally, planter boxes are to be:

- Used to delineate seating or dining areas, and contribute to the overall visual appeal of the street.
- Consideration is to be given to watering and whether these can these be maintained by local business.

## 5.1.5 Outdoor Dining


### Objective

Outdoor dining can bring life and vibrancy to our towns and neighbourhood centres and is to be considered as part of any new development. Factors such as adequate footpath space, pedestrian and customer safety, contextual suitability, functionality and overall amenity value must be considered when determining the size, scale and type of dining areas and structures.

Outdoor dining is to be incorporated in a manner that does not impede or limit pedestrian movement, nor detracts from the overall look and feel of the centre.

Any outdoor dining structures must be designed and built in accordance with Council's Footpath Outdoor Dining Toolkit and Checklist.

### Recommendations

Outdoor Dining Applications will be assessed against five-key criteria below. Applications must demonstrate and meet all criterion before approval will be granted:

- Safety.
- Contextual Appropriateness.
- Design Functionality.
- Amenity Value.
- Legality and Compliance.

Council has absolute discretion to approve or refuse outdoor footpath dining permits on land owned or controlled by Council.

Applicants must refer to the Central Coast Footpath Outdoor Dining Toolkit and Checklist as well as the Local Approvals Policy.



### General Safety

Maintain an equitable and safe thoroughfare around outdoor dining areas for all users including:

- Unobstructed footpath width, at all time - 2m (min).
- Setback from kerb - 0.8m (min).
- Ensure natural sunlight to the footpath and to the primary retail premises within the property boundary.
- Activity/ furniture and fixtures that do not impede pedestrian movements or sight.

### Contextual Appropriateness

Locational identity, street character, environmental factors, visual appeal, bulk and scale, existing street elements and street trees needs to be considered in addition to:

- Appropriate contextual response that supports/ strengthen locational identity.
- Street corners, gateways, landmarks must be acknowledged appropriately and provide adequate setbacks.
- Appropriate response to environmental factors, such as sun, wind, sea spray etc.
- Present visual attraction.
- Avoid visual bulk and scale.
- Appropriately respond to existing street elements and street trees, maintain safe distances and accessibility.


*Contextually appropriate shade structures*

### Design Functionality

The functionality of outdoor dining structures must be fit for purpose, with the following factors taken into account:

- Removable structures (such as umbrellas) are permitted, but must suit the site context and match other adjacent structures. Fixed structures that require permanent fixings or foundations are not permitted.
- Must be 0.3m min below the awning attached to primary building.
- Operate strictly within the permitted hours of trading, and for permitted use. (Outdoor dining only).
- Use materials, colour and texture sympathetic to the context.
- Be secured appropriately to avoid injury to the public or damage to property.
- Additionally: Barriers must follow the guidelines, in terms of size, height and materials. Movable planter boxes are considered appropriate barriers, in suitable locations.
- Any form of flooring over the existing surface is not permitted.
- All signage must be contained within the allowed are and follow regulated sizes.

## Amenity

Facilitate street activation, support local economy/ night-time economy, utility services, connectivity to host retailer, waste management, maintenance.

- Proposed activity must support street activation and local economy/ night-time economy
- Required utilities such as power and electricity, heating must ideally be sourced independently. In the case of acquiring electricity from host retailer using cables, it must meet relevant Australian Codes and Safety Standards
- All underground utility services owned by the Council and the third parties must not be disturbed
- Satisfactory waste management plan must be employed

## Legal and Compliance

Avoid nuisance, endangerment, or inconvenience; address public liability and manage risks; and comply with state legislation; noise, pollution, smoking, operating terms and conditions and council inspection and insurance requirements:

- The term of leasing of the Council footpath is one year. Annual inspection must be carried out prior to the expiry of term by a responsible Council Officer. It is solely Council's discretion to extend or terminate the lease.
- All public health and safety compliances must be adhered to. The proponent must submit relevant insurances with the application.
- The activity must minimise environment pollution, such as noise, smoke, light etc.
- Outdoor smoking regulations must be followed.


*Carefully considered outdoor dining can work even on narrow footpaths*

## Additional Notes

1. It is noted that Council may and has approved 24 hour licenses for occupation of the footpath. This permits the lessee to install security grilles enclosing the footpath area outside trading times and store tables and chairs within the enclosure.
2. This results in significant impacts on public space, reduces public amenity and results in footpaths becoming narrow, dark and unpleasant spaces outside of trading hours.
3. It is considered that all future outdoor dining licenses should be limited to the trading hours of the venue, that enclosure of footpath outside these times is not permitted and that furniture and any vertical barriers or enclosures must be removed from public space when the establishment is not trading
4. It is acknowledged that outdoor dining structures not attached to buildings do not require a development application, however because of their impact on the public domain and character, it is considered that any proposal for an outdoor dining structure is referred to the Development Assessment and Centres Planning and Urban Design for comment.
5. The preferred design is one that minimises supporting structures and obstructions within the footpath and has a lightweight appearance. Centre post umbrellas have only one support and are preferred but other options will be considered depending upon the location and any other existing structures already in the vicinity.


*Well planned and managed outdoor dining can bring life and vitality to any town centre or local neighbourhood strip*

## 5.1.6 Heritage Interpretation

### Objective

Our heritage is all around us. It includes our landscapes, rural lands, rivers and waterways, our archaeological sites, our buildings, our history, traditions, language and customs. It is what makes our places special. Heritage Interpretation is a creative way to explore and pass on to future generations that which is inherited from the past.

The objective is to value, enjoy or simply understand in the present, the complex layers of history that have contributed to the making of a place.

By understanding the past, we can build stronger connections to the land and the lives and events that came before us. Heritage can include:

- Natural Heritage:
- First Nations Heritage:
- Historic Heritage:

### Recommendations

Heritage Interpretation must be considered and included as part of any project, whether it is a major development site, street upgrade or a sub-division project. There are many ways of interpreting heritage and the stories that define us these are only limited by our imagination and understanding of place.

- Don't assume you know what is important – talk to the locals, First Nations People, Council Heritage Staff, the Heritage Librarians, and local history groups.
- Check with Council to locate existing heritage, archaeological sites, conservation areas and areas of First Nations Cultural heritage, discuss your proposal and approval pathways.
- Heritage Interpretation should be specific to place.
- Larger developments may require a site-specific Heritage Interpretation Strategy.
- Be creative and think outside the box. Carefully consider the tone of the interpretation with regard to the sensitivity of the story, consider the context in which it will be viewed and experienced. Can the interpretation be linked with broader cultural tourism or recreational activities?
- Can members of the community be used in the design or sharing of the information?
- Avoid interpretation signage or materials that will impact or damage a heritage item or fabric
- First Nations stories and history must come from First Nations People and be sensitively represented with First Nations involvement and consent.

#### Natural Heritage:

The Central Coast is fortunate to be surrounded by natural heritage which helps define both geographical areas as well as the character of the area. These natural areas are the backdrop to our homes, provide places to play and explore, and provide links between people, places and stories.

#### Aboriginal Heritage:

Aboriginal cultural heritage consists of places, traditions, beliefs, customs, values and objects that represent the living history of past Aboriginal generations and are of important cultural and heritage significance to Aboriginal people. (Heritage NSW: web). These can include both material evidence of Aboriginal occupation (archaeological sites) and intangible expressions of Aboriginal culture such as social and cultural values, art, stories, language and song.

#### European (or other) Heritage:

European heritage includes those physical resources that contribute to an understanding and appreciation of the Central Coast's non-indegenous history and cultures. It includes historic sites, structures, places and areas, archaeological sites, landscapes and shipwrecks.

Note: More Information on Heritage Interpretation can be found at Heritage NSW Website – Interpreting Heritage Places and Items Guidelines and SPH & Central Coast Council: Gosford City Centre Heritage Interpretation Strategy 2019

## Heritage Signage

Signage can come in many forms. It can be a static display or something interactive depending on budget and location. Signage can be used to tell the story of a specific building or place, a person important to an area, or the history of a streetscape or landscape.

### Footpath Inlays

Footpath inlays are a relatively simple type of interpretation are particularly useful when space is a premium. They can be achieved with impressions, plaques, or inlays of different materials. They can also include names of people, place names, or emotive text, poems, language, or maps.

### Murals

Murals are a common tool for heritage interpretation that can be applied to walls or footpath surfaces. They are a form of public art that can be eye catching, and emotive. There are no limitations to what materials, images, art, or collages can be used to design a mural.

### Timelines

Linear public spaces and footpaths make a great canvas for the installation of timelines. Timelines are particularly useful for areas that have relatively long, more detailed histories and can provide a snapshot of natural, First Nations, and historic heritage in one place. They also can make for attractive graphics in areas where people are moving through the space.

### Heritage Trails and Walks

Heritage Trails and Walks are a traditional and well-loved way of telling the history and stories of a town or landscape. They are often a combination of maps, signage, pamphlets, or digital media. Although there are no limitations on how these stories could be told. These are particularly good for areas that attract visitors and tourist.

*Signage*

*Footpath inlays*

### Lighting and Illumination

These days many towns and cities are just as focused on the night-time economy as well as the day. Lighting of buildings, light displays, murals, and inlays all add to the appeal of these places at night, can improve public safety and can invite the visitor to stay longer in one place.

### Furniture

Furniture provides an available canvas on which interpretation can be placed. This can either be retrofitted to existing furniture or can be specifically designed with wayfinding or particular stories in mind. Street furniture is an obvious location to include access to digital media such as web sites or oral histories.

### Public Art

Public Art is frequently incorporated into many aspects of heritage interpretation and is a very effective way of telling local stories. This is especially the case when important aspects of our heritage are intangible in character such as oral histories, language, views, and song lines.

### Events and Exhibitions

Events and Exhibitions can be an engaging way to share stories, celebrate events and people, and increase the tourism to an area. They are also important for local people to appreciate their own places and identity, as well as all aspects of local history that are unique to the Central Coast.

### Apps or Smart Technology

Apps and other smart technology such as augmented or virtual reality are effective and engaging ways to share past events and places. These are fun, new, and exciting for the user. They can be updated frequently which retains their relevance and they can be adapted for changing urban landscapes. Due their ubiquity and ease of use, Smartphone and Tablet Apps have rapidly been adopted as major elements of interpretation-based tourism.

*Lighting and Illumination*

*Apps and Smart Technology*

## 5.1.7 Public Art

### Objective

Public Art is recognised for its ability to enhance the public domain, contribute to a sense of belonging and to develop the social, cultural and economic values of the region. Central Coast Council will commission, or work with proponents to commision and acquire Public Art which reveals and interprets the history, cultural richness, diversity and contemporary aspirations of residents and communities within the region; Councils Public Art will develop a sense of place and identity.

For more comprehensive information see the 2022 NSW State Government Public Art toolkit.

### Recommendations

- Hgh-quality public art is to be integrated into the design and function of developments to embellish and enliven the public domain.
- Public art is to be provided to capture and reflect the  qualities and essence of place, community values and the stories of past and present cultures, places, and people.
- Public Art must be easy to maintain and made from materials that are appropriate to the landscape and local enviroment.
- Public Art can be site-specific, drawing its meaning from and adding to the meaning of a particular site or place
- Public Art can relate to First Nations stories and should come from First Nations people, it is important to understand the ownership and be sensitivities of their cultural material, heritage, practices, stories and traditions.


Point Cook, VIC

Hornsby, NSW

# PART 6:
## The Approvals Process

# 6.1 Overview

A number of approvals are required prior to and during any works undertaken on land that is owned/managed by or is to be dedicated to Central Coast Council that is referred to as the Public Domain. This can include main streets, public squares, residential streets, avenues, boulevards, footpaths, laneways and bicycle paths. The public domain can also include building setbacks and frontages including public plazas and forecourts or any land that is to be dedicated to Council.

Approvals for development works that effect Council land are required at the following stages:

- Pre-Lodgement
- Development Application (DA)
- Construction Certificate (CC)
- During Construction (Inspections & Sign-Offs)
- Practical Completion (PC)
- Final Completion/ Occupation Certificate (OC)

This Section will guide you through the approvals process, help you understand your responsibilities as a developer or design consultant, help avoid delays and help understand your responsibilities during construction, at Practical Completion and during the defects liability period prior to Final Completion/ Occupation Certificate.

# 6.2 Submissions

Submissions for Public Domain Works on land that is owned by Council must be made at various stages outlined Table 6.1. This allows Council to properly address the project and ensure that the works have been adequately coordinated and that high quality outcomes will be achieved.

- Submissions my be required based on any Conditions of Consent of Planning Agreements and must comply with any requirements identified.
- Submissions of Public Domain Plans must be approved by Council prior to any work being undertaken.
- Submissions must be prepared by a suitably qualified Landscape Architect (AILA Registered).

# 6.3 Contact

Up-to-date guidance on how to make a submission is available on Council's website:

www.centralcoast.nsw.gov.au/plan-and-build/development-applications/make-submission

# 6.4 Other Policies

The Street Design Manual is to be read in conjunction with the other documents and policies outlines in *Section 1.4 Relevant Documents and Strategies* as well as:

- Any Planning Agreements or guidance formally provided to you following a Pre-Approvals meeting.
- Any Development Consent Conditions received following approval of your Development Application (DA).
- Any advice of requests given to you following approval of your Construction Certificate.
- Central Coast Council's Landscape Works Specification - Standard Drawings.
- Central Coast Council's Civil Works. .Specification

# 6.5 Approvals Process

| Approval Stage | Submission |
|---|---|
| **PL**<br>Pre-Lodgement Consultation | **Public Domain Concept Plans**<br>- Site Survey*<br>- Site Analysis*<br>- Concept Plans*<br><br>**Provision of these documents will add value to the pre-da meeting* |
| **DA**<br>Development Application | **Public Domain DA Drawings**<br>- Coordinated set of Public Domain Plans, Sections, elevations, Planting Plans |
| **CC**<br>Construction Certificate | **Construction Certificate Drawings**<br>- Fully coordinated set of Construction Drawings, Details & Specifications |
| **CP**<br>Construction Phase | **Inspection and Sign-Offs**<br>- Site Inspection of Public Domain Works carried out by qualified Council Officer |
| **PC/FC**<br>Practical Completion and Final Completion | **As Built Drawings & Sign Off**<br>- Provision of As-Built Drawings, Practical Completion Sign Off and Occupation Certificates |

*Table 6.1 Approvals Process*

Toukley, NSW

# 6.6 Coordinating Your Plans

All drawing submissions must be properly coordinated with any other submissions required for approval. The application must ensure that any information provided on the drawings does not contradict information provided on other submissions. Depending on the stage of work, the applicant must ensure that all essential components of the public domain plans such as kerb alignments, buildings, light poles, services, furniture and street trees are shown in the same locations across all sets of plans.

Approvals can be delayed when consultants have failed to carefully coordinate their works against other plans and drawings.

# 6.7 Pre-Lodgement (PL)

## 6.7.1 Requirements

A Pre-Lodgement meeting with Council is recommended for any major project which involves Public Domain works. Applicants are encouraged to provide preliminary site survey, site analysis and concept design drawings at least 7 days before any meeting where possible. Any drawings or information that helps broadly outline the scope and puropse of the DA will assist Council with the process.

| Drawings | Requirements | Format | Scale |
|---|---|---|---|
| Site Survey | Site Analysis Plans are to be prepared by a suitably qualified Surveyor and include all relevant elements of the site including existing buildings, footpaths, roads, kerbs and service pits; existing trees and vegetation; existing site furniture and light poles. The survey is to also include datum height levels across the site and be positioned using MGA coordinates. | PDF Copies | 1:500 |
| Site Analysis | Site analysis plans are to be prepared by a Registered Landscape Architect and must clearly articulate the site context and outline the various opportunities and constraints | PDF Copies | 1:500 |
| Public Domain Concept Plans | Public Domain Concept Plans are to be prepared by a Registered Landscape Architect and must outline the concept in sufficient detail to allow Council officers to review and address the main components of the scheme. The plans are to demonstrate how the Streetscape Design Principles outlined in these guidelines will be addressed and how existing site constraints and services will be addressed to ensure the best quality outcome is achieved for the streets and public spaces | PDF Copies | 1:500 |

*Table 6.6 Pre-Lodgement Requirements*

# 6.8 Development Application (DA)

## 6.8.1 Requirements

A set of fully coordinated Development Application (DA) drawings for all Public Domain works must be submitted, reviewed and approved by Council prior to the issue of DA consent. DA Drawings are to include but not be limited to the following information:

- Fully developed Public Domain Concept Plans which illustrate all proposed elements, materials, trees and planting and be fully coordinated with any other proposed building works or existing elements which are to be retained.
- All existing and proposed levels for new roadworks, kerbs and gutters, footpaths, ramps, stairs threshold entries and proposed cross-falls relative to Australian Height Datum (AHD) and Map Grid Australia (MGA).
- All materials and finishes as well as the proposed furniture and fixings.
- Any existing trees or vegetation and any proposed trees and planting including a schedule of species and installation sizes.
- Any works to be demolished are to be clearly marked on the plans.
- All proposed public domain works are to be fully coordinated with any existing or proposed services - especially proposed street tree planting - to ensure that no items proposed at DA stage are lost or removed from the plans during development of the construction certificate drawings.

All Landscape or Public Domain Plans must be prepared by a Registered Landscape Architect (AILA) and overlaid on site survey drawings which have been prepared by a registered surveyor. Submitted drawings must be reviewed and approved by Council prior to the issuing of DA consent.

## 6.8.2 When Required

Public Domain (DA) Drawings are required to be submitted for any major private development projects including:

- Developments in which changes are being made to the existing Public Domain infrastructure including roads, footpaths, laneways, public plazas, etc.
- Developments in which new public space is being created such as building forecourts which contribute to the public domain.
- Developments within Gosford CBD, town centres, subdivisions or any future growth areas which controbute to the public domain.
- Any developments in the following land use zones: B1 Neighbourhood Centres, B2 Local Centres, B3 Commercial Core, B4 Mixed Use, B5 Business Development, B6 Enterprise Corridor, R4 High Density Residential (Refer Central Coast Council LEP and Central Coast Council DCP, SEPP Gosford City Centre) 2018).

## 6.8.3 Coordination of Works

All Public Domain Drawings must be fully coordinated with any other consultants drawings submitted as part of the Development Application including any Architectural, Civil or Structural Engineering plans. The proposed works must be fully coordinated with any existing or proposed services either above or below ground.

## 6.8.4 Design Considerations

The public domain of any development must be fully resolved, be in keeping with the design principles outlined in this document and contribute as a piece of quality public space for the residents of the Central Coast. During the development of the plans, full consideration needs to be given to the following elements:

**Levels and Gradients:**

- Ensure that a continuous path of travel is provided in accordance with the principles of this document. Any path of travel is to be fully accessible and free of trips, hazards or obstacles.
- A cross fall of between 1-2.5% must be provided away from any building or property to the top of kerb. The ground floor of any building or development is to be set to allow for this.
- Finished levels of all elements must be fully coordinated (spot heights provided to AHD) including kerbs, walls, fences and service pit lids.
- Any existing public domain surrounding a development that does not comply with Council's standards is required to be reconstructed.

**Layout:**

- Ensure the street layout is designed in accordance with the principles outlined in this document.
- All elements including street trees, furniture, services, lights, ramps, stairs and walls are to be coordinated at DA stage to avoid any conflicts and ensure the approved DA plans can be executed at the construction stage.
- Indicate proposed adjustments to footpaths and gradients to accommodate new building entries, stairs or pedestrian ramps.
- Indicate proposed adjustments to footpaths and gradients to accommodate new vehicle ramps, driveways or crossovers.
- Provide road alignments and indicate elements such as pedestrian crossing points, kerb ramp locations, refuge islands etc.
- Adjustment of footpath or driveways levels to address flooding issues is not permitted - flood levels must be considered as part of the building development.
- Indicate locations of all fixed structures such as walls, ramps, stairs to concept design standards

**Materials:**

- Indicate all proposed materials and finishes to concept design standards.
- Indicate material finishes for all built structures such as walls, retaining walls and stairs to concept design standards.

**Tree Pits & Soft Landscaping:**

- Provide accurate locations and dimensions of all tree pits and garden beds including extent of structural soil or soil cells beneath pavements.
- Indicate all above and below ground services on the DA drawings to ensure that adequate space has been provided for street trees.
- Provide full plant schedule including all proposed species, numbers and proposed installation sizes. Council may advise on tree species selection during assessment.

**Furniture, Fixings**

- Indicate all existing furniture to be removed or relocated.
- Indicate locations of all proposed furniture and fixings located in the public domain.
- Provide a schedule of all furniture and fixings.

**Building Encroachments:**

- Exluding awnings, ensure that no built elements which relate to the private building development encroach into the public domain including steps, ramps, handrails, balustrades or Tactile Ground Surface Indicators (TGSIs).

**Building Setbacks:**

- Ensure that all pavement materials and finishes extend continuously into any building setbacks to ensure continuity of the streetscape.

**Water Sensitive Urban Design (WSUD):**

- Indicate locations and dimensions of proposed WSUD devices including finished surface levels and surrounding levels to ensure drainage has been fully coordinated.
- Indicate any below ground services and how the device will be incorporated into the existing storm-water drainage system to concept design standards.

| Drawings | Required Information | Format | Scale |
|---|---|---|---|
| DA Plans | Landscape and Public Domain DA Plans are to be prepared by a Registered Landscape Architect (AILA) and must outline the design in sufficient detail to allow Council officers to review and address the main components of the scheme.<br><br>Outline all Public Domain works including works within building setbacks on private property. Provide existing and proposed levels at top of kerb, gutter line invert at regular intervals, as well as at drainage points, the property boundary, building line and building entries. Indicate existing footpaths levels at least 10m beyond the property boundary to illustrate how the works transition into the existing public domain.<br><br>Clearly indicate all existing and proposed services as far as possible to help Council staff understand how well the proposed works are being coordinated. Show all proposed and existing elements on the same plan where possible.<br><br>Clearly indicate Ground Level building footprint, finished floor levels and locations of entries, exits, driveways, windows, building setbacks, awnings, columns, building overhangs.<br><br>Clearly title each drawing with the correct name, drawing number, date and revision number and provide north points and scale bars on each drawing.<br><br>Clearly indicate the extent of all proposed works. | PDF Copies | 1:200 |
| Cross Sections | Provide Cross Sections through the ground floor of the building, footpath, kerb and road carriage at approximately 10m intervals. Indicate all existing and proposed levels and show all built elements including tree pits, garden beds WSUD devices, fences, walls, stairs, ramps and street furniture. Provide cross sections at all building entries and exits. | PDF Copies | 1:100 |
| Longitudinal Sections | Provide Longitudinal Sections along each street frontage extending through the property boundary; indicate all existing and proposed levels at top of kerb. Show all built elements including tree pits, garden beds WSUD devices, fences, walls, stairs, ramps and street furniture. Provide cross sections at all building entries and exits. | PDF Copies | 1:200 |

*Table 6.8 DA Submission Requirements*



# 6.9 Construction Certificate (CC)

## 6.9.1 Requirements

A set of fully coordinated Construction Certificate (CC) drawings and Construction Specifications for all Public Domain works must be submitted, reviewed and approved by Council prior to the commencement of any Construction Works on site. The CC drawings and specifications form a set of fully coordinated construction documentation which detail the works approved in the DA Drawings as well as any additional requirements made by Council as Conditions of Consent or by way of a Voluntary Planning Agreement (VPA).

CC Drawings are to include but not be limited to the following information:

- Fully developed Construction Plans which illustrate all proposed elements, materials, trees and planting and be fully coordinated with any other proposed building works or existing elements which are to be retained.
- All existing and proposed levels for new roadworks, kerbs and gutters, footpaths, ramps, stairs threshold entries and proposed cross-falls relative to Australian Height Datum (AHD) and Map Grid Australia (MGA).
- All materials and finishes as well as the proposed furniture and fixings.
- Any existing trees or vegetation proposed for retention and any proposed trees and vegetation including a schedule of species and installation sizes.
- Any demolition works are to be clearly marked on the plans.

All Landscape and Public Domain Drawings and Specifications must be prepared by a Registered Landscape Architect (AILA) and overlaid on site survey drawings which have been prepared by a registered surveyor. Submitted drawings must be reviewed and approved by Council prior to the commencement of any Construction Work on site.

## 6.9.2 When Required

Construction Certificate Drawings and Specifications must be submitted, reviewed and approved by Council prior to the commencement of any Construction Work on site including:

- Approved Development Works Application
- Works outlined as a condition of consent under DA; or
- Works associated with a Voluntary Planning Agreement (VPA)

## 6.9.3 Coordination of Works

All Construction Certificate Drawings must be fully coordinated with any other consultants drawings and submitted as a package together with any Architectural, Civil or Structural Engineering plans. It must be clear that any Conditions of Consent have been included as part of the design and fully coordinated with all other works.

## 6.9.4 Design Considerations

Works approved at DA must be retained as part of the CC package. During the development of the Construction Drawings, full consideration needs to be given to the following elements:

**Levels and Gradients:**

- Must be generally in accordance with the approved DA drawings and any conditions of consent and must be fully coordinated with all other built works and the adjoining public domain.

**Layout:**

- Must be generally in accordance with the approved DA drawings and any conditions of consent and must be fully coordinated with all other built works.
- Detailed design and resolution of all built

elements including street trees, furniture, services, lights, ramps, stairs and walls in compliance with Council standards.

- Construction detailing of all built elements to suit Council standards.

**Materials:**

- Must be generally in accordance with the materials and finishes approved on the DA drawings and any conditions of consent.
- Detailed resolution of all paving materials, finishes, sealant, set-out and paving patterns including coordination with all other built structures, furnishings and existing pavements.
- Detailed resolution of materials, finishes, sealant and set-out of all built structure such as walls, stairs and ramps.

**Tree Pits & Soft Landscaping:**

- Provide accurate location and dimensions of all tree pits and garden beds including extent of structural soil or soil cells beneath pavements.
- Full resolution of all above and below ground services.
- Provide full plant schedule inducing all proposed species, numbers and proposed installation sizes.

**Furniture, Fixings**

- Identify all existing furniture to be removed or relocated on the drawings.
- Detailed resolution of all proposed furniture and fixings located in the public domain.
- Full schedule of all furniture and fixings.

**Building Encroachments:**

- Full detailed resolution of the design to ensure that no built elements (excluding awnings) which relate to the private building development do not encroach into the public domain including steps, ramps, handrails, balustrades or Tactile Ground Surface Indicators (TGSIs).

**Building Setbacks:**

- Full detailed resolution of all pavement materials and finishes that extend continuously into any building setbacks to ensure continuity of the streetscape.

**Water Sensitive Urban Design (WSUD):**

- Must be generally in accordance with the materials and finishes approved on the DA drawings and any conditions of consent.
- Full detailed resolution of the locations and dimensions of proposed WSUD devices including finished surface levels and surrounding levels to ensure drainage has been fully coordinated.
- Indicate any below ground services and provide fully coordinated detailing on how the device will be incorporated into the existing storm-water drainage system.

**Services, Pit Lids and Permanent Survey Marks:**

- Ensure that the location and depth of all existing and proposed services are clearly marked on the drawings.
- Indicate locations and adjusted heights of existing service pit lids.
- Indicate locations and proposed heights of new service pit lids as well as specifying pit lid type and any infill materials.

| Drawings | Required Information | Format | Min. Scale |
|---|---|---|---|
| CC Plans | Public Domain CC Plans are to be prepared by a Registered Landscape Architect (AILA) and must contain all updated information that reflects any design changes and DA consent conditions in sufficient detail so that the works can be built.<br>Provide levels for all existing and proposed works including paving, structures, service pits, tree pits, furniture etc.<br>Provide setout plans for all built works.<br>Clearly title each drawing with the correct name, drawing number, date and revision number and provide north points and scale bars on each drawing.<br>Clearly indicate the extent of all proposed works. | PDF Copies | 1:100 |
| Cross Sections | Provide updated Cross Sections as per the DA submission that reflect any design changes and/ or conditions of consent.<br>Indicate all existing and proposed levels and show all built elements including tree pits, garden beds WSUD devices, fences, walls, stairs, ramps and street furniture. Provide cross sections at all building entries and exits. | PDF Copies | 1:100 |
| Longitudinal Sections | Provide updated Longitudinal Sections as per the DA submission that reflect any design changes and/ or conditions of consent.<br>Show all built elements including tree pits, garden beds WSUD devices, fences, walls, stairs, ramps and street furniture. Provide cross sections at all building entries and exits. | PDF Copies | 1:200 |
| Construction Details | Provide accurate, scaled Construction Details for all built elements that are appropriate to specific site conditions.<br>If using Council's standard drawings please ensure these are applicable to the design and that site specific conditions have been addressed. | PDF Copies | 1:20 |
| Construction Specification | Provide a detailed and coordinated Construction Specification specific to the works that provide describes and outlines the requirements of any products or materials to be used; the components of any products of materials to be used; the capability and performance of any products or materials to be used and an outline of their intended use. The specification should outline which standards are applicable and how they should be executed. | PDF Copies | |

*Table 6.9 CC Submission Requirements*

# 6.10 Construction Phase (CP)

### 6.10.1 Inspections

A series of inspections will be required for any Public Domain projects on land owned or managed by Council, including works that are being privately certified. The developer or contractor will be required to contact Council's Project Manager at least 48 hours prior to any inspection.

Inspections are required to ensure construction is being undertaken in a manner satisfactory to Council and is required as follows:

- Inspection of site establishment prior to the commencement of any demolition or construction works to inspect site setup, site fencing, WHS requirements and tree protection measures.
- Inspection of excavation works for footings, drainage and pavements, tree pits etc.
- Inspection of sub-grade works including sub-grades, footings, reinforcing, formwork, concrete slabs, drainage and drainage pits, drainage connections, services and service protection, conduits, tree pits, structural soil, structural cells, irrigation etc.
- Inspection of surface works including paving, walls, stairs, setout of furniture and fixings etc.
- Inspection of trees and plants upon delivery to site and prior to installation. Trees to be installed within 24 hrs of delivery.
- Defects Inspection at Practical Completion (i.e. at the end of construction) to view all built works and finishes. A defects list may be provided by Council with stipulation as to when the defects must be completed by.
- Inspection at Final Completion (i.e. at the end of the Defects Liability Period).

Additional inspections may be undertaken by Council Officers throughout the duration of the works and will be arranged with the contractor.

# 6.11 Practical Completion (PC) & Final Completion (FC)

### 6.11.1 Practical Completion

A Practical Completion Inspection will be undertaken by Council at the end of construction works. Any defects identified by Council Officers during the construction or during inspections will be provided to the contractor in writing.

The majority of defects should have been corrected during the construction period in liaison with Council staff, but any final defects at Practical Completion could include incorrect location of elements, unsatisfactory construction works or finishes, any elements which are broken or defective or any items which do not comply with the approves plans and specifications or with Australian Standards.

Any defects raised to Council must be rectified by the contractor prior Final Completion (i.e. the end of the Defects Liability Period) in order to achieve a Final Completion.

### 6.11.2 Final Completion/ Occupation Certificate

The developer of the Public Domain Works must prepare and provide to Council a set of Works-As-Executed (As-Built) Drawings showing the approved works.

Council will undertake a Final Completion Inspection of the works to ensure that all defects outlined at Practical Completion have been rectified in a satisfactory manner.

A Final Completion/ Occupation Certificate will not be issued by Council until the works have been inspected and signed off by Council. Private Certifiers are not permitted to sign off any Public Domain Works.

# Appendix

# 1
# Street Tree Species

| Scientific Name | Common Name | Family | Origin | Deciduous | Shade | Flowering | Height (m) | Width (m) | Salt Air Tolerant | Suitable Uses | | | Soil Condition Requirements | | | Biodiversity Benefit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Streets - small | Streets - large | Parks/ public places | Free draining | Moderate draining | Slow draining tolerant | |
| *Acer rubrum (varieties)* | Maple varieties | Aceraceae | Exotic | Y | Medium | N/A | 12-15 | 6-8 | N | | ● | ● | ● | | | L |
| *Acmena smithii* | Lilly Pilly | Myrtaceae | Local Native | N | Dense | Summer | 8-12 | 6-8 | Y | | ● | ● | ● | ● | | H |
| *Angophora costata* | Smooth-barked Apple | Myrtaceae | Local Native | N | Light | Summer | 12-15 | 8-10 | N | | | ● | ● | | | H |
| *Araucaria heterophylla* | Norfolk Island Pine | Araucariaceae | Native | N | Medium | N/A | 20+ | 6-8 | Y | | ● | ● | | ● | | H |
| *Archontophoenix cunninghamiana* | Bangalow Palm | Araucariaceae | Local Native | N | Medium | N/A | 20+ | 8-10 | N | | | ● | | | ● | H |
| *Backhousia citriodora* | Lemon Myrtle | Myrtaceae | Native | N | Light | Summer | 8 | 3-6 | N | ● | ● | ● | ● | | | H |
| *Backhousia myrtifolia* | Grey Myrtle | Myrtaceae | Local Native | N | Medium | Summer | 8 | 3-6 | N | ● | ● | ● | ● | | | H |
| *Banksia integrifolia* | Coastal Banksia | Proteaceae | Local Native | N | Medium | Summer | 15 | 6 | Y | | ● | ● | ● | | | H |
| *Brachychiton acerifolius* | Illawarra Flame Tree | Sterculiaceae | Native | Semi | Medium | Summer | 8-12 | 6-8 | N | | | ● | ● | ● | | H |
| *Callistemon salignus* | Willow Bottlebrush | Myrtaceae | Local Native | N | Medium | Summer | 8-12 | 3-6 | N | ● | ● | ● | | | ● | H |
| *Corymbia maculata* | Spotted Gum | Myrtaceae | Local Native | N | Light | Summer | 15-20 | 6-8 | N | | ● | ● | ● | ● | | H |
| *Cupaniopsis anacardioides* | Tuckeroo | Sapindaceae | Local Native | N | Medium | Summer | 8 | 3-6 | Y | ● | ● | ● | ● | ● | | H |
| *Elaeocarpus eumundii* | Smooth-leaved Quandong | Eleocarpaceae | Native | N | Dense | N/A | 8-12 | 3-6 | N | ● | ● | ● | ● | ● | | H |
| *Elaeocarpus reticulatus* | Blueberry Ash | Eleocarpaceae | Local Native | N | Light | Summer | 8 | 3-6 | N | ● | ● | ● | ● | | | H |
| *Eucalyptus botryoides* | Southern Mahogany | Myrtaceae | Local Native | N | Medium | Summer | 20+ | 7-9 | N | | | ● | ● | | | H |
| *Eucalyptus fibrosa* | Red Ironbark | Myrtaceae | Local Native | N | Medium | Summer | 15-20 | 6-8 | N | | ● | ● | ● | ● | | H |
| *Eucalyptus microcorys* | Tallowood | Myrtaceae | Native | N | Medium | Summer | 15-20 | 6-8 | N | | ● | ● | ● | ● | | H |
| *Eucalyptus pilularis* | Blackbutt | Myrtaceae | Local Native | N | Medium | Summer | 15-20 | 6-8 | N | | | ● | ● | | | H |
| *Eucalyptus punctata* | Grey Gum | Myrtaceae | Local Native | N | Light | Summer | 15-20 | 6-8 | N | | | ● | ● | ● | | H |
| *Eucalyptus robusta* | Swamp Mahogany | Myrtaceae | Local Native | N | Medium | Winter/Sp. | 15-20 | 6-8 | N | | | ● | ● | ● | ● | H |
| *Eucalyptus saligna* | Sydney Blue Gum | Myrtaceae | Local Native | N | Medium | Summer | 15-20 | 6-8 | N | | | ● | ● | ● | ● | H |
| *Eucalyptus sideroxylon* | Ironbark | Myrtaceae | Native | N | Light | Summer | 12-15 | 6-8 | N | | ● | ● | ● | ● | | H |
| *Eucalyptus tereticornis* | Forest Red Gum | Myrtaceae | Local Native | N | Light | Spring | 10-20 | 6-8 | N | | | ● | ● | | | H |
| *Ficus macrophylla* | Moreton Bay Fig | Moraceae | Local Native | N | Desne | N/A | 20+ | 15-20 | Y | | | ● | ● | ● | | H |
| *Ficus microcarpa var. 'Hillii'* | Hills Weeping Fig | Moraceae | Native | N | Desne | N/A | 15-20 | 15-20 | Y | | | ● | ● | ● | | H |
| *Ficus rubiginosa* | Port Jackson Fig | Moraceae | Local Native | N | Desne | N/A | 12-15 | 15-20 | Y | | | ● | ● | ● | | H |
| *Flindersia australis* | Crows Ash | Rutaceae | Local Native | Semi | Medium | Summer | 12-15 | 8-10 | N | | ● | ● | ● | ● | | H |
| *Fraxinus angustifolia 'Raywood'* | Claret Ash | Oleaceae | Exotic | Y | Medium | Spring | 12-15 | 3-6 | N | | ● | ● | ● | ● | ● | L |
| *Fraxinus griffithii* | Himalayan Ash | Oleaceae | Exotic | N | Medium | Spring | 8 | 3-6 | N | ● | ● | ● | ● | ● | | L |
| *Fraxinus oxycarpa 'Raywoodi'* | Claret Ash | Oleaceae | Exotic | Y | Medium | Spring | 8-12 | 6-8 | N | | ● | ● | ● | ● | | L |
| *Fraxinus pennsylvanica 'Cimmzam'* | Cimmaron Ash | Oleaceae | Exotic | Y | Medium | Spring | 8-12 | 6-8 | N | | ● | ● | ● | ● | | L |
| *Fraxinus pennsylvanica 'Urbanite'* | Urbanite' Green Ash | Oleaceae | Exotic | Y | Medium | N/A | 12-15 | 6-8 | N | | ● | ● | ● | ● | | L |
| *Geijera parviflora* | Wilga Wilga | Rutacee | Native | N | Light | Winter-Smr. | 8 | 3-6 | N | ● | ● | ● | ● | | | H |
| *Glochidion ferdinandi* | Cheese Tree | Phyllanthaceae | Local Native | N | Medium | N/A | 8-12 | 3-6 | N | | ● | ● | ● | ● | ● | H |
| *Hymenosporum flavum* | Native Frangipani | Pittosporaceae | Local Native | N | Light | Spring/Smr. | 8-12 | 3-7 | N | | ● | ● | ● | ● | | H |
| *Jacaranda mimosifolia* | Jacaranda | Mimosaceae | Exotic | Y | Light | Spring | 8-12 | 6-8 | N | | | ● | ● | | ● | L |
| *Koelreuteria paniculata* | Golden Rain | Sapindaceae | Exotic | Y | Medium | N/A | 8 | 3-6 | N | ● | ● | ● | | ● | | L |

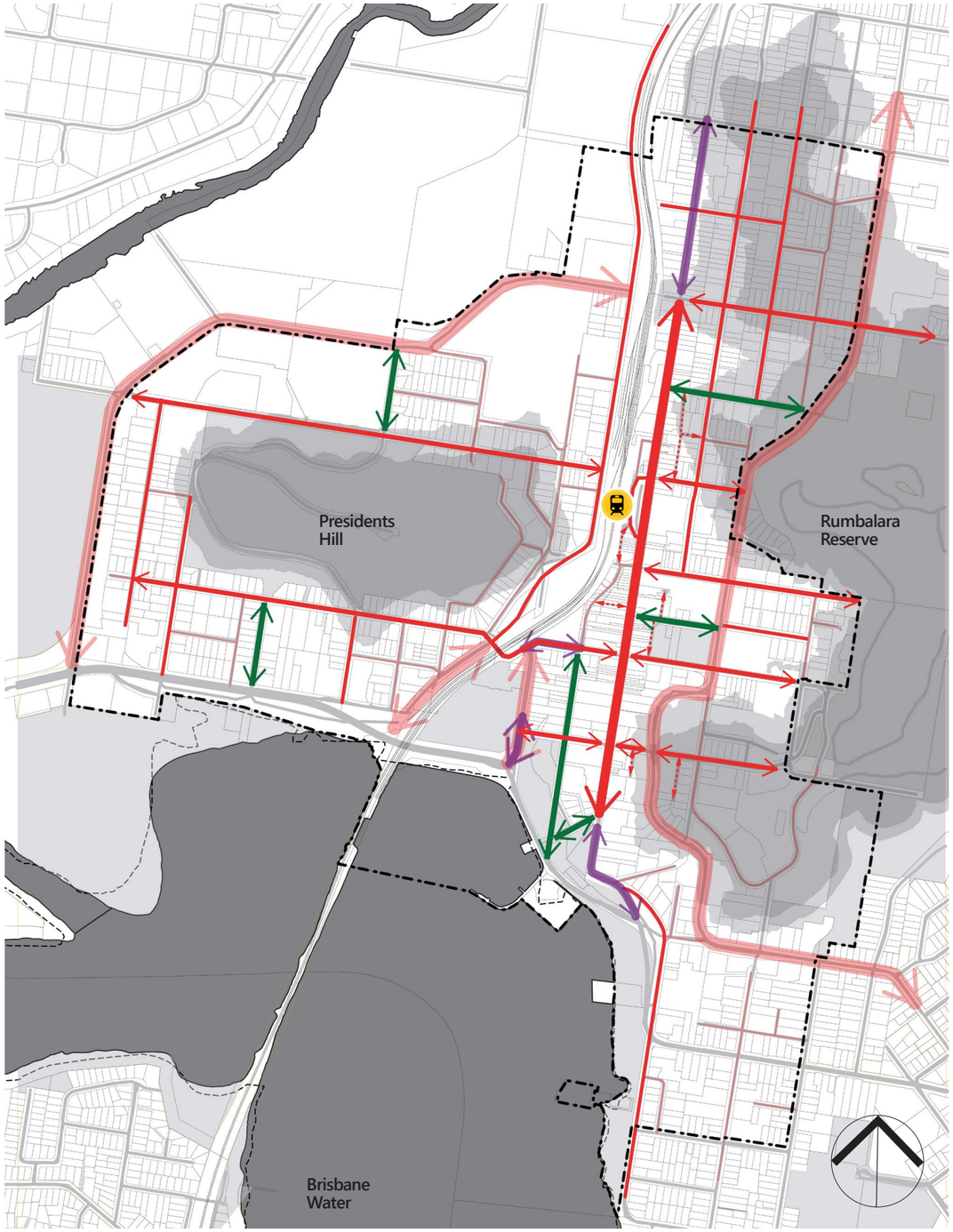
*Table 7: Approved Tree Species List*

*Table 7 :Approved Tree Species List (Cont...)*

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Lagerstroemia indica x L. fauriei 'Biloxi'* | Crepe Myrtle | Lythraceae | Exotic | Y | Light | Summer | 8 | 3-5 | N | ● | ● | ● | | ● | | L |
| *Lagerstroemia indica x L. fauriei 'Tuscarora'* | Crepe Myrtle | Lythraceae | Exotic | Y | Light | Summer | 8 | 3-5 | N | ● | ● | ● | | ● | | L |
| *Leptospermum petersonii* | Lemon Scented Tea Tree | Myrtaceae | Local Native | N | Light | Summer | 8 | 3-6 | N | ● | ● | ● | | ● | | H |
| *Liquidambar styraciflua* | Liquidamber | Altingiaceae | Exotic | Y | Medium | N/A | 10-15 | 10-12 | N | | | ● | | ● | | L |
| *Liriodendron tulipifera* | Tulip Tree | Magnoliaceae | Exotic | Y | Medium | N/A | 15-20 | 6-8 | N | | | ● | | ● | | L |
| *Livistona australis* | Cabbage Palm | Arecaceae | Local Native | N | Light | N/A | 8-12 | 3-6 | Y | ● | ● | ● | | | ● | H |
| *Lophostemon confertus* | Brushbox | Myrtaceae | Native | N | Light | Summer | 12-15 | 6-8 | N | | ● | ● | | | ● | H |
| *Magnolia grandiflora* | Evergreen Magnolia | Magnoliaceae | Exotic | N | Medium | Summer | 15-20 | 8-10 | Y | | ● | ● | | ● | | L |
| *Magnolia grandiflora 'Exmouth'* | Evergreen Magnolia | Magnoliaceae | Exotic | N | Medium | Summer | 12-15 | 6-8 | Y | | ● | ● | | ● | | L |
| *Magnolia grandiflora 'Little Gem'* | Little Gem Magnolia | Magnoliaceae | Exotic | N | Medium | Summer | 8-12 | 6-8 | Y | | ● | ● | | ● | | L |
| *Magnolia x soulangeana* | Tulip Magnolia | Magnoliaceae | Exotic | N | Medium | Summer | 6-8 | 5-6 | Y | | ● | ● | | ● | | L |
| *Melaleuca decora* | White Feather Honeymyrtle | Myrtaceae | Local Native | N | Medium | Summer | 6-8 | 5-6 | Y | ● | ● | ● | | | ● | H |
| *Melaleuca linariifolia* | Flax-leaved Paperbark | Myrtaceae | Local Native | N | Medium | Summer | 8-10 | 3-6 | Y | ● | ● | ● | | | ● | H |
| *Melaleuca quinquenervia* | Swamp Paperbark | Myrtaceae | Local Native | N | Medium | Summer | 12-15 | 6-8 | Y | | ● | ● | | | ● | H |
| *Melaleuca styphelioides* | Prickly Paperbark | Myrtaceae | Local Native | N | Medium | Summer | 8 | 3-6 | Y | ● | ● | ● | | | ● | H |
| *Nyssa sylvatica* | Blackgum | Cornaceae | Exotic | Y | Light | Spring | 8-12 | 3-6 | N | ● | ● | ● | | | ● | L |
| *Pistachia chinensis* | Chinese Pistachio | Anarcardiaceae | Exotic | Y | Light | Spring | 8-12 | 6-8 | N | | ● | ● | | ● | | L |
| *Platanus acerifolia* | London Plane Tree | Platanaceae | Exotic | Y | Medium | Spring | 12-15 | 10-12 | N | | | ● | | ● | | L |
| *Populus simonii* | Chinese poplar | Salicaceae | Exotic | Y | Light | Spring | 12-15 | 1-2 | N | ● | | | | | ● | L |
| *Pyrus calleryana 'Bradford'* | Ornamental Pear | Rosaceae | Exotic | Y | Medium | Spring | 10-12 | 7-9 | N | | ● | ● | ● | | | L |
| *Pyrus calleryana 'Capital'* | Ornamental Pear | Rosaceae | Exotic | Y | Medium | Spring | 8-12 | 2-4 | N | ● | ● | ● | | ● | | L |
| *Pyrus calleryana 'Chanticleer'* | Ornamental Pear | Rosaceae | Exotic | Y | Medium | Spring | 8-12 | 3-6 | N | ● | ● | ● | | ● | | L |
| *Pyrus calleryana 'Cleveland Select'* | Ornamental Pear | Rosaceae | Exotic | Y | Medium | Spring | 8-12 | 3-6 | N | ● | ● | ● | ● | | | L |
| *Pyrus nivalis* | Snow Pear | Rosaceae | Exotic | Y | Medium | Spring | 8-12 | 3-6 | N | ● | ● | ● | | ● | | L |
| *Pyrus ussuriensis* | Manchurian Pear | Rosaceae | Exotic | Y | Medium | Spring | 8-12 | 6-8 | N | | ● | ● | | ● | | L |
| *Quercus palustris* | Pin Oak | Fagaceae | Exotic | Y | Dense | Summer | 15-20 | 15-20 | N | | | ● | | ● | | L |
| *Syncarpia glomulifera* | Turpentine | Myrtaceae | Local Native | N | Dense | Summer | 12-15 | 6-8 | N | | ● | ● | | | ● | H |
| *Syzygium australe* | Bush Cherry | Myrtaceae | Local Native | N | Medium | Spring | 8-12 | 6-8 | N | | ● | ● | | ● | | H |
| *Syzygium luehmannii* | Small-leaved Lilly Pilly | Myrtaceae | Local Native | N | Medium | Spring | 8-12 | 6-8 | N | | ● | ● | | ● | | H |
| *Syzygium paniculatum* | Magenta Lilly Pilly | Myrtaceae | Local Native | N | Medium | Summer | 8-12 | 6-8 | Y | | ● | ● | | ● | | H |
| *Trachycarpus fortunei* | Windmill Palm | Arecaceae | Exotic | N | Light | Summer | 10-13 | 3-4 | Y | ● | ● | ● | ● | | | L |
| *Tristaniopsis laurina* | Watergum | Myrtaceae | Local Native | N | Medium | Summer | 8 | 3-6 | N | ● | ● | ● | | ● | | H |
| *Tristaniopsis laurina 'Luscious'* | Luscious Watergum | Myrtaceae | Native | N | Medium | Summer | 8 | 3-6 | N | ● | ● | ● | | ● | | H |
| *Ulmus parvifolia* | Chinese Elm | Ulmaceae | Exotic | Y | Light | N/A | 8-12 | 6-8 | N | | ● | ● | | ● | | L |
| *Ulmus parvifolia 'Burnley Select'* | Chinese Elm | Ulmaceae | Exotic | Y | Light | N/A | 8-12 | 6-8 | N | | ● | ● | | ● | | L |
| *Ulmus parvifolia 'Todd'* | Chinese Elm | Ulmaceae | Exotic | Y | Light | N/A | 8-12 | 6-8 | N | | ● | ● | | ● | | L |
| *Ulmus parvifolia 'Reflection'* | Chinese Elm | Ulmaceae | Exotic | Y | Light | N/A | 8-12 | 6-8 | N | | ● | ● | | ● | | L |
| *Waterhousea floribunda* | Weeping Lilly Pilly | Myrtaceae | Local Native | N | Medium | Summer | 12-15 | 8-10 | N | | ● | ● | | ● | | H |
| *Waterhousea floribunda 'Amaroo'* | Weeping Lilly Pilly | Myrtaceae | Native | N | Medium | Summer | 8-12 | 5-8 | N | | ● | ● | | ● | | H |
| *Waterhousea floribunda 'Green Avenue'* | Weeping Lilly Pilly | Myrtaceae | Native | N | Medium | Summer | 8 | 3-6 | N | ● | ● | ● | | ● | | H |
| *Waterhousea floribunda 'Sweeper'* | Weeping Lilly Pilly | Myrtaceae | Native | N | Medium | Summer | 8-12 | 5-8 | N | | ● | ● | | ● | | H |
| *Zelkova serrata* | Japanese Elm | Ulmaceae | Exotic | Y | Medium | Spring | 12-15 | 8-10 | N | | ● | ● | | ● | | L |

Gosford City Centre, NSW

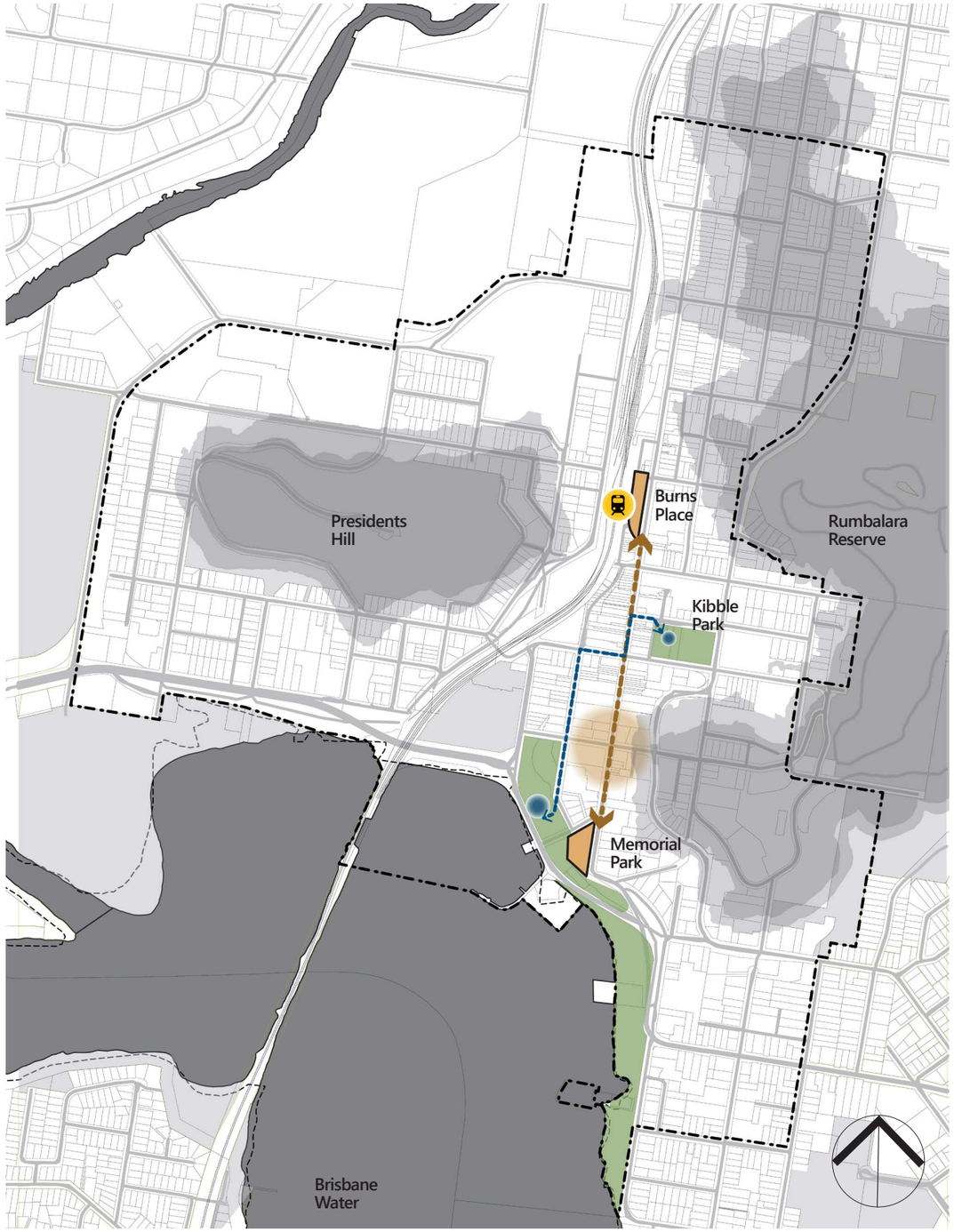
# 2
# Gosford Urban Centre




*Steeet Typology Plan: Gosford*

- Main Street
- Collector Streets
- Urban Colector Streets
- Gateway Streets
- Green Link Streets
- Neighbourhood Streets

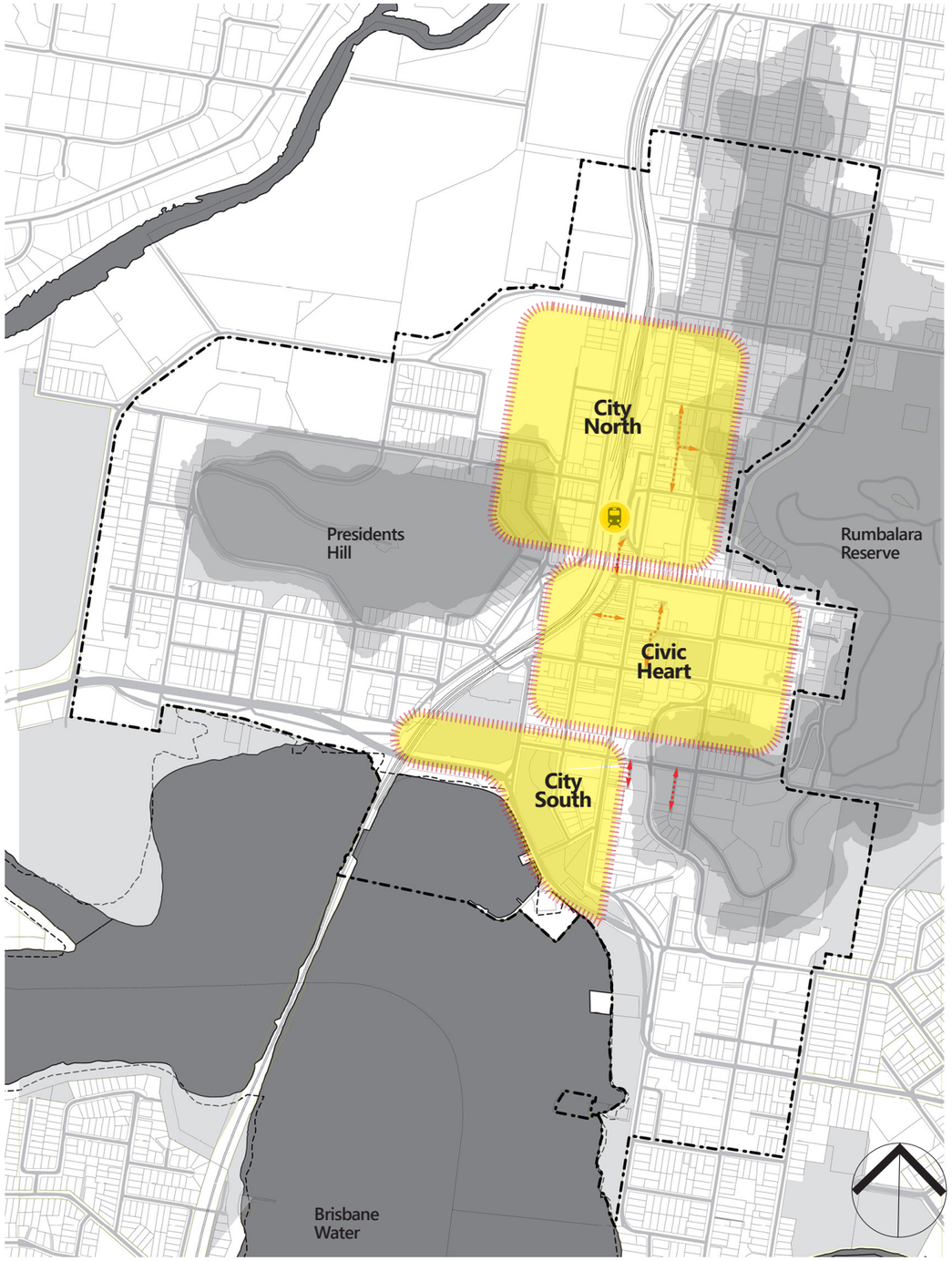
0 1 km




*Heritage Interpretation Plan: Gosford Streetscape*

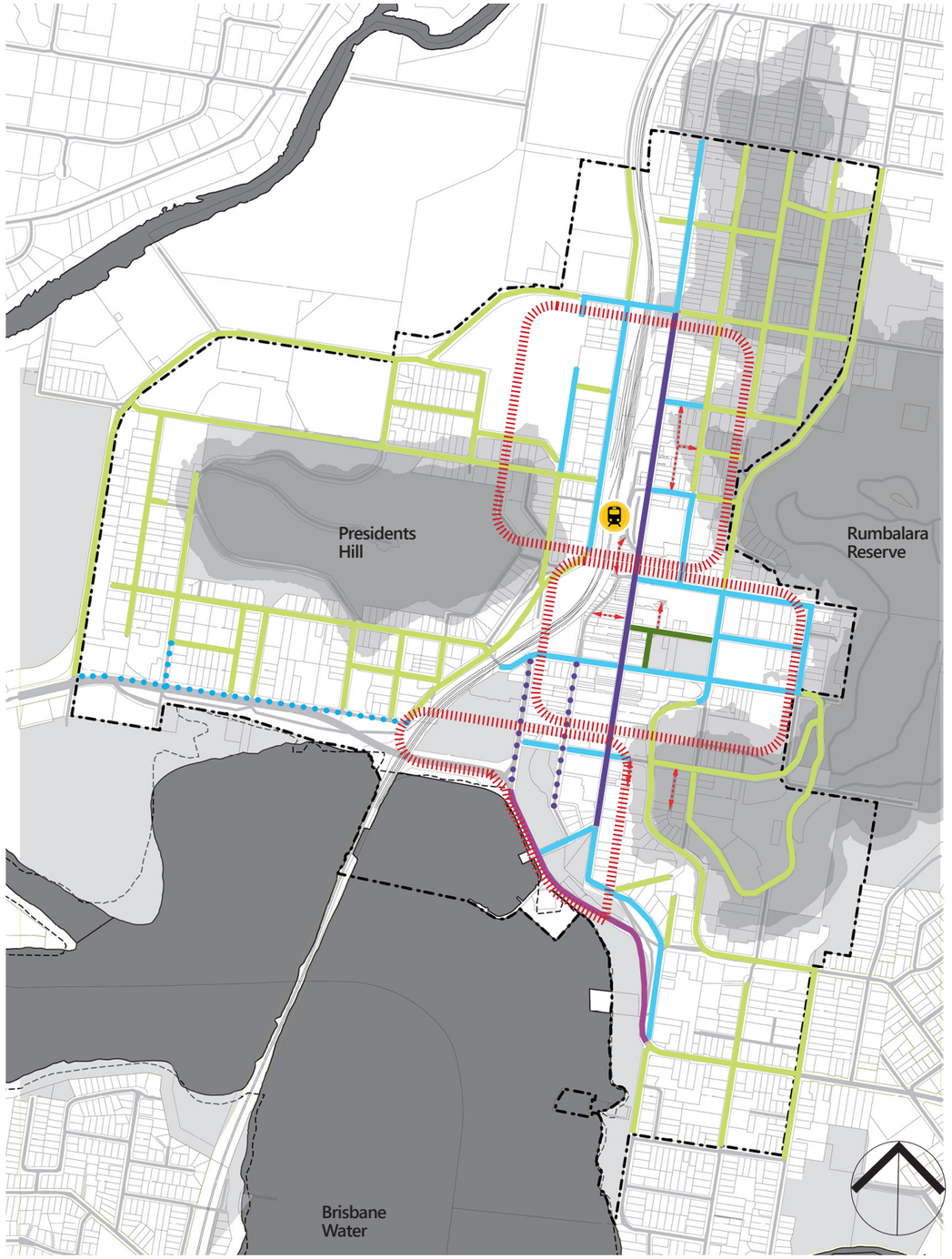
- Heritage Items Cluster- South
- Mann Street Heritage Interpretation Corridor
- Anchors of the Interpretation Corridor
- Urban Creek Interpretation

0 1 km




*Precinct Plan: Gosford*

0 1 km

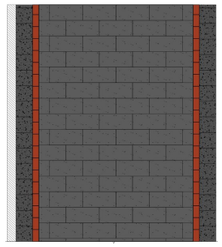
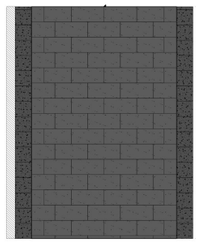
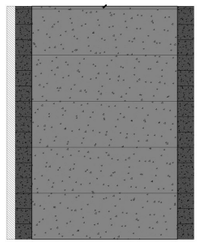
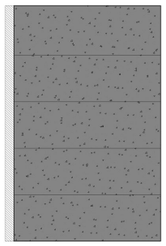



*Street Paving Plan: Gosford*

- Paving Type 1
- Paving Type 2
- Paving Type 3
- Paving Type 4
- Paving Type 5
- Kibble Park
- Waterfront

0 1 km

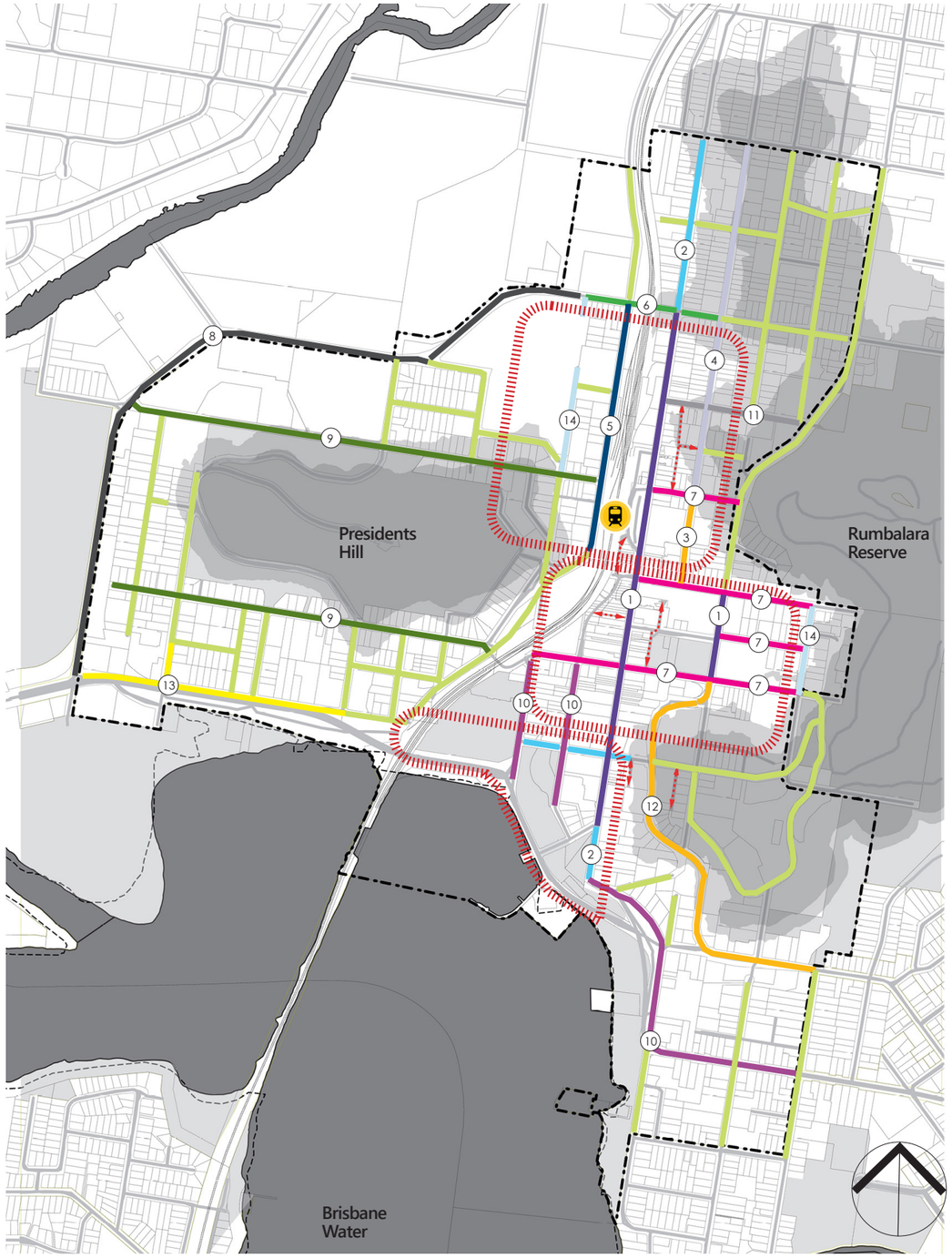
## CENTRAL COAST STREET DESIGN MANUAL - GOSFORD CITY CENTRE MATERIALS AND FINISHES SCHEDULE

| Item | Supplier | Material | Specification | Image | Applicable Street Type |
|---|---|---|---|---|---|
| Paving Type 1 | CINAJUS & Austral Bricks | Bluestone Paver and Brick Paver | BLUESTONE PAVER<br>COLOUR LIGHT GREY - SANDBLAST FINISH<br>600 x 300 x 30mm<br><br>BLUESTONE PAVER<br>COLOUR LIGHT GREY - HAMMER FINISH (EDGE COURSE)<br>300 x 300 x 30mm<br><br>BRICK PAVER<br>COLOUR FIRESTONE RED (EDGE COURSE)<br>230 x 114 x 50mm |  | MS |
| Paving Type 2 | CINAJUS | Bluestone Paver | BLUESTONE PAVER<br>COLOUR LIGHT GREY - SANDBLAST FINISH<br>600 x 300 x 30mm<br><br>BLUESTONE PAVER<br>COLOUR LIGHT GREY - HAMMER FINISH (EDGE COURSE)<br>300 x 300 x 30mm |  | CS, UCS |
| Paving Type 3 | CINAJUS & Concrete Colour Solutions (CCS) | Bluestone Paver and Concrete | BLUESTONE PAVER<br>COLOUR LIGHT GREY - HAMMER FINISH (EDGE COURSE)<br>300 x 300 x 30mm<br><br>CONCRETE HONED<br>COLOUR 'ONYX'<br>SAW CUTS AT 900mm SPACING |  | GS |
| Paving Type 4 | Concrete Colour Solutions (CCS) | Concrete | CONCRETE HONED<br>COLOUR 'ONYX'<br>SAW CUTS AT 900mm SPACING |  | GLS, L |
| Paving Type 5 | TBC | Concrete | CONCRETE BROOM FINISH WITH TOOLED EDGE<br>COLOUR OFF WHITE |  | NS |

**LEGEND**

| | |
|---|---|
| **MS** | Main Street |
| **CS** | Connector Street |
| **UCS** | Urban Collector Street |
| **GS** | Gateway Street |






*Street Tree Plan: Gosford*

- (2) Fraxinus pennsylvanica 'Urbanite'
- (3) Koelreuteria bipinnata
- (4) Pyrus calleryana 'Chanticleer'
- (5) Zelcova serrata
- (6) Sapium sebiferum
- (7) Flindersia schottiana
- (8) Corymbia citriodora
- (9) Waterhousia floribunda
- (10) Lophostemon confertus
- (11) Syncarpia glomulifera
- (12) Cupaniopsis anacardioides
- (13) Tristaniopsis laurina
- (14) Elaeocarpus eumundii

Mix of natives:
Acmena smithii
Agonis flexuosa
Backhousia citriodora
Banksia integrifolia
Buckinghamia celsissima
Ceratopetalum gummiferum
Elaeocarpus reticulatus
Glochidion ferdinandi

## CENTRAL COAST STREET DESIGN MANUAL - GOSFORD CITY CENTRE FURNITURE SCHEDULE OPTION 2

| Item | Supplier | Price Level | Material | Specification | Image | Description | Applicable Street Type |
|---|---|---|---|---|---|---|---|
| **1.0 SEATING** | | | | | | | |
| Aalto Bench | Straße | $$ | Frame: Galvanised, powder coated mild steel or stainless steel.<br>Battens: Hardwood or Aluminium | L 2200 x H 438 x W 566 mm<br>Surface Mounted<br>Standard Colours options: Powder-coat Colour Range<br>100% Australian Made<br>Comprehensive Manufacturer's Warranty |  | Straße's 'Aalto' Bench incorporates our new contemporary and angled design. With a range of furniture to choose between, the 'Aalto' is the right choice for your next urban space. | MS, CS, UCS, GS, GLS, NS, L |
| Aalto Seat | Straße | $$ | Frame: Galvanised, powder coated mild steel or stainless steel.<br>Battens: Hardwood or Aluminium | L 2200 x H 783 x W 600 mm<br>Surface Mounted<br>Optional Armrests<br>Standard Colours options: Powder-coat Colour Range<br>100% Australian Made<br>Comprehensive Manufacturer's Warranty |  | Straße's 'Aalto' Seat incorporates our new contemporary and angled design. With a range of furniture to choose between, the 'Aalto' is the right choice for your next urban space. | MS, CS, GLS |
| Aalto Table Setting | Straße | $$ | Frame: Steel, hot dip galvanised or zinc primed powder coated.<br>Battens: Hardwood, Durastat or Aluminium | Table – L 2200 x H 688 x W 750 mm<br>Benches – L 2200 x H 438 x W 528 mm<br>Surface Mounted<br>DDA Compliant<br>Standard Colours options: Powder-coat Colour Range<br>100% Australian Made<br>Comprehensive Manufacturer's Warranty |  | Straße's 'Aalto' Table Setting incorporates our new contemporary and angled design. With a range of furniture to choose between, the 'Aalto' is the right choice for your next urban space. | MS, CS, GLS, L |
| Aalto Platform | Straße | $$ | Frame: Steel, hot dip galvanised or zinc primed powder coated.<br>Battens: Hardwood, Durastat or Aluminium | L 1927 x H 385 x W 1455 mm<br>Surface Mounted<br>Standard Colours options: Powder-coat Colour Range<br>100% Australian Made<br>Comprehensive Manufacturer's Warranty |  | Straße's 'Aalto' Platform incorporates our new contemporary and angled design. With a range of furniture to choose between, the 'Aalto' is the right choice for your next urban space. | MS, CS, GLS, L |
| Aalto Plinth Mounted | Straße | $$ | Frame: Steel, hot dip galvanised or zinc primed powder coated.<br>Battens: Hardwood, Durastat or Aluminium | L 1995 x W 599 mm<br>Plinth Mounted<br>Optional Armrests<br>Standard Colours options: Powder-coat Colour Range<br>100% Australian Made<br>Comprehensive Manufacturer's Warranty<br>Base not supplied |  | Straße's 'Aalto' Plinth Mounted Seat incorporates our new contemporary and angled design. With a range of furniture to choose between, the 'Aalto' is the right choice for your next urban space. | MS, CS, L |

**LEGEND**

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|---|---|
| **MS** | Main Street |
| **CS** | Connector Street |
| **UCS** | Urban Collector Street |
| **GS** | Gateway Street |
| **GLS** | Green Link Street |
| **NS** | Neighbourhood Street |
| **L** | Laneways |



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| **2.0 BINS** | | | | | | | |
| Leura Bin | Botton & Gardiner | $$$ | HOOD - Powder coated aluminium<br>FEATURE PANELS - Speckle, Rain or Windows perforated powder coated galvanised steel<br>FRAME - Stainless steel, satin or powder coated<br>POWDER COAT COLOURS - standard or custom specified colour<br>FITTINGS - Compression lock prevents door rattling<br>SIGNAGE - Recycling or General Waste vinyl decal mounted to door front + back panel on double bins | 120L<br>SINGLE - 605L x 640D x 1200mmH<br>DOUBLE - 1175L x 640D x 1200mmH<br>240L<br>SINGLE - 740L x 820D x 1370mmH<br>DOUBLE - 1450L x 820D x 1370mmH |  | It is hard to bypass the eye catching perforations of the Leura Bin as the perfect solution for waste collection in universities and streetscapes. The balance of fun and rugged functionality will give decades of value. Leura's flexibility will leave you in wonder. Available in a wide range of standard options or can be customised to your project by applying logos, special perforations or colours. | MS, CS, UCS, GS, GLS, NS, L |
| **3.0 DRINKING FOUNTAIN** | | | | | | | |
| Prospect Drinking Fountain | Botton & Gardiner | $$ | Frame: 316 grade stainless steel | 940L x 405D x 800mmH |  | The Prospect Drinking Fountain is a unique, contemporary design. The marine grade 316 stainless steel frame undergoes electro polishing before select faces are hand polished to a mirror finish. These processes ensure the highest level of corrosion resistance, making it suitable for the most extreme environments. Featuring high quality, readily serviceable off-the-shelf components, the bubbler and time delay bottle fill tap give reliable service in all environments. Our signature factory fitted bubbler button cap has been specially designed to improve tamper resistance and shield the internal flow cartridge from sand and grit, allowing for longer life span. The self-draining and levelling dog bowl allows for ease of use for your best mate whilst preventing stagnant water collecting, and is easily emptied by foot via the handle. The perforated grate covers the drainage sump for safety whilst still allowing optimal drainage to keep the slab clear of excess water. The fountain is available in 4 configurations featuring combinations of these features to suit your requirements, and conforms to the Australian disabled access standard. | MS, CS, GS, GLS, L |
| **4.0 BOLLARDS** | | | | | | | |
| Avenue Bollard | Botton & Gardiner | $$ | BODY: Hot dip galvanised steel, custom powder coat colours available | 180W x 180D x 950mmH |  | botton + gardiners locally produced Avenue range combines practical function with a clean aesthetic. A wide range of products can be mixed and matched and Avenue is a great budget option for low traffic projects. | MS, CS, UCS, GS, GLS |
| **5.0 BICYCLE PARKING** | | | | | | | |
| Linea Bicycle Stand | Street Furniture Australia | $$ | BODY: Aluminium various colours (Bondi blue, Lobster Red, Sensation Orange, Brilliant Yellow, Viper Green etc.) and optional spotted gum timber inserts. | 620W x 1000H x 1550L |  | The stylish Linea bicycle stand is as beautiful as it is functional with ergonomic proportions and robust stainless steel frame. Adheres to AS2890.3 Class 3. | MS, GS, GLS, L |
| **6.0 TREE GRATES & SURROUNDS** | | | | | | | |
| Silva Tree Grate | Street Furniture Australia | $$ | BODY: Cast aluminium and frame 304 grade stainless steel. | 1210L x 1210W (mm) |  | Cast aluminium square grates fitted in a strong steel frame. Tree grates help to protect roots, assist in drainage and encourage healthy urban tree growth. The Silva Grate rated Class B, AS 3996 suited to Light Duty Applications. | MS, CS, GS, GLS, L |

Central Coast Council

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