



PENRITH

QUEEN STREET

ST MARYS



# Streetscape Improvement Plan Queen Street, St Marys

NOVEMBER 2013

**PENRITH**  
CITY COUNCIL

VOLUME I



PENRITH

ST MARYS

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NOVEMBER 2013

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### DOCUMENT CONTROL

This report has been prepared by Spackman Mossop Michaels for Penrith City Council.

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# PENRITH CITY COUNCIL



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## VOLUME II

### PART A - PUBLIC EXHIBITION REPORT

### PART B - PLACE MAKING STRATEGY

This report is intended to be viewed as a double sided document. Paper size should be A3 with a landscape orientation. Double sided printing should be along short-end spine of the document. Proper viewing and printing of this document will ensure that information is conveyed in its intended, clear and logical format.

# 1 INTRODUCTION

## 1.1 PROJECT OVERVIEW

Queen Street is located in the heart of the St Marys Town Centre and is the main thoroughfare for this district. Penrith City Council (PCC) understands the importance of this retail/commercial district within the Penrith Local Government Area (LGA) and has initiated a process to create a Streetscape Improvement Plan (SIP) for Queen Street. The SIP is part of Council's adopted City Centres Renewal and Improvement Project program. The two main goals of the SIP are to:

- › Create a blueprint for improvements to the public domain along Queen Street.
- › Provide reasonable level of detail to inform the later detailed design and tender documentation for construction.

The SIP will deliver innovative and tailored public domain solutions that respond to the community's current needs and future desires for the Queen Street area. The engagement process for the SIP is intended to foster local ownership in this SIP and to ensure ongoing support over the life of a staged program of civic improvements.

In order to support the vitality of the St Marys Town Centre district within the Penrith LGA, PCC has outlined a series of objectives for Queen Street that has the potential to:

- › Improve the overall quality of the urban environment.
- › Create an environment that encourages economic growth and supports new investment.
- › Meet the current and future demands of the community.
- › Ensure a safe and accessible pedestrian friendly public realm.
- › Create a unique identity and sense of place that reinforces the communities connection.
- › Foster community buy-in and ongoing support through a substantive engagement process.
- › Ensure that design is sustainable.

### ST MARYS TOWN CENTRE VISION

This SIP will help to achieve the established vision for St Marys Town Centre, which states:

***“St Marys is the vibrant heart of the district, providing diverse experiences and services in a friendly atmosphere”***

The objectives of the vision addressed by the SIP include:

- › A diverse, vibrant retail business centre that meets the day-to-day needs of the district
- › A cultural destination that celebrates the local character
- › A community meeting place for all ages
- › A major transport hub
- › An attractive place to live for a variety of lifestyles
- › An active night-time entertainment precinct
- › A local hub for learning and creative activities
- › An access point to natural surroundings

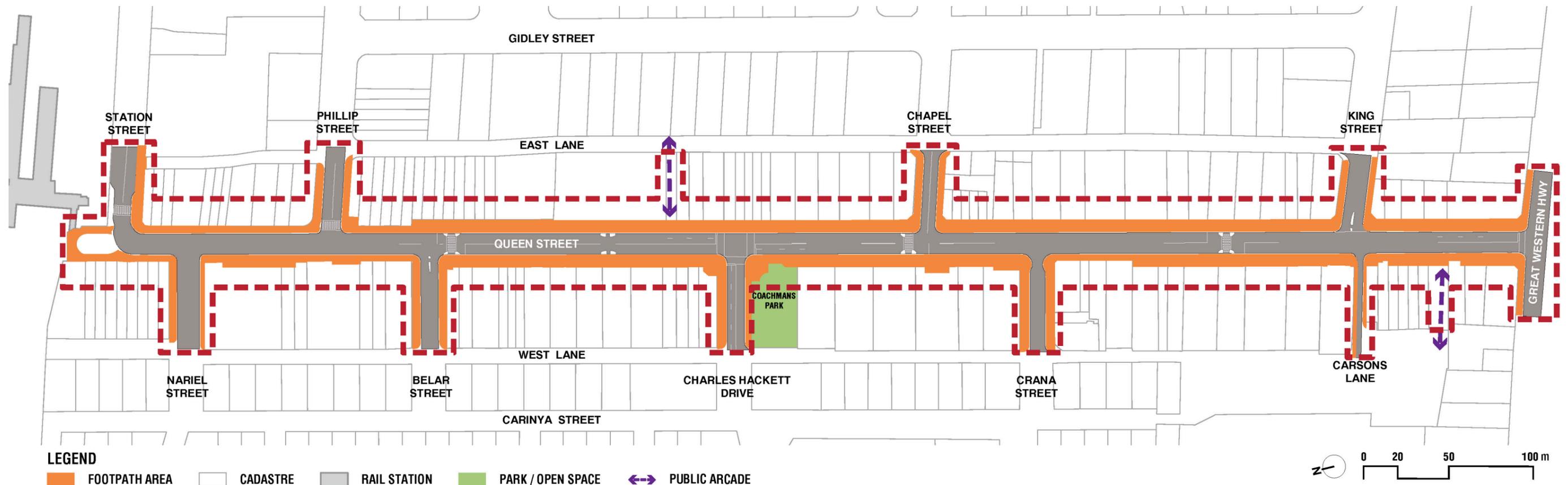
## 1.2 PROJECT AREA

The project area for the SIP covers the entire length of Queen Street, which is approximately 870 linear metres in total length, along with the additional connections between Queen Street from the East and West Lanes.

The SIP design focuses on all the areas along the street from the building face to the kerb and will include the following landscape and urban design elements:

- › Paving.
- › Furniture.
- › Lighting.
- › Trees.
- › Heritage.
- › Public Art.

While the SIP does not specifically address the road area adjacent to the project area, during the development of the concept options it was determined that portions of the road area should be included if they provided enhancements to the proposed landscape and urban design elements. Areas where road area changes are considered include Nariel Street, the northern terminus of Queen Street.



Project area for the Streetscape Improvement Plan.

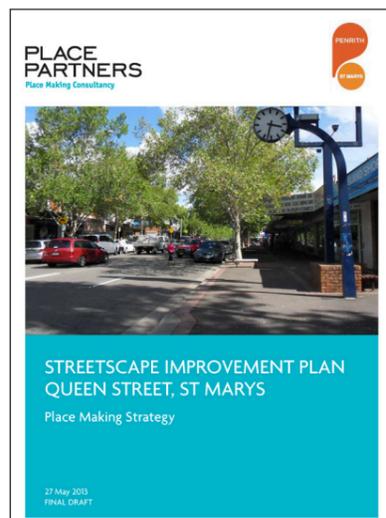
### 1.3 METHODOLOGY

The preparation of the SIP involved:

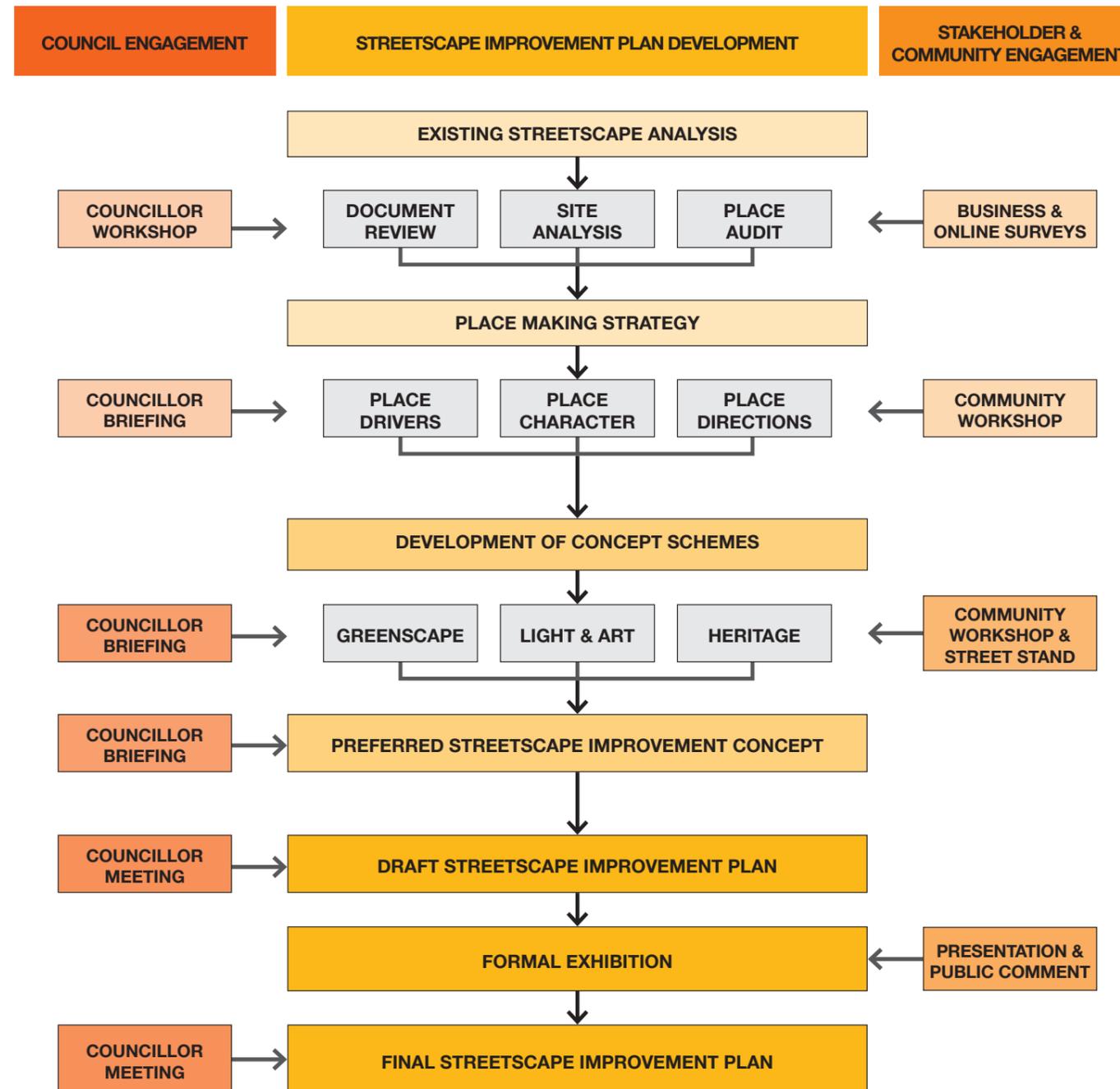
- › Analysis of the existing site conditions through on-site investigations and desktop review of background studies.
- › Identification of the key landscape and urban design values along Queen Street.
- › Identification of the primary landscape and urban design issues to be addressed and resolved through the implementation of the SIP.
- › Development of a base improvement concept to address the fundamental project improvements needed, particularly with regards to lighting and street trees.
- › Development of set of concept scheme alternatives that could overlay the base concept to add landscape and urban design elements that reflect the local community values of St Marys.
- › Prepare a cost estimate and staging plan for the implementation of the SIP (to be completed).

This SIP has been developed based on a preferred concept developed with input from PCC and the local community. The work undertaken has been completed to a level of detail that is sufficient for progressing to detailed design and construction.

The development of this SIP also included a substantial amount of engagement with PCC, key stakeholders in St Marys as well as input from individuals in the local community. The *Place Making Strategy*, prepared by Place Partners, is a stand alone document that provides a detailed record of the engagement conducted and provides input in the development of concept schemes.



### STREETSCAPE IMPROVEMENT PLANNING PROCESS



### 1.4 REPORT STRUCTURE

The SIP includes the following chapters:

- 1 Introduction** - This chapter includes the project description and methodological process for developing the SIP.
- 2 Site Context & Analysis** - This chapter discusses the existing physical urban design context along with the community's social and place perceptions and area analysis that effect Queen Street.
- 3 Concept Design** - This chapter describes the concept design and key strategies of the SIP.
- 4 Landscape & Urban Design Elements** - This chapter describes the specific detailed elements that will be utilised along Queen Street to ensure that new streetscape improvements promote a safe, vibrant and attractive public domain environment.

### REFERENCES

A number of documents were referred to in the production of this Streetscape Improvement Plan. The primary research undertaken and utilised for this project includes:

- › Streetscape Improvement Plan Queen Street, St Marys Place Making Strategy, Final Draft, 30 May 2013. Prepared by Place Partners.
- › Queen Street St. Marys Lighting Report, 12 March 2013. Prepared by Lighting, Art & Science.
- › Street Tree Assessment Report, 29 January 2013 Prepared by Arterra Consulting Arboriculture.
- › Supplementary Report Street Trees & Lighting, 8 Mar 2013 Prepared by Arterra Consulting Arboriculture.
- › Revised Tree Trimming Lighting Report For Queen Street St Marys, 7 March 2013. Prepared by Haron Robson.

Secondary research includes:

- › St Marys Town Centre Strategy 2006.
- › Place Making and Public Art Policy 2011.
- › Penrith City Council Development Control Plan 2010 (E5).
- › St Marys Neighbourhood Action Plan 2010.
- › St Marys Community Engagement Report 2010.
- › Youth Action Plan 2010 - 2013.
- › Penrith City Council: Inclusion plan 2009 - 2013.
- › Public Domain Lighting Policy 2004.

## 2 SITE CONTEXT & ANALYSIS

### 2.1 REGIONAL LOCATION

St Marys is located 47km from Sydney's CBD, approximately midway between the Penrith City Centre and the Mount Druitt town centre in the neighbouring Blacktown LGA. Queen Street is the main thoroughfare for the St Marys Town Centre and an important commercial and business district. It is accessible from the M4 motorway, the Main Western Railway line and the Great Western Highway, all of which are primary connectors between Parramatta, Blue Mountains and beyond. The St Mary Train Station is located at the northern terminus of the Queen Street area.

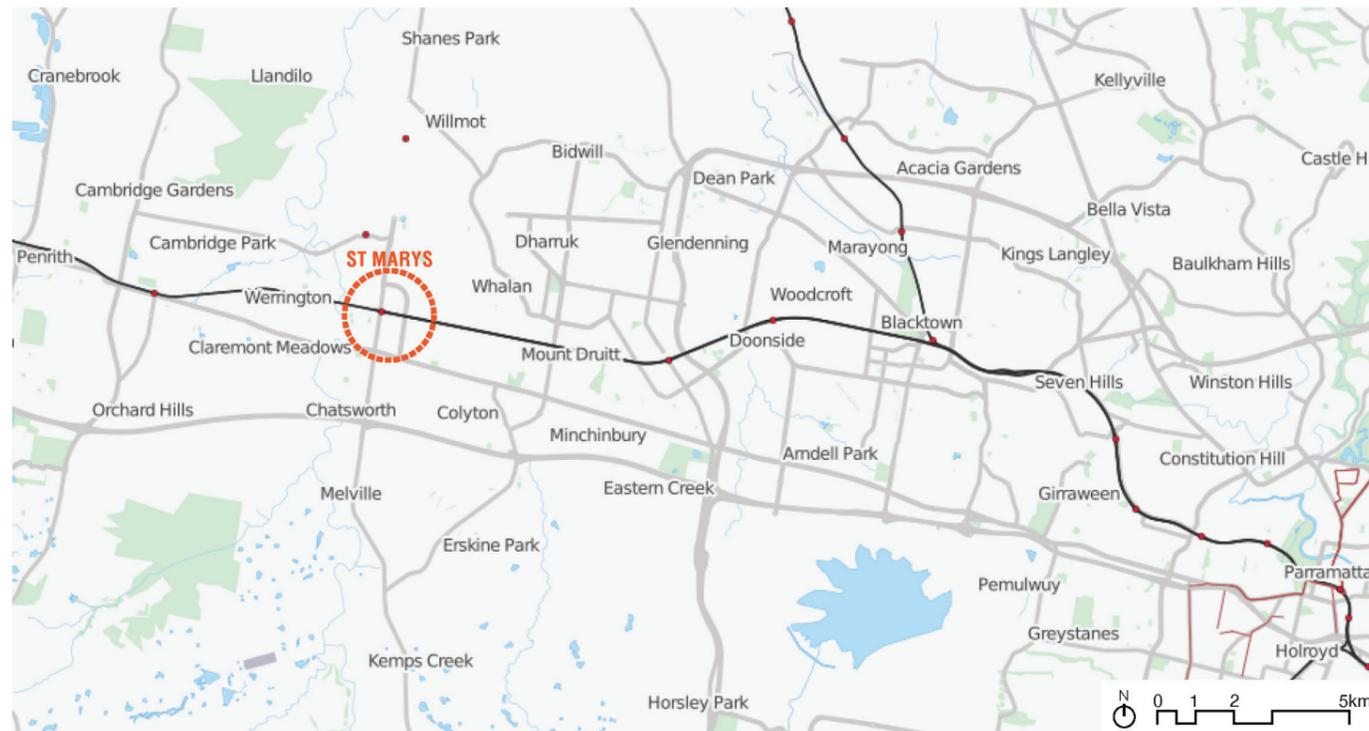
The St Marys Town Centre has traditionally served as a local or district retail centre for the nearby residential areas of St Marys, Colyton, Oxley Park and Claremont Meadows, Erskine Park and St Clair. Given its favourable access to a wide variety of transport options, Queen Street is a prime location for significant future growth as a transit-oriented development area focused around pedestrian-friendly design that encourages walking.

### 2.2 LOCAL SETTING

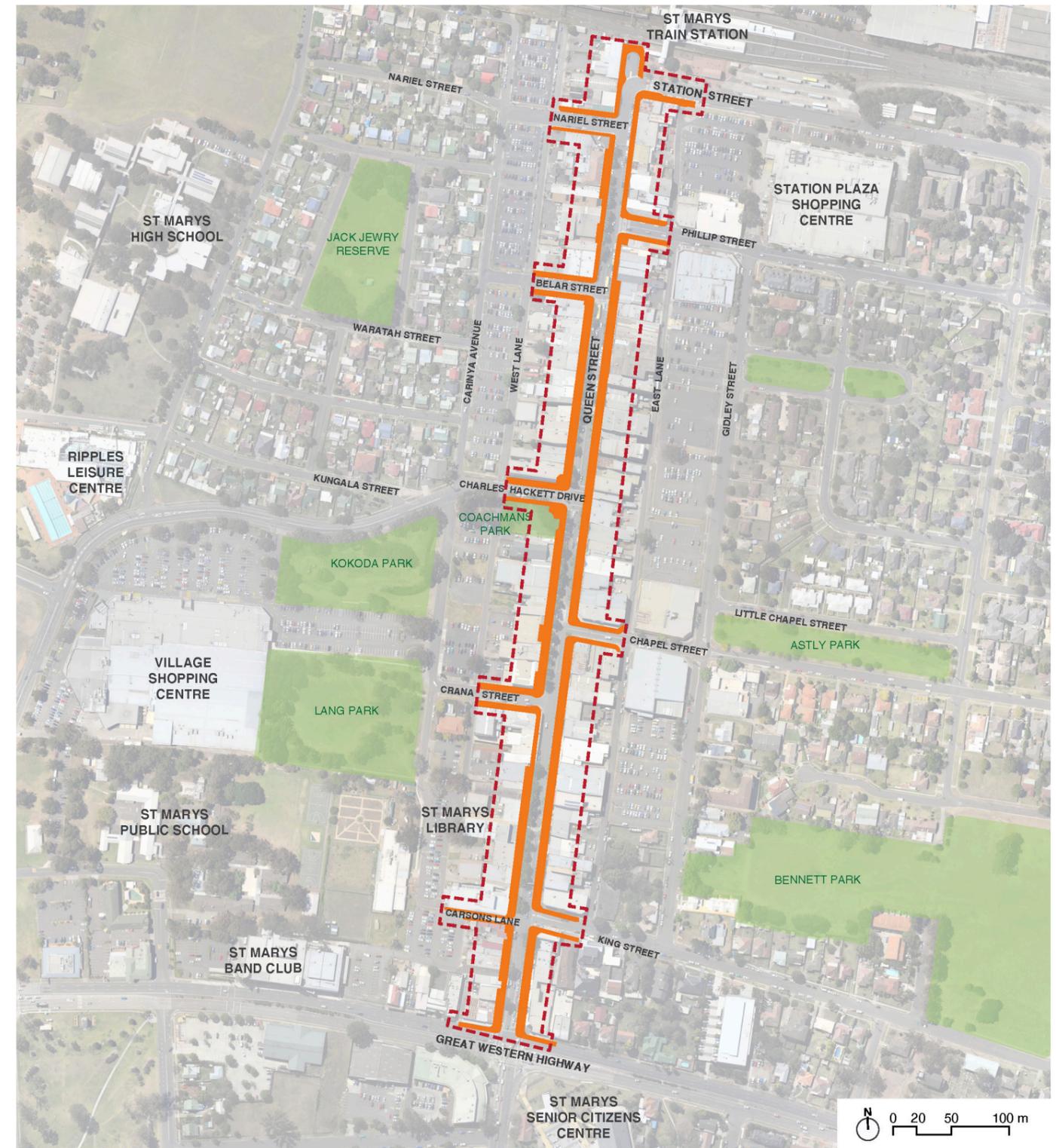
St Marys is one of two main retail districts within the Penrith LGA. The retail area is largely located on or near Queen Street, which is located approximately 7 km from the Penrith City Centre and 5 km from Mount Druitt. Queen Street is a traditional main street with mainly one-two storey buildings.

Most of the activity currently occurring along Queen is located towards the centre and south of the thoroughfare. Retail activities create an active frontage along Queen Street, but do not provide the same level of activation along the adjoining east-west streets. A number of institutions are located on or in close proximity to the Queen Street, including:

- › Penrith City Council Service Centre and Library
- › Fusion HUB Youth Centre
- › St Marys Corner, Community and Cultural Precinct
- › St Marys Senior High School
- › St Marys Primary School
- › Ripples Leisure Centre
- › Government agencies including Centrelink
- › St Marys Band Club



Regional context.



Local context.

## 2.3 EXISTING CONDITIONS

This section provides an understanding of the existing physical and environment characteristics of Queen Street.

### 2.3.1 LAND USE

The diverse mix of independent retail, professional service, personal service and hospitality businesses along Queen Street creates a cohesive street environment that is immediately recognisable as the 'main street' in the St Marys Town Centre. This main street environment is characterised by traditional shop fronts, overhanging awnings, and wide pedestrian footpaths.

Development along Queen Street is generally up to two storeys in height. Most buildings comprise ground floor retail/commercial with some second storey offices. Overall, Queen Street is not visually dominant from surrounding areas.

The business environment along Queen Street caters predominantly to locals and the needs of those in surrounding communities. All of the major banks have local shop fronts on Queen Street. Professional services tend to include conveyancing, taxes and legal services. The retail and personal service businesses include a mix of clothing stores, chemists, variety shops, and hairdressers. The cafes and restaurants along Queen Street cater to primarily fast food or take-away cafes.

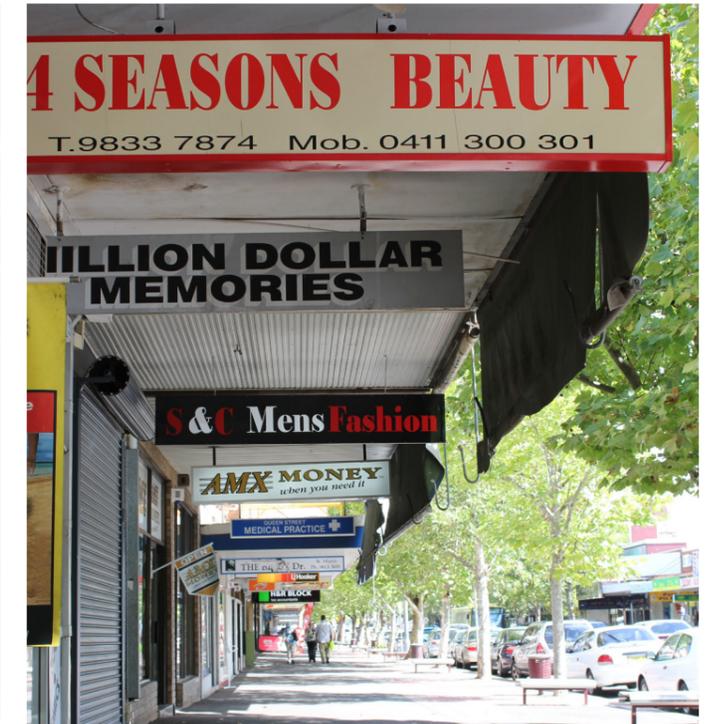
Most of the retailing and commercial activity currently along Queen is located towards the centre and south of the thoroughfare. Towards the northern end of Queen Street, the St Mary Hotel is the main business, yet retailing and commercial activity are less prominent here. Retailing activities create an active frontage along Queen Street however these do not provide the same level of activation on the east-west running streets adjoining Queen Street.

A variety of medical and public services are also located along Queen Street. Medical clinics are located all along Queen Street and a methadone clinic at the north end of the street. Also, it should be noted that all of chemists along Queen Street are methadone dispensaries.

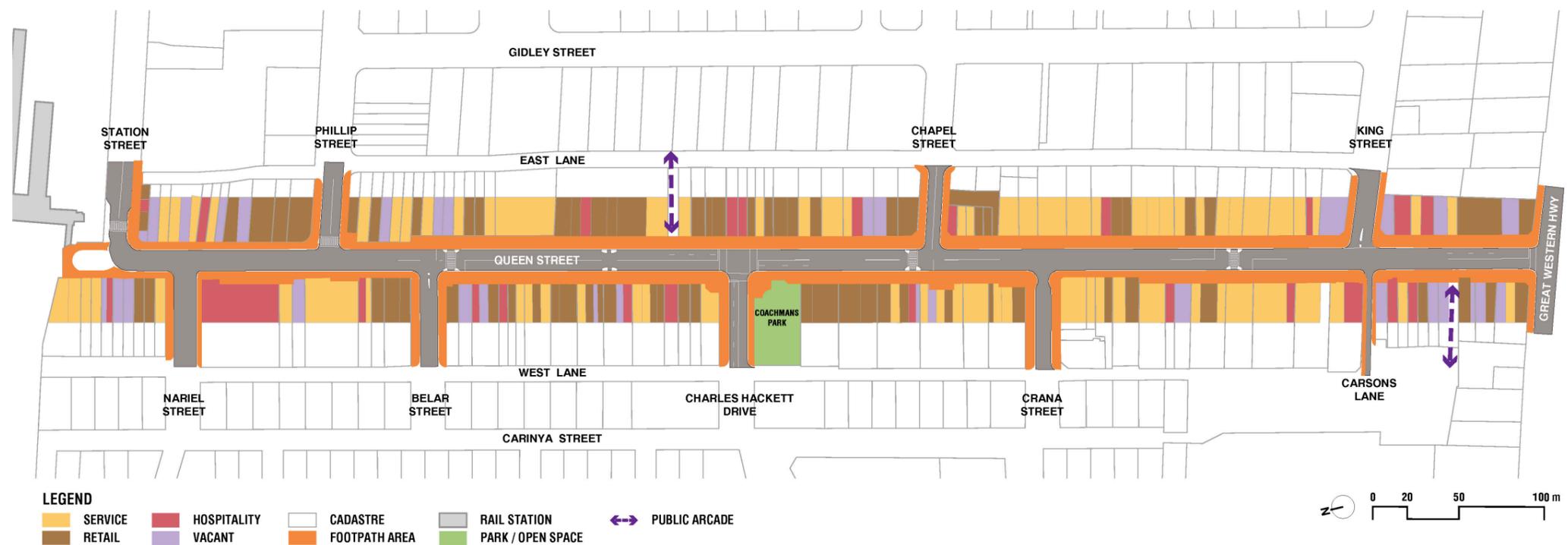
The St Mary Library is located on the western side of the street just south of Crana Street. The Occasional Care Centre and Centrelink are both located just off Queen Street on adjacent east-west connector streets.



Mixture of business types and varying use of footpath area.



Diverse mix of independent business types along Queen Street.



Land use map.

### 2.3.2 BUILDING AWNINGS

The vast majority of buildings along Queen Street have awnings, particularly on the eastern side of the street. The awning system on the western side of Queen Street is less continuous. The awnings tend to be low set and run along long sections of Queen Street.

Awnings provide an additional urban element and influence how the buildings interact with the footpath and impact on the character and liveliness of a street. They provide good weather protection for pedestrians and outdoor seating for cafes. Awnings also play an important part in identifying shops and provide business advertising. However, areas where the awnings extend to the kerb have more limited light and opportunities for street trees.

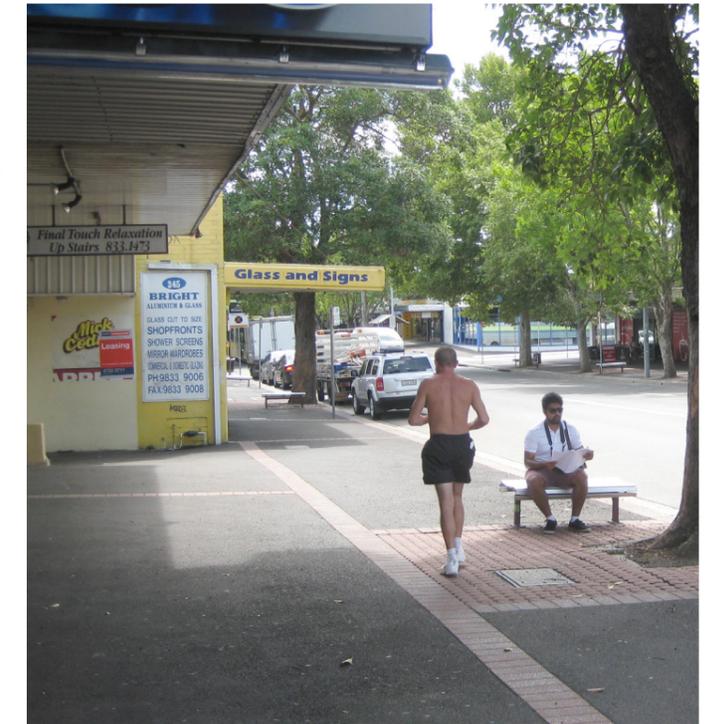
In the northern section of Queen Street the awnings generally extend to the kerb, covering the footpaths entirely. The central area has similar awning designs, however the wider footpath setback allows for more light and the inclusion of street trees. The southern section has a more inconsistent awning system.



Typical coverage at the northern end of Queen Street.



Typical coverage in the central portion of Queen Street.



Typical coverage at the southern end of Queen Street.



Footpath shading from afternoon sun exposure along footpath.



Awning coverage map.

### 2.3.3 FOOTPATH WIDTHS & CONDITIONS

The footpath environment along Queen Street is typified by large areas of asphalt paving broken up by brick pavers that are used as accents along the public domain. Brick cobbles are also used to define tree pit areas. This creates a strong sense of place and connection along the complete length of Queen Street.

While Queen Street has a uniform paving pattern and style there is a wide variety of different paving types along the east-west connector streets. These abrupt changes in footpath types creates disunity to the area that separates Queen Street from the rest of the St Marys Town Centre area.

#### FOOTPATH WIDTHS

Queen Street is typified by having wide and ample footpath where the majority of the footpath environment is 5+m in width. This is a unique feature as most main street areas have footpaths that are less than 4m in width. However, footpath widths along Queen Street can be highly varied depending on location along the street.

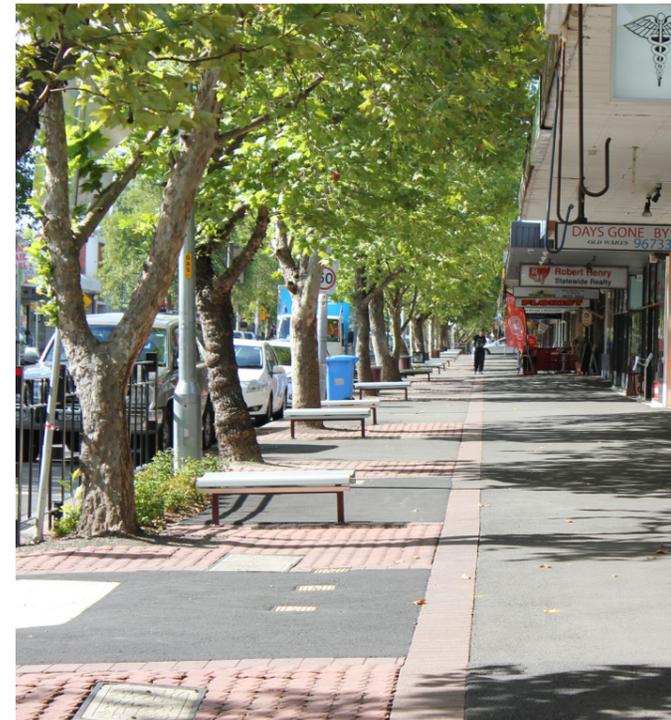
The middle section of Queen Street, between Belar and Crana streets is the most consistent and has the widest footpaths in the area. South of Crana Street, the footpath area tends to remain wider than average but more varied due to building footprints. This is particularly true on the west side of the street. Overall these areas of wider footpaths creates a more open and inviting pedestrian environment.

The narrowest footpath area along Queen Street is north of Belar Street. Between Phillip and Belar streets there is a “choke point” due to narrower footpaths on both sides of the street. This creates a north/south separation along Queen Street resulting in a very different character of these areas.

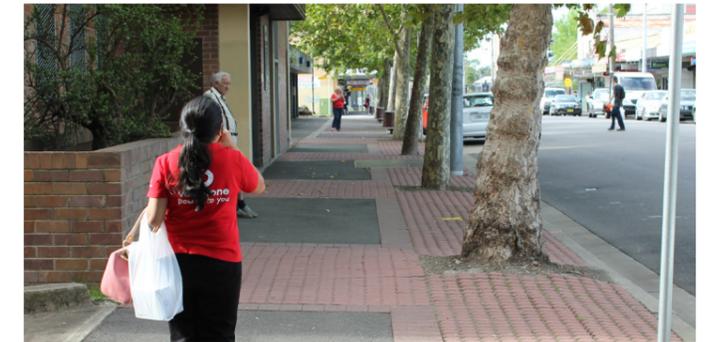
#### FOOTPATH CONDITIONS

The asphalt footpath along Queen Street was originally laid on a compacted soil substrate. Over time this substrate has been compromised primarily by climatic conditions and street trees. Seasonal variation in cold, heat, rain, etc. can result in expansion and contractions of the asphalt and soil substrate, which warps, cracks and breaks areas along the footpath. Additionally, street trees, if improperly planted, can have similar effects on footpaths as their root systems expand searching for nutrients.

While most of the footpath areas along Queen Street are still in reasonable condition, the impacts from climate and street trees are clearly visible. Any future footpath upgrade should include laying a concrete slab that will better support and protect the footpath surface.



Typical paving pattern and style along Queen Street.



Pinch point area on Queen Street at Phillip Street.



Damage to existing footpath area from weather and trees roots.



Transition of footpath area just west of Queen Street.



Existing footpath widths map.

### 2.3.4 STREET TREES

A dominant avenue of street trees exists along Queen Street, which, significantly contributes to the civic quality of the street. With the exception of Charles Hackett Drive, the east-west connector streets have little or no street tree planting.

An arborist study for the SIP found that Plane Trees are the dominant species of street tree along Queen Street. Of the 100 trees assessed as part of this arborist study 71 are *Platanus x acerifolia* 'London Plane Trees', 27 *Platanus orientalis* 'Oriental Plane Trees' and two are older *Lophostemon confertus* 'Brush Box'.

The current street trees, as a group provide an attractive streetscape, unifying the disparate urban forms and providing a cohesive character and feel along Queen Street. The majority of the street trees are considered to be in reasonable health and continue to provide benefit to the street character.

However, a large number of trees do show some form of damage, structural defect or declining vigour. Additionally, the roots systems of these street trees have been substantially constrained by less than ideal growing conditions. This condition has resulted in the street trees having excessive leaf, pollen and seed drop; root damage to existing pavements; and root damage to adjoining shop fronts. The placement of these trees has also resulted in the obscuring of overhead street lighting. Therefore, the majority of the trees on site have been given a moderate to low retention value. The retention categories are as follows:

- › **High** - A tree that should be retained.
- › **Moderate** - A tree with reasonable size, health and vigour, with minimal structural defects observed.
- › **Low** - A tree with declining health and vigour and/or structural defects.
- › **Very Low** - A tree in very poor condition and should be removed regardless of any development

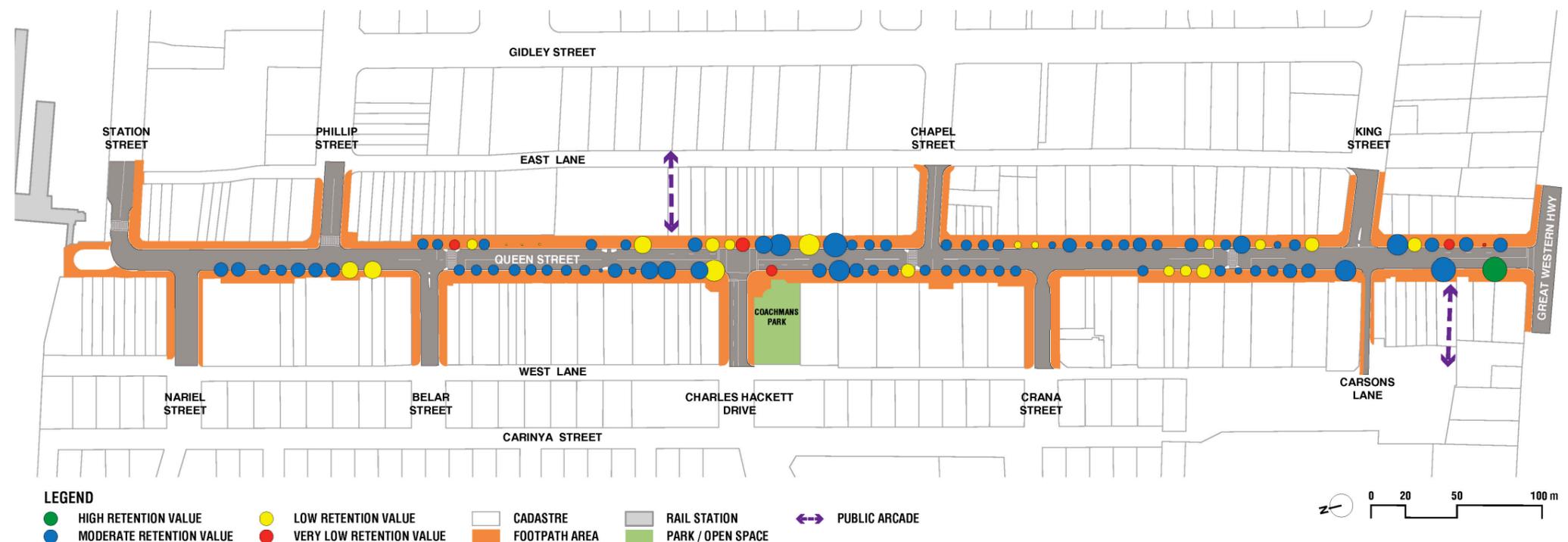
Overall, the trees currently offer good visual amenity to Queen Street by providing valuable shade, reducing the heat island effect, and providing desirable micro climates for pedestrians. Therefore, the arborist study recommends that the existing trees be replaced with a more suitable and slightly smaller growing species to retain a healthy boulevard of street trees that have sufficient soil volumes and growing space, passive irrigation and infrastructure re-configured to allow the new avenue of trees to be there for the long term benefit of the community of St Mary and Queen Street patrons.



Avenue of trees along Queen Street.



Gateway area near the Great Western Highway.



Street tree location and retention values map.

### 2.3.5 LIGHTING

The current lighting layout of Queen Street is typical of older installations. The lighting has been designed and maintained purely as a utilitarian traffic route lighting installation. These vehicular street lights can not be re-configured to meet the standards for both vehicular and pedestrian lighting along Queen Street.

A lighting study for the SIP found that little or no attention has been given to the use of the space for pedestrians or the visual comfort of the space. The awnings along most of Queen Street along with extensive trees severely restrict the light reaching parts of the road and most of the footpath areas. This results in a considerable amount of shadowing created throughout the area.

#### PEDESTRIAN LIGHTING

There are four pedestrian crossings along Queen Street. One is signalised and the other three are non-signalised crossings. Aside from these four pedestrian crossings there is no other formal pedestrian light system along Queen Street.

As a result, the trees, unlit awnings and roller shutters create an unfriendly and shadowy environment while the poor colour rendering of the lights used makes the space appear dark and drab. Together, these elements foster a perception that the area is unsafe and therefore does not attract people to the space or promote evening business trade.

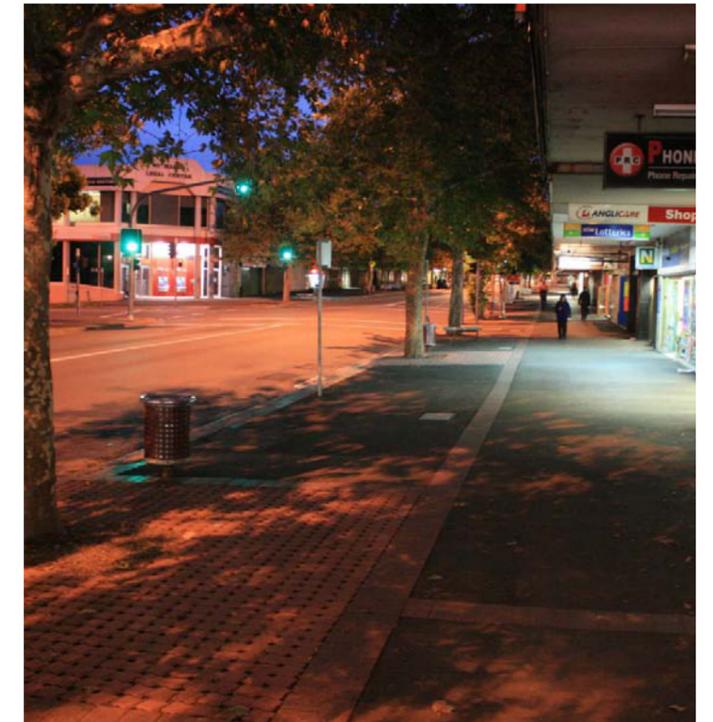
In order to generally increase lighting levels on footpaths either additional pedestrian lighting should be installed to illuminate the footpath, or most of the street trees would need to be removed. It is recommended that any additional pedestrian lighting should be designed to provide a consistent colour rendering to the space and to provide lighting that creates a pleasant pedestrian experience.



Inconsistent use of light fitting types and lamps.



Inconsistent levels of pedestrian lighting.



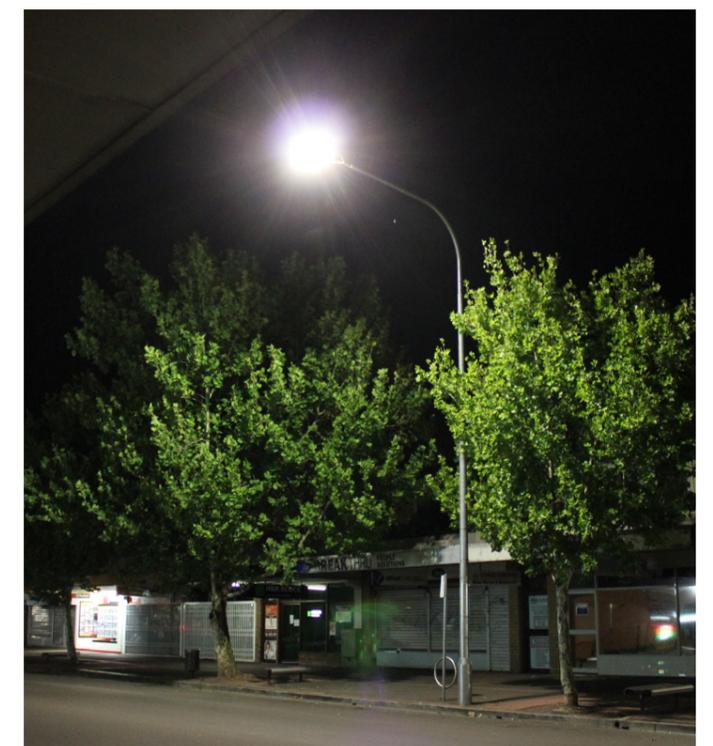
Shadow cast from street poles.



Example of various under awning lighting fixtures.



Inconsistent light resulting in shadowing and dark spaces.



Sufficient street lighting, insufficient pedestrian lighting.

### 2.3.6 PARKING

St Marys Town Centre is well serviced by car parking both along and adjacent to Queen Street. The amount of car parking provided exceeds that required when measured against both current demand and Council's car parking code.

Queen Street provides ample on-street parking opportunities with two areas of exception. The last block of both the northwestern and southeastern streets do not allow parking to better facilitate movement of vehicles. The northwestern area is primarily utilised as a de facto pick up and drop off location for the St Marys Train Station. The southeastern area requires two lanes for holding vehicles moving onto or across the Great Western Highway.

Additionally, there is ample off-street car parking immediately behind Queen Street along East and West Lanes. This off-street car parking is readily accessible via the east-west connector street and through a series of public and private arcades that connect through to Queen Street.

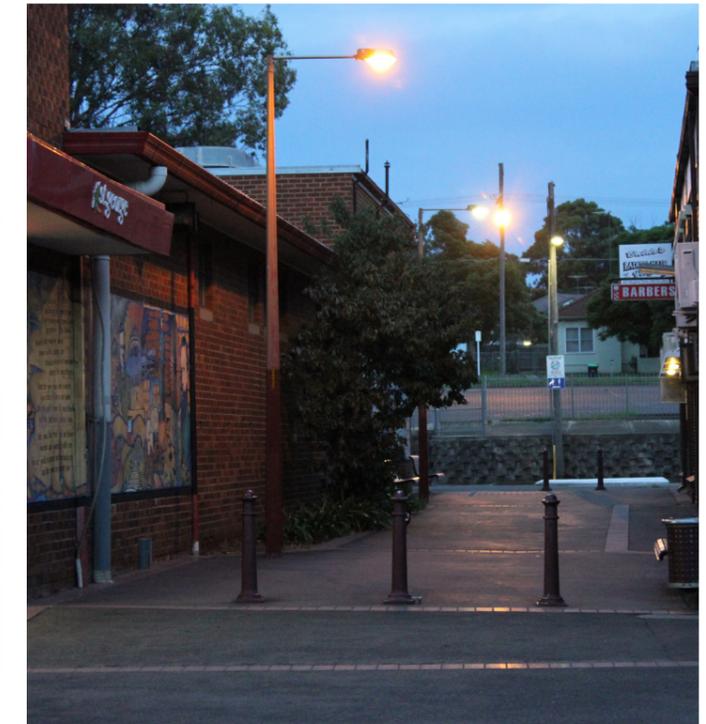
The arcades also provide access to many niche local shops and other businesses, which offer a unique business experience that complements the main street. Unfortunately, these arcade entrances are often insignificant in appearance, poorly signposted and generally gated shut in the evening. This makes them easily overlooked within the streetscape.



Configuration of pick up and drop off area at St Mary Square.



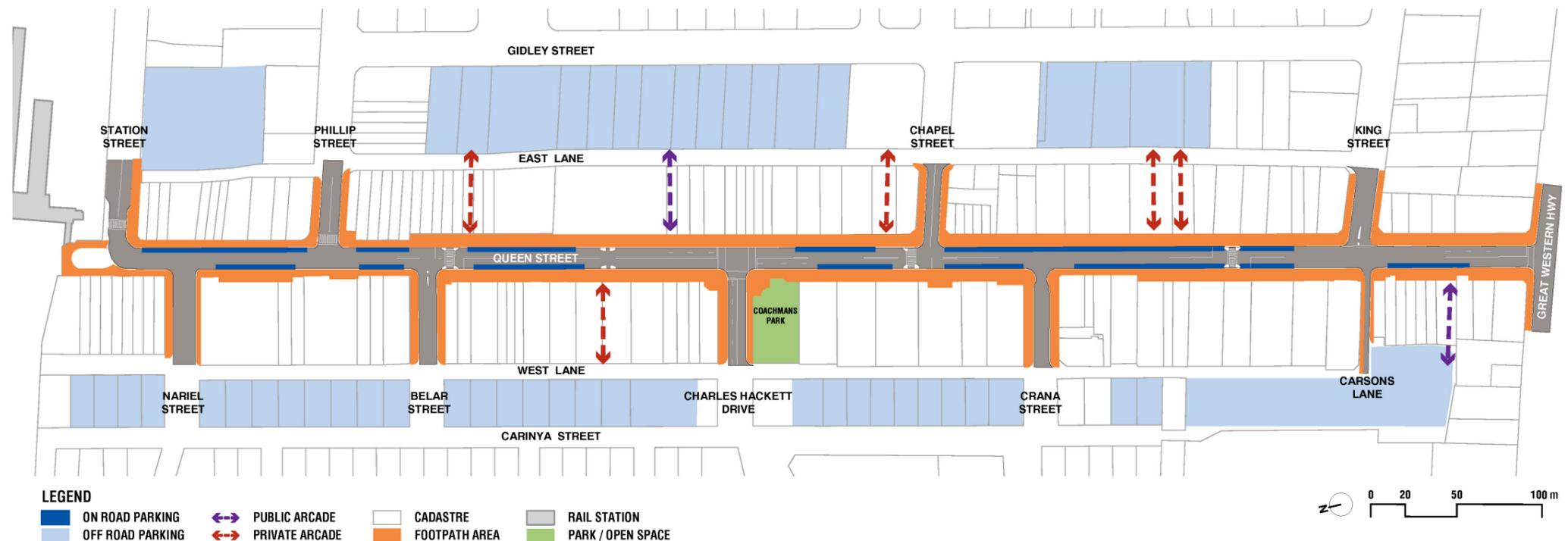
Covered arcade access to Queen Street.



Open arcade access to Queen Street.



Aerial image of off-street park areas.



Parking and arcade access map.

## 2.4 COMMUNITY INPUT<sup>1</sup>

### 2.4.1 PLACE CHARACTER

The two main themes from the place making strategy that describe the look, 'feel', personality and experience for Queen Street that will be created include:

**CONFIDENT - is about bringing the passion and pride back to the street, about being safe and relaxed and comfortable being a bit different and uniquely St Marys.**

**LIVELY - is about being attractive to people of all ages and cultures at different times of the day and week.**

The SIP will contribute to this overall character by providing colour, movement, interaction and fun. The overall feeling should be relaxed and generous, comfortable and interesting, local and connected. It should be designed to support improved safety, lighting, economic activity, outdoor dining spaces and more things for people to do which in turn will help create a light hearted and lively place.

### 2.4.2 PLACE DIRECTION

The community direction synthesises and incorporates input from the public into the design process. This input provides a snapshot of the key community priorities to help inform the future place character and directions for the SIP.

#### STREETSCAPE DESIGN

The streetscape length and wide footpaths are highly valued by the community and are seen as an improvement opportunity. Recent improved street crossings are regarded as positive improvements and a basis for additional improvements to the street furniture and pavement.

##### KEY DIRECTIONS:

- › Improving the connection between the train station, St Marys Square and the rest of Queen Street is a priority.
- › Creating a welcoming gateway feature at the train station and Great Western Highway ends of Queen Street.
- › Providing street furniture that is comfortable, made of natural materials, and not 'off the shelf' in design is needed.

#### STREET TREES & VEGETATION

Greenery is seen as an important element of Queen Street's unique identity and is seen as an improvement opportunity.

##### KEY DIRECTIONS:

- › Providing a variety of greenery, both trees and ground level plantings, would be a welcome addition to Queen Street.
- › Maintaining a streetscape environment with shade trees that vary in size, shape and colour.
- › Providing appropriate ongoing maintenance and management of street trees and vegetation.

#### CONNECTIONS

Addressing the physical connections along Queen Street is an important direction for the community. The physical length and visual difference along the street makes it difficult to create Queen Street as a single cohesive environment.

##### KEY DIRECTIONS:

- › Improve the physical connections from car parking areas to Queen Street, particularly in the evening.
- › Improve connections to and along Queen Street to promote a family friendly and sociable feel.

#### ART AND HISTORY

Public art of a more modest nature, with elements of playfulness and colour, is preferred by the community for Queen Street. There was a general desire for an expression of 'the local' through the public art opportunities and integration of the local storytelling through furniture and other elements.

##### KEY DIRECTIONS:

- › Develop improvements that feature lighting, art and colourful sculptures as appropriate.
- › Incorporate pavement art, traditional figurative through the use of different materials and textures.
- › Provide historical information and utilise landmarks into streetscape features.

#### LOCAL THINGS TO DO

There is a strong sense of pride in the local community for Queen Street and in general for St Marys stories and history. An increase in the variety of things to do on Queen Street, including outdoor dining, markets, live entertainment and family friendly activities is strongly supported by the public.

##### KEY DIRECTIONS:

- › Promoting the perception of the friendly community that provides patronage for Queen Street.
- › Creating an attractive place for residents to come and utilise local services, such as banks etc.
- › Provide fun, interactive social areas that will attract more people to stay longer throughout the day and in the evening.

#### SAFETY

Community input focused heavily on safety and a corresponding negative perception of safety on Queen Street. This was generally characterised by the deteriorated shop fronts, untidy and empty footpaths and insufficient lighting that require significant improvements.

The general condition of the northern end of Queen Street appears to be more deteriorated and less maintained than the southern end. This corresponds with vacant storefronts and lack of active street frontages, which reduces passive surveillance in the area. The St Mary Hotel and telephone exchange buildings are examples of these areas.

The public alcohol consumption along Queen Street has also been identified as contributing to the issue of safety, although the entire area of Queen Street is designated as an alcohol-free zone. Additionally, regardless of the strict behaviour requirements and limited hours of operation, concern was expressed about the location of the methadone clinic and that it contributed to an unsafe feeling at St Marys Square.

##### KEY DIRECTIONS:

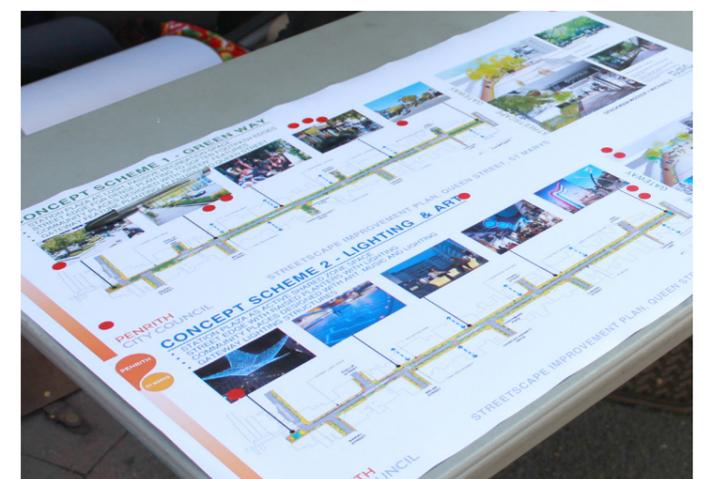
- › Improving safety and the community's perception is the most important streetscape element to address.
- › Improving lighting and footpaths to address "anti-social, scary and dirty" feeling along Queen Street.
- › Retaining the pick up and drop off function at the St Marys Railway Station for convenience and safety.



Community workshop #1.



Saturday street stand.



Concept plan preference selection activity used by the community.

<sup>1</sup> Source: *Place Making Strategy*, prepared by Place Partners

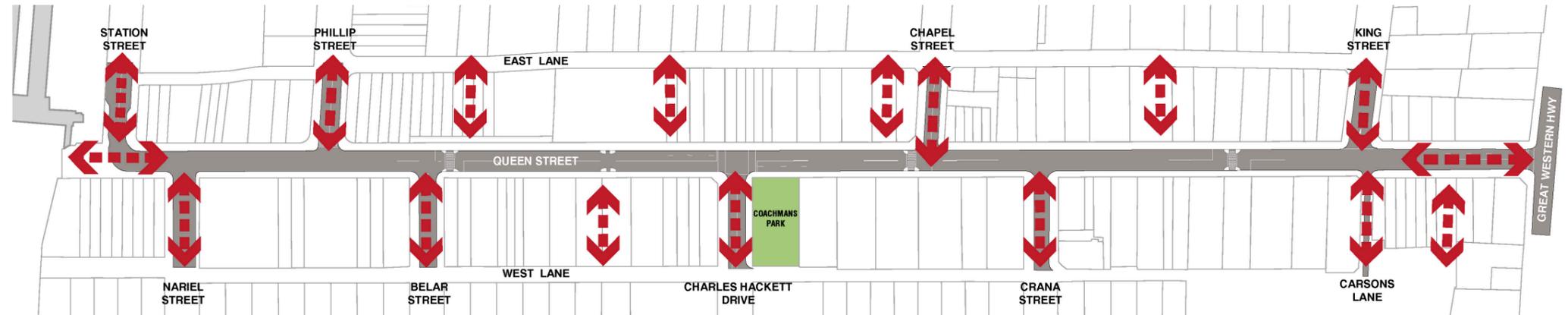
## 2.5 SPATIAL ANALYSIS

This analysis takes in to consideration the information provided in the previous sections through a spatial context to provide an understanding of how to improve the Queen Street area.

### 2.5.1 CONNECTIVITY

There is a strong desire to strengthen Queen Street connections through:

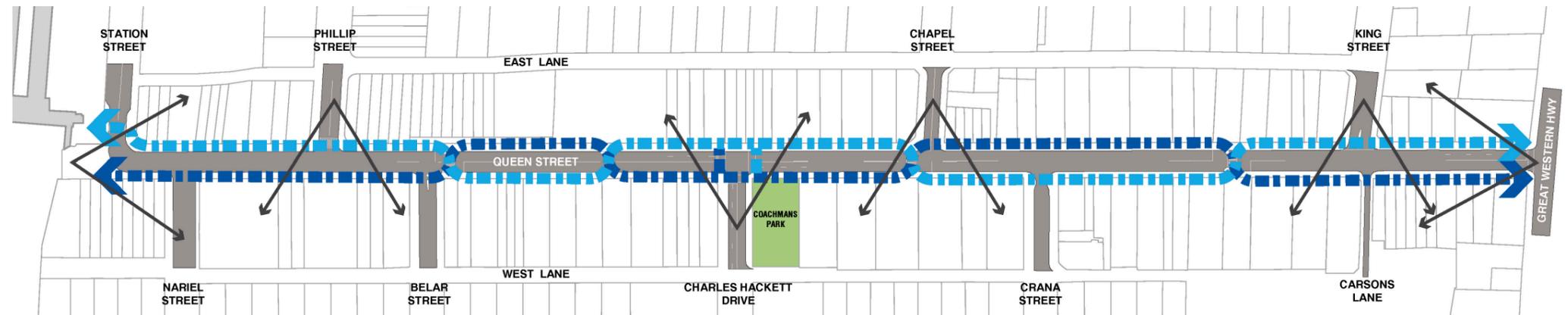
- › Connecting to local destinations along Queen Street and adjacent areas such as schools, parks, and activity centres.
- › Highlight and enhance crossings between the east and west sides of Queen Street.
- › Establishing Queen Street as the central spine of St Marys Town Centre which holds the area together.



### 2.5.2 EXPERIENTIAL AWARENESS

There is a desire to reinvigorate the street as a 'main street' in the area and enhance the features and awareness of people so they know they have arrived at Queen Street by:

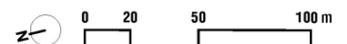
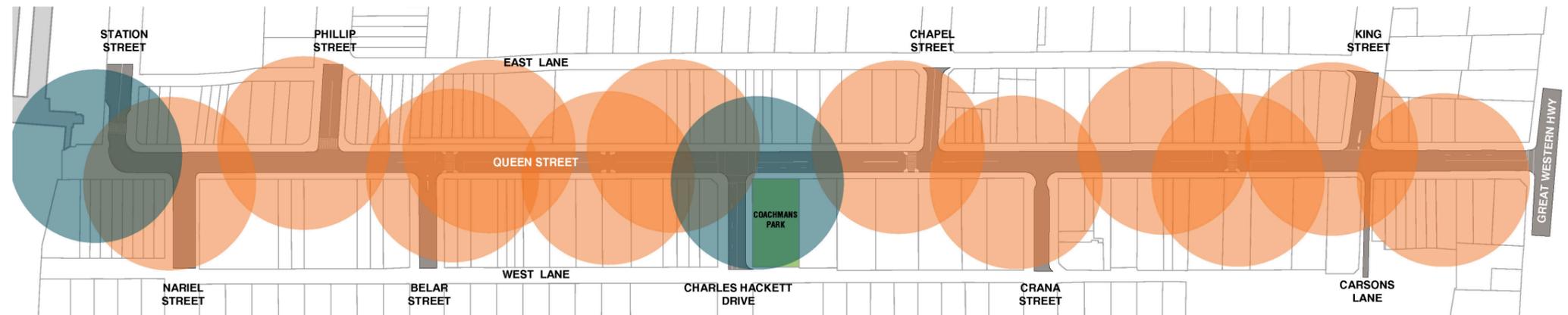
- › Creating a sense of arrival through gateway features along and entering Queen Street.
- › Ensuring Queen Street is easily accessible by all user groups in the community with intuitive wayfinding features.
- › Engage visual sensory qualities to provide physical and metaphorical connections to places along Queen Street.



### 2.5.3 DISTRIBUTION PROXIMITY

There is a strong need to break up the monotonous streetscape pattern along Queen Street by:

- › Providing a series of appropriately spaced activation locations along Queen Street.
- › Provides a sequence of places for the community to relax and spend time.
- › Highlights the primary moving and stationary areas along Queen Street.



## 2.6 CHARACTER ZONE

Based on the existing conditions, community directions and spatial analysis it is clear that Queen Street has three distinct character zones. Each of these zones needs specific landscape and urban design treatments to address their issues. More importantly, these treatments will need to fit within an overarching scheme that unites the overall character of Queen Street. Key aspects of each of these zones include:

### Station Connection Zone

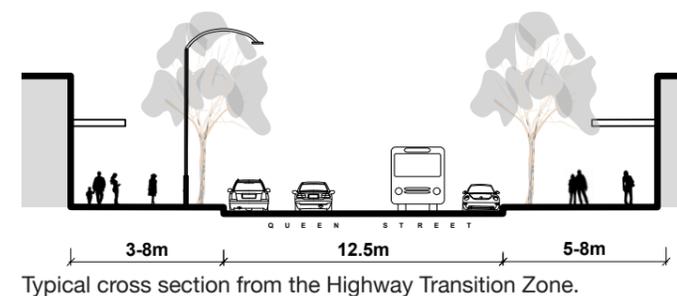
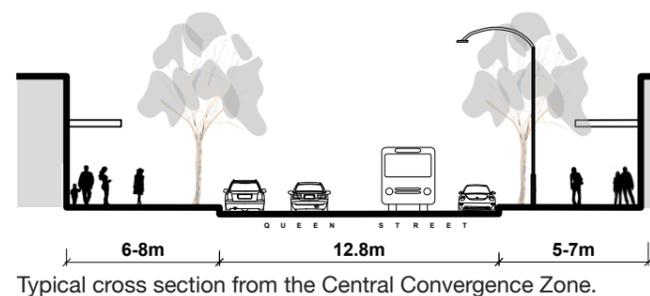
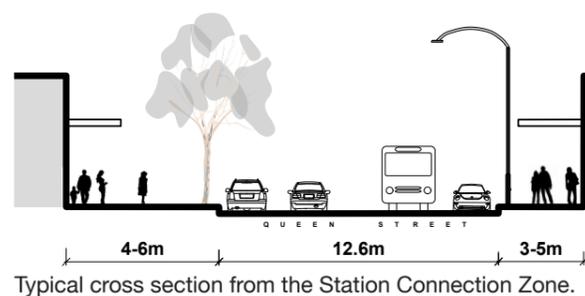
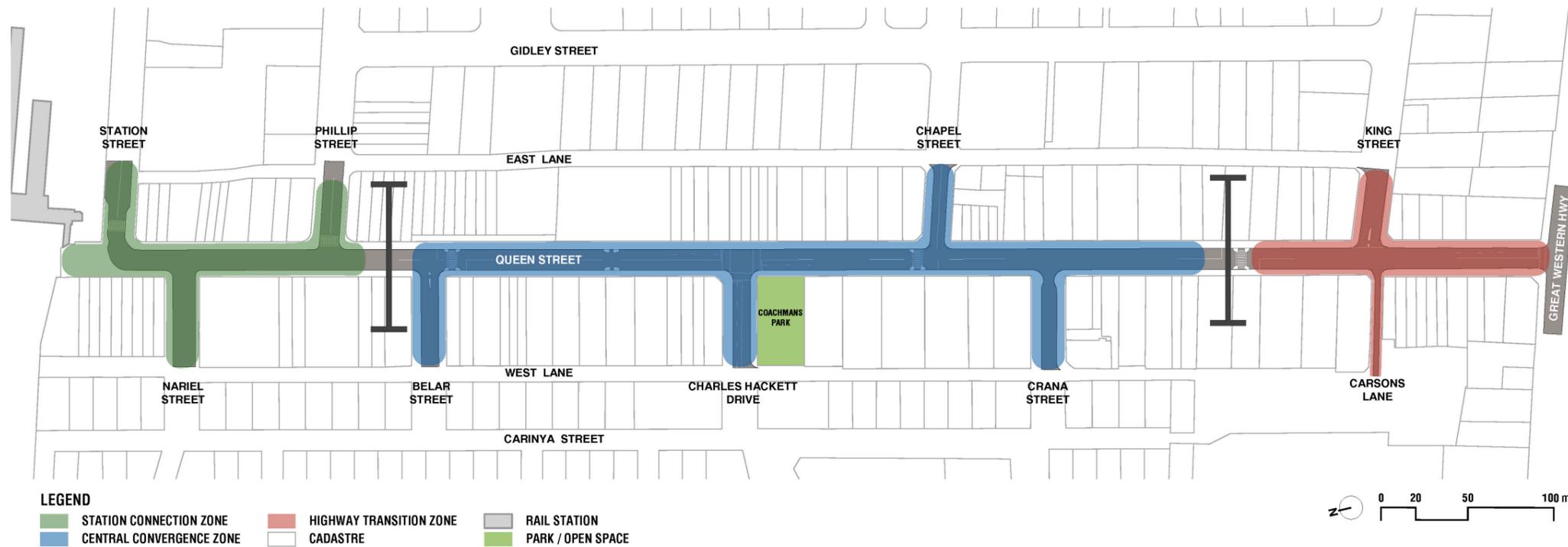
- › Main transport hub
- › Highly active during peak commute hours
- › Narrowest pedestrian footpath environment

### Central Convergence Zone

- › Main pedestrian activity area
- › Active pedestrian presence throughout the day
- › Widest pedestrian footpath environment

### Highway Transition Zone

- › Main traffic area
- › Lower pedestrian activity and presence
- › Varied pedestrian footpath environment



## 2.7 OPPORTUNITIES ASSESSMENT

The promotion of street activity or 'liveliness' in an area is an important consideration for determining the health of the public domain in that location. Lack of such activity can result in a poor trading environments and ultimately lead to an unproductive and unsafe streets. Creating activity hubs and strengthening connections can have a positive and amplifying effect that can strengthen the entire Queen Street Area. Some of the major opportunities for Queen Street include:

- › Reinforcing the pedestrian connections along and across Queen Street.
- › Strengthening the Station Zone by creating a public plaza at St Marys Square.
- › Creating a series of activation areas to improve pedestrian amenity along Queen Street.
- › Establishing a separate and dedicated pedestrian lighting system along Queen Street.
- › Developing gateway features at each end of street to announce the arrival to Queen Street.
- › Providing stronger east-west connections that draw people into Queen Street.

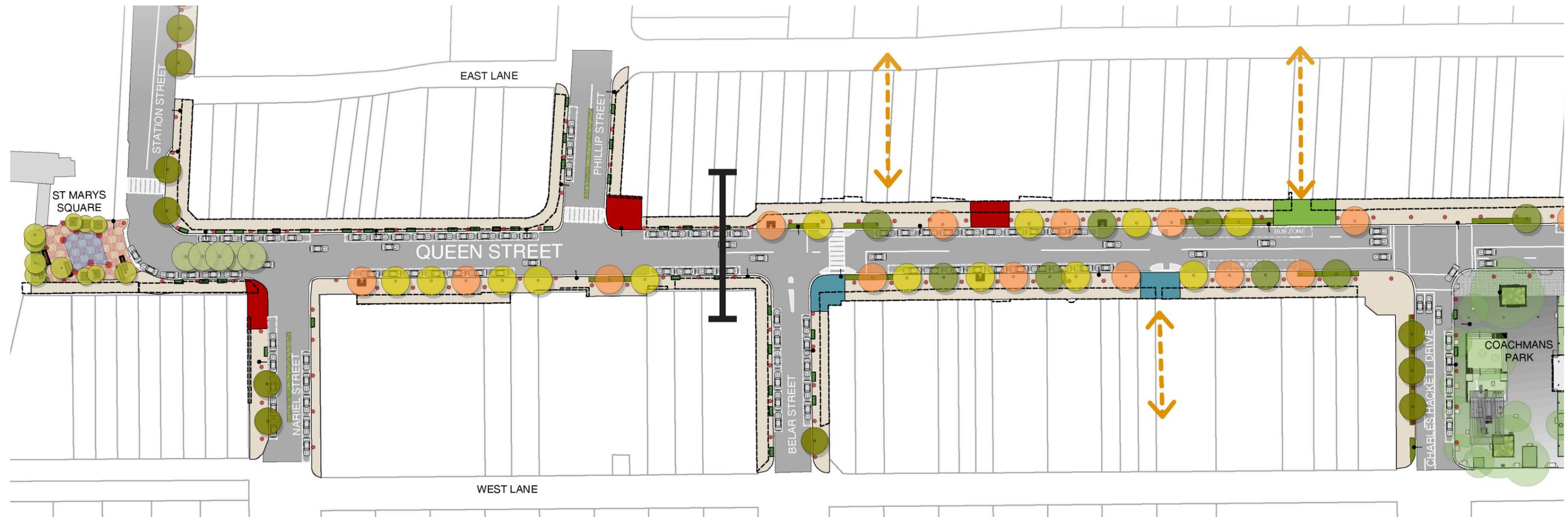
### 3 CONCEPT DESIGN

This concept design builds upon previous strategy plans for the St Marys Town Centre, and considers Queen Street from a more holistic approach that includes social, economic and cultural aspects of the area and how these elements relate to the physical environment.

The concept design incorporates an overall approach for achieving the desired character of the area as well as a strategic element for the enhancement of the public domain in order to attract more people to Queen Street and support future development in the area.

Key elements of the concept design include:

1. Development of a pedestrian plaza at St Marys Square
2. Replacement and redistribution of street trees
3. Upgrade of entire pedestrian footpath area
4. Incorporating a separate pedestrian lighting system
5. Creation of activation areas as social generators



#### STATION CONNECTION ZONE

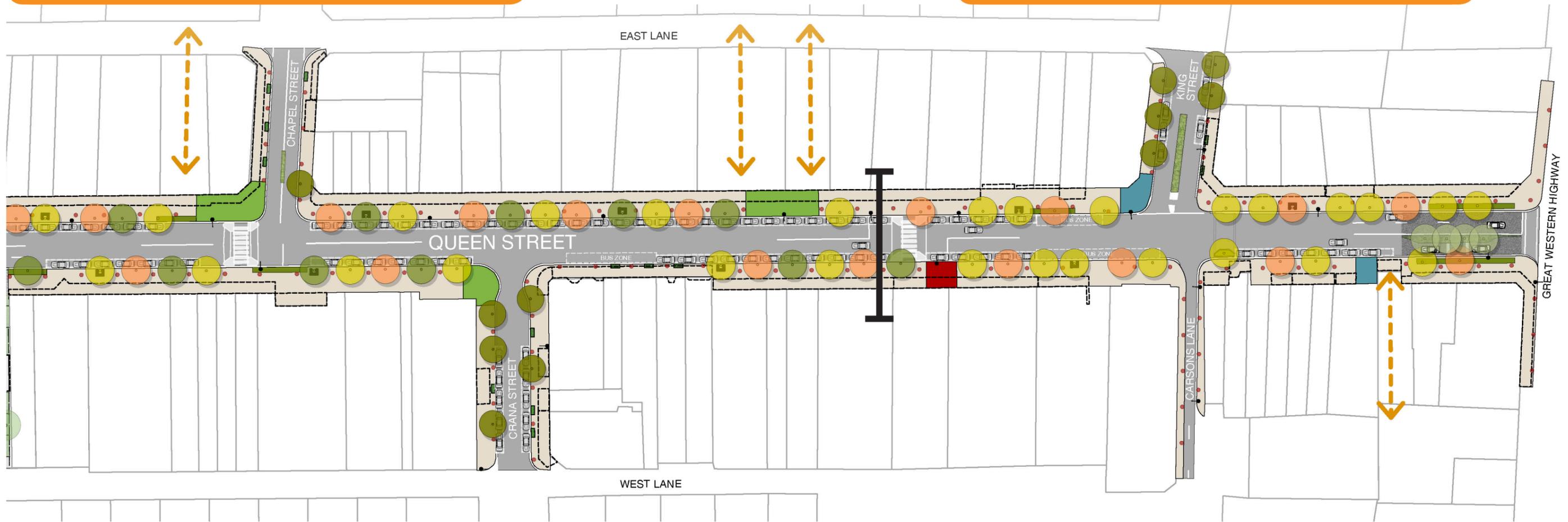
This zone will be the main public transport gateway to Queen Street. The zone will establish a welcoming appearance to the area and announce ones arrival to St Marys through a mix of distinguished gateway features designed to reflect the confident and lively character of Queen Street and reflect upon the proud history shared within the community.

### CENTRAL CONVERGENCE ZONE

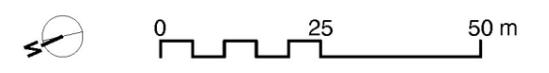
This zone will be the lush, green heart of Queen Street with a mix of verge plantings, green activations areas and varied street trees. The wide footpaths will continue to provide an active pedestrian corridor. The improved lighting and relaxed nature of this zone will encourage more outdoor dining and evening entertainment opportunities.

### HIGHWAY TRANSITION ZONE

This zone announces motorists arrival to Queen Street through a visually robust gateway of vegetation. This marks the transition from the hustle of the highway and motorway to a neighbourly main street that is shared with pedestrians, cyclists, and buses all going about their daily routines of shopping, working and casual entertainment.



- LOPHOSTEMON CONFERTUS* 'BRUSH BOX'
- FRAXINUS GRIFFITHII* 'EVERGREEN ASH'
- RAISED PLANTER
- PROPOSED PEDESTRIAN LIGHT POLE
- IN SITU CONCRETE PAVING AREA
- HISTORY & ART ACTIVATION AREA
- FEATURE PAVING AREA
- ULMUS PARVIFOLIA* 'TODD' 'CHINESE ELM'
- CORYMBIA MACULATA* 'SPOTTED GUM'
- VERGE PLANTING
- EXISTING STREET LIGHT POLE
- SEATING
- GREENSCAPE ACTIVATION AREA
- CATENARY LIGHTING FEATURE
- ZEKLOVA SERRATA* 'GREEN VASE' 'JAPANESE ELM'
- FEATURE TREE SPECIES
- MEDIAN SHRUB PLANTING
- AWNING
- ARCADE CONNECTION
- LIGHTING & ART ACTIVATION AREA



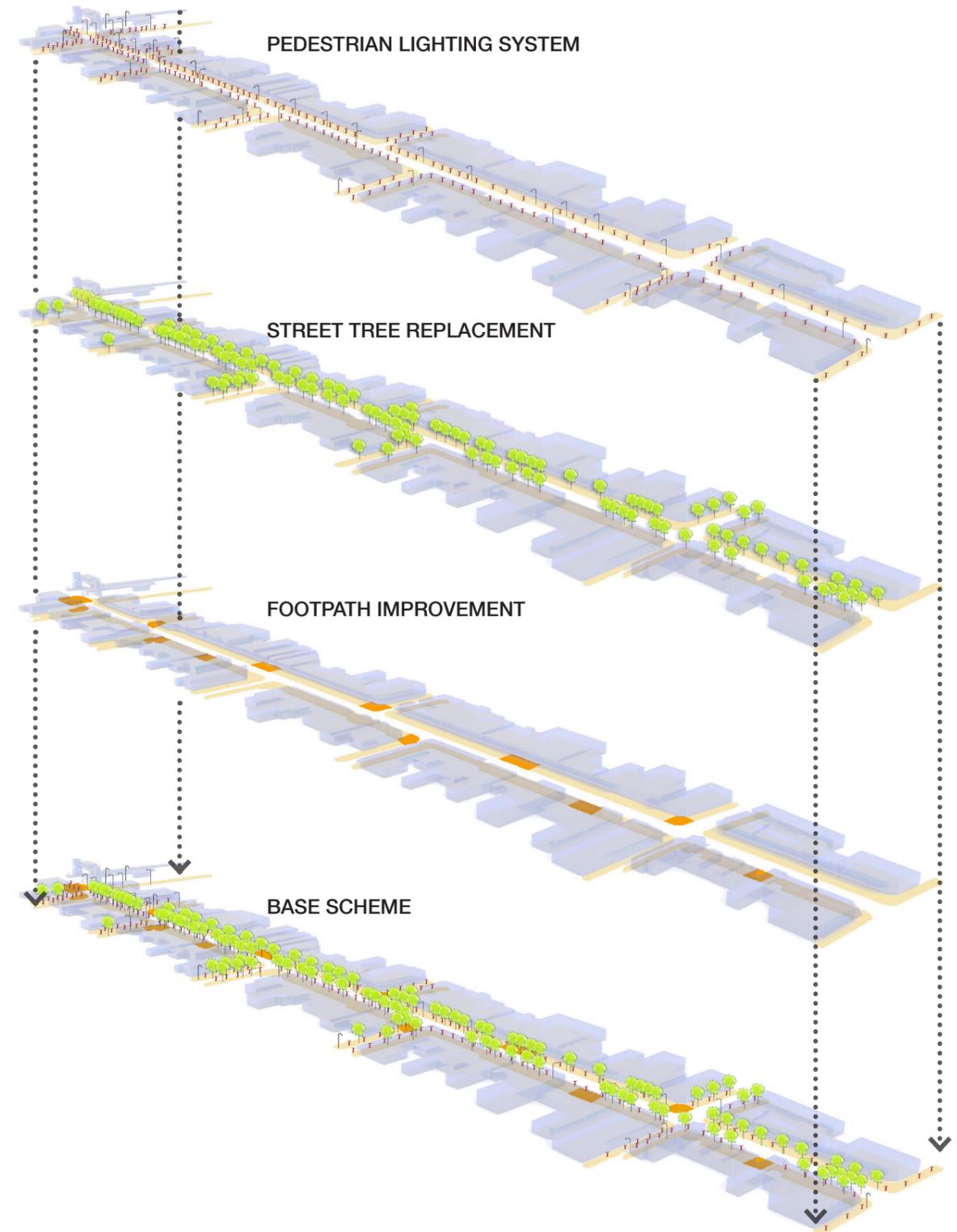
# 4 LANDSCAPE & URBAN DESIGN ELEMENTS

## 4.1 BASE IMPROVEMENTS

The base scheme represents the main design treatments that will be made along Queen Street to create a unified street character for the area. These design features will occur across all three character zones and lay the foundation for the finer detail needed to address specific conditions in each zone.

Pedestrian lighting, street tree replacement and footpath upgrade are the three major design features that together form the 'base scheme' for the SIP. This base scheme is the backbone for all other improvement aspects in the SIP.

- › **Pedestrian Lighting System** - key upgrade to the pedestrian realm which will provide safer, more visible and engaging spaces along Queen Street. This will allow for the use of Queen Street throughout the day as well as night, enlivening the area at all times and providing a safer environment for the community.
- › **Street Tree Replacement** - with the majority of current street trees along Queen Street being considered as having moderate to low retention value, as well as causing current pavement to lift and providing issues for shop fronts businesses, a complete tree replacement is essential. This replacement will include choosing more suitable tree species and providing a more effective growing environment and relocating tree pits (to avoid lighting conflicts).
- › **Footpath Improvement** - The footpath area will be completely relaid on a new concrete base that will create an even and smooth foundation for a decorative surfaced topcoat. A major benefit of this foundation is the ability to prevent tree root and weather damage to the topcoat.



## 4.2 DESIGN ELEMENTS OVERVIEW

This chapter describes the series of landscape and design elements that detail the concept design of the SIP. It also describes the redevelopment of St Marys Square. In addition to a discussion regarding public art and access the design elements include:

- 1 PEDESTRIAN LIGHTING
- 2 STREET TREES & VEGETATION
- 3 FOOTPATH IMPROVEMENT
- 4 ACTIVATION AREA
- 5 STREET FURNITURE



### 4.3 ST MARYS SQUARE

A key design feature of the concept design is the development of a pedestrian plaza at St Marys Square. This plaza will transform the existing pick up and drop off cul-de-sac into an active pedestrian space, improving the amenity of the area.

Some of the key design elements of St Marys Square include:

- › **Interactive catenary lighting structure -**  
This lighting structure is intended to announce the arrival to St Marys Square. It will also be interactive with the ability to change in colour and intensity based on the movement underneath it.
- › **Feature tree plantings -**  
A combination of different feature trees will provide St Marys Square with a variety of sizes, shapes and colours throughout the year. These trees will also provide weather protection and make St Marys Square feel less exposed.
- › **Integrated seating -**  
Purpose built seating will create a uniqueness for St Marys Square. Integrating planting into the seating will provide an addition element to further soften the appearance and enhance the character of St Marys Square.
- › **Feature paving design -**  
A feature paving design provides an opportunity to integrate themes and ideas that celebrate the history and culture of St Marys and Queen Street.

The redesign of St Marys Square will engage the community and attract people into the space and provide a 'sense of place' at the northern end of Queen Street. St Marys Square will become a landmark on the street and a meeting point for people of all ages. It is intended to become a generator for pedestrian activity, provide space for people to engage with local businesses and give importance to one of the major railway stations on the Western Line.

Additional studies such as traffic and pedestrian counts, traffic and pedestrian movements, and safety audits will be conducted during detailed design.



#### ST MARYS SQUARE AREA ELEMENTS

- |  |  |
|--|--|
| 1 FEATURE TREE PLANTING                  | 5 PEDESTRIAN LIGHT POLE                  |
| 2 FEATURE PAVING DESIGN                  | 6 RATIONALISED PICK UP AND DROP OFF ZONE |
| 3 INTERACTIVE CATENARY LIGHT STRUCTURE   | 7 CONCRETE SLAB WITH DECORATIVE FINISH   |
| 4 INTEGRATED PLAZA SEATING WITH PLANTING | 8 RAISED PLANTER                         |

## 4.4 PEDESTRIAN LIGHTING

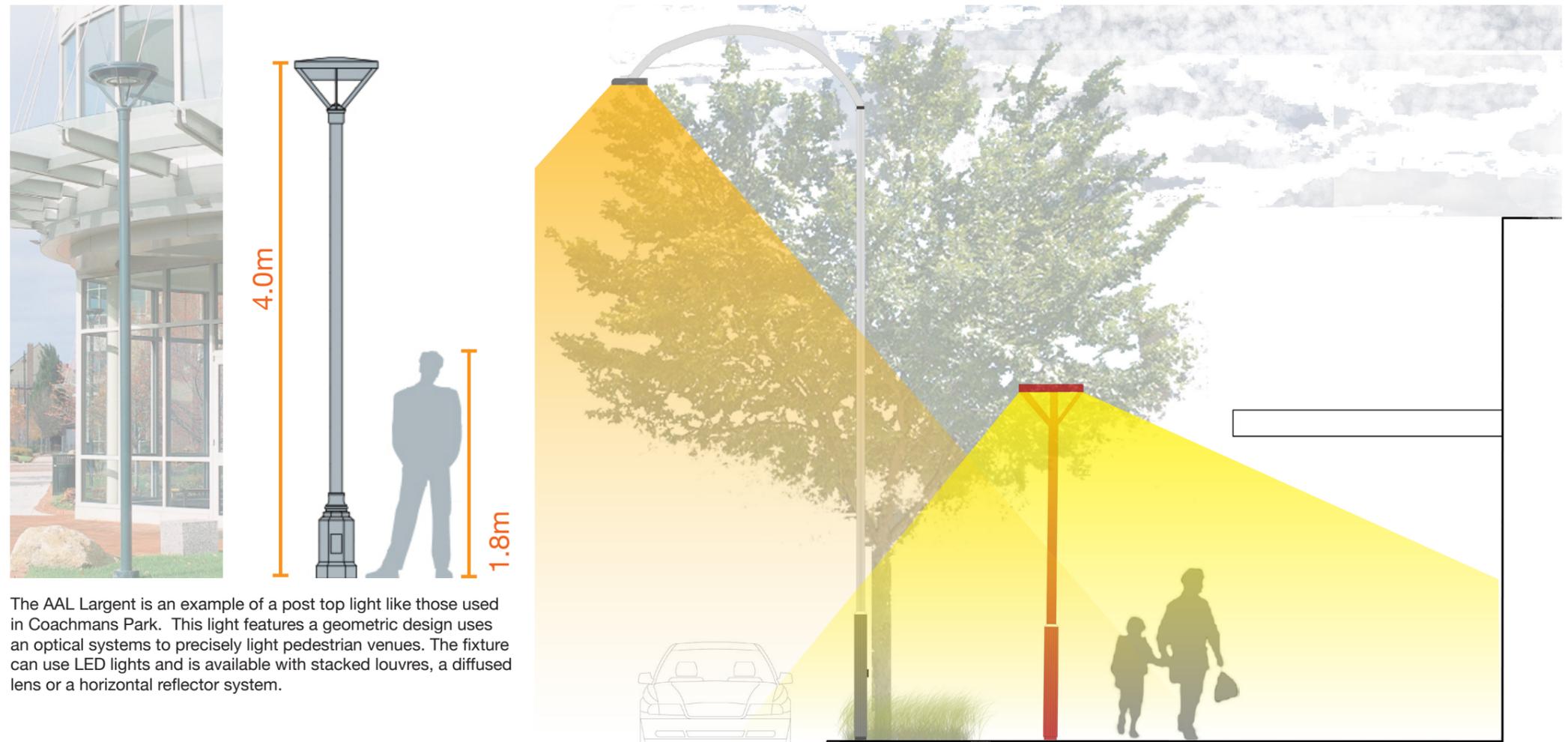
A separate system of post top luminaires for lighting the footpath areas will create a comfortable night time space for pedestrians and address safety concerns related to Queen Street. This lighting system is intended to meet current requirements for the illumination of pedestrian environments. Key features of this system include:

- › Regular spacing of lights every 10-12m along Queen Street.
- › Use of post top luminaires that do not exceed a 4m height in order to retain a human scale quality.
- › Set back from kerb to differentiate pedestrian realm.
- › Use of directional shielding to ensure light spill is focused on the footpath and under awning areas.
- › Use a similar style of post top light to those in Coachmans Park for continuity.

This lighting system also presents an opportunity to provide uplighting to tree canopies through the use of spotlights utilising a variety of lense types that can be modified for a specific purpose or with the different seasons.

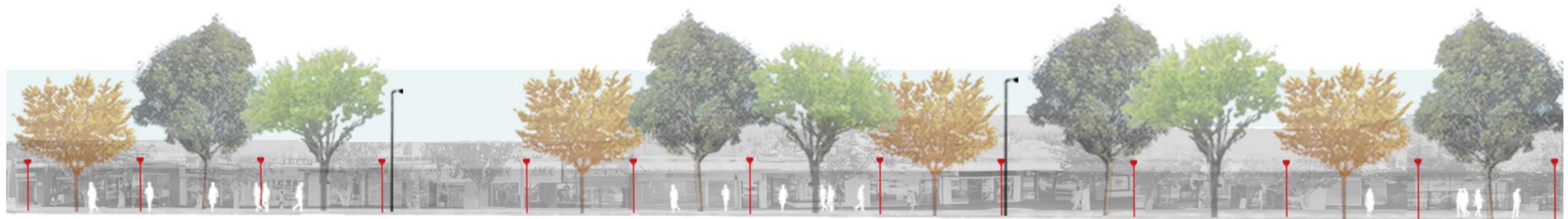
The pedestrian lighting will be a secondary, dedicated lighting system along the length of Queen Street. It is recommended that a warm colour temperature lamp source be used along Queen Street.

Selection of luminaires, reverse spot lights for uplighting, pole colour and other specifics regarding the pedestrian lighting will be determined during detailed design.



The AAL Largent is an example of a post top light like those used in Coachmans Park. This light features a geometric design uses an optical systems to precisely light pedestrian venues. The fixture can use LED lights and is available with stacked louvres, a diffused lens or a horizontal reflector system.

Examples of light spill from both street lighting poles and pedestrian lighting poles.



A view of the proposed pedestrian lighting layout along Queen Street. This also illustrates the redistributed street tree planting scheme that is discussed in the next section.

## 4.5 STREET TREES & VEGETATION

The street trees along Queen Street are an important urban element providing environmental, aesthetic, cultural and economic benefits. They help to create a sense of place and enhance the public domain. Some additional benefits from having street trees and vegetation along streetscapes include:

- › Provide shade and comfort in summer where temperatures can be decreased by up to as much as 8 degrees Celsius.
- › Reduce the 'heat island effect' and potentially increase the life span of the road surface by up to 30%.
- › Filtering air pollution and dust.
- › Reduce the heating, cooling, lighting and energy operations cost of buildings.

The growing conditions in an urban setting, particularly a streetscapes, are very different from natural conditions due to issues related to soil compaction, higher nutrient levels, altered drainage patterns, etc. Therefore, careful planning is required in order to cope with these restrictions. This section identifies the type of street trees and vegetation plantings that are recommended for Queen Street.

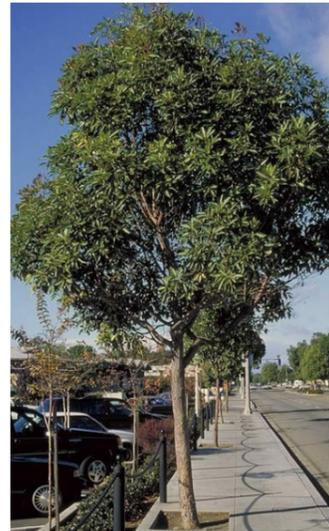
### 4.5.1 STREET TREE PALETTE

The street tree palette, to the right, provides a range of species diversity capable of satisfying the aesthetic, biological, and functional criteria demanded by planting sites. The size and shape of the Brush Box and elms make them more appropriate for placement along Queen Street; while the Evergreen Ash is more appropriate for the east-west connection streets.

The feature tree pallet, provides a range of species that have unique visual and aesthetic characteristics that will provide an accent to a specific area and contribute to the development of unique spaces along Queen Street. This variety of species will also promote better longevity and healthier trees as diverse plantings are less susceptible to disease and pests. It is recommended that these species be utilised in areas such as St Marys Square and the activation areas along Queen Street.

Selection of specific tree species cultivars to limit or eliminate issues related to pollen, thorns and fruit will be addressed during detailed design.

### STREET TREE PALETTE



*Lophostemon confertus*  
'Brush Box'



*Ulmus parvifolia* 'Todd'  
'Chinese Elm'



*Fraxinus griffithii*  
'Evergreen Ash'



*Zelkova serrata* 'Green Vase'  
'Japanese Elm'

### FEATURE TREE PALETTE



*Pyrus calleryana* 'Aristocrat'  
'Ornamental Pear'



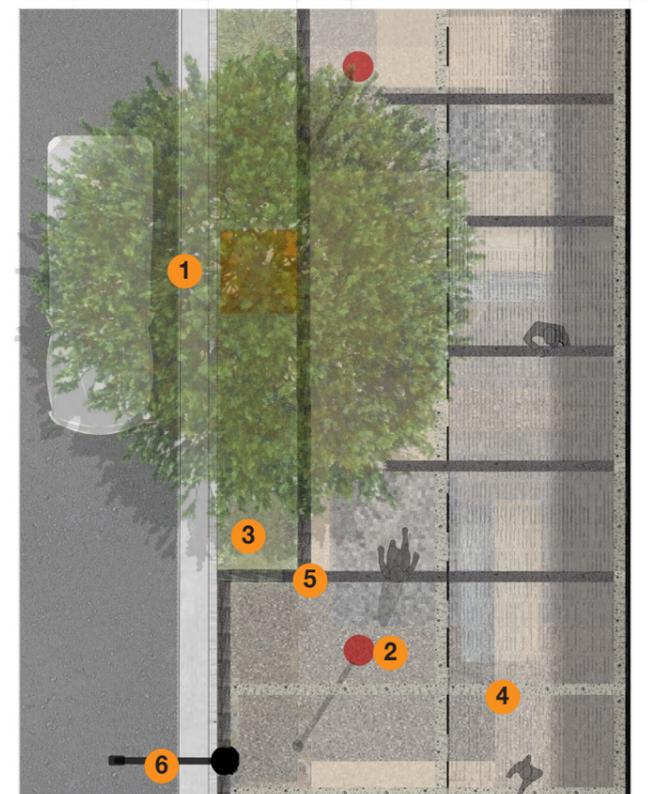
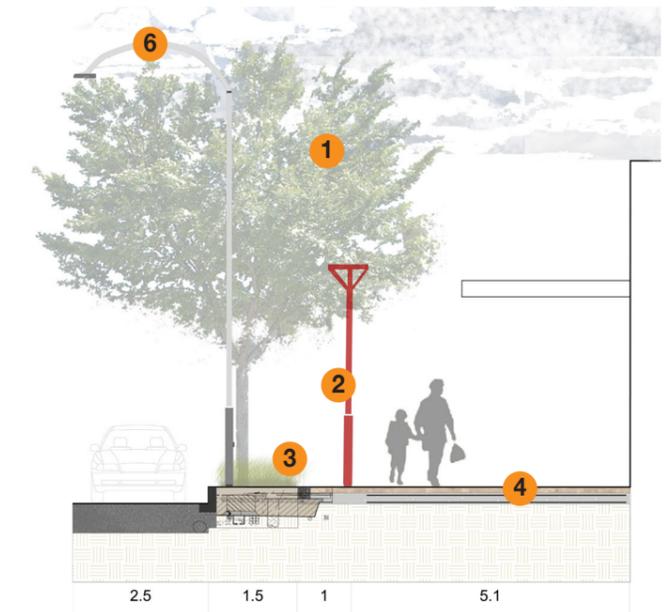
*Gleditsia triacanthos* 'Shademaster'  
'Honey-Locust'



*Malus ionensis* 'Plena'  
'Bechtel Crab Apple'



*Pistacia chinensis*  
'Chinese Pistache'



Streetscape elements in plan and section:

- |                           |  |
|---------------------------|--|
| 1 Street tree replacement | 4 Concrete slab with decorative finish |
| 2 Pedestrian light pole   | 5 Porous paving edge                   |
| 3 Planted verge           | 6 Existing vehicular light pole        |

#### 4.5.2 PLANTED ROAD MEDIANS

##### GATEWAY MEDIANS

While there are series of planted medians included as part of the SIP, only two of these planted medians include large trees that will serve as major gateway features. These are located at the southern entrance to Queen Street in the Highway Transition Zone and just north of Nariel Street in the Station Connection Zone.

The current dimensions of Queen Street allows for the inclusion of a 1.2m wide planted medians. These fairly narrow medians are able to provide the same impact and effect as wider planted median strip. Further investigations, with relevant authorities, will need to occur during detailed design.

The proposed tree for these medians is the *Corymbia maculata* 'Spotted Gum' species. These eucalypts tend to be tall and lean in nature and will provide excellent anchors for the medians. Additional advantages of this species include:

- › Being low impact on driver sight lines and visibility.
- › Providing urban cooling with differing micro climates.

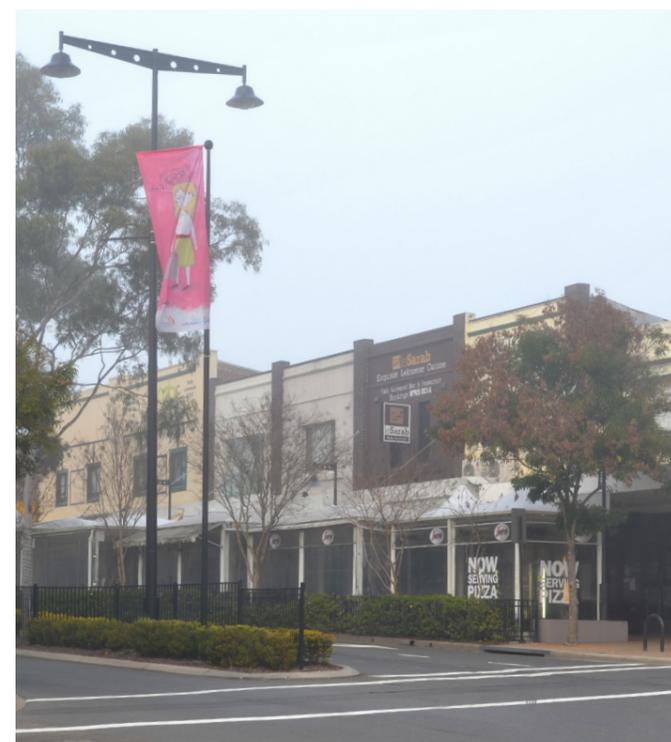
##### EAST-WEST CONNECTION MEDIANS

The four planted medians along the east-west connectors roads are intended to provide visual cues from the areas outside of Queen Street and help to draw people into the Queen Street area. It is intended that these secondary gateway features will be planted with colourful low shrubs.

##### MEDIAN BENEFITS

A key benefit of these medians is the ability to slow vehicular traffic as it moves along Queen Street. This will also help reinforce the 40 km/h speed limit that is currently under review for Queen Street. Slowing the movement of traffic will also improve the comfort and safety for the pedestrians in the area.

There are a number examples in the Sydney metropolitan area that can be used as precedents for this type of median treatment. Some of these examples include Majors Bay Road in Concord and Knox Street in Double Bay. Majors Bay Road in Concord is a comparable example of how this treatment is expected to be used in Queen Street.



Precedent image from Majors Bay Road in Concord compared with cross sections from the concept design.

#### 4.5.3 VERGE AND RAISED PLANTERS

With the street trees being one layer of the streetscape planting environment the inclusion of raised planters and planted verges provide a similar effect on ground level and will provide a lush and soft surface type which will balance with the footpath improvements. To the extent possible, verges and raised planters should utilise drought tolerant plants. These species will be determined during detailed design.

#### 4.5.4 WATER SENSITIVE URBAN DESIGN

Water Sensitive Urban Design (WSUD) initiatives should be utilised with the diversion of street stormwater to the tree root zone. This will provide passive irrigation to the trees and create a natural stormwater biofiltration system. Slotted agricultural drains, permeable paving and broken kerbs can feed stormwater as well as roof water from the adjoining buildings to the tree pits area.

This will also have the added benefit of providing gaseous exchange with the soil below the pavements. This will provide an added benefit to tree health and vigour in the hot dry climate of St Marys and during future weather extremes exacerbated by climate change. The verges and raised planters should also incorporate WSUD principles.



## 4.6 FOOTPATH IMPROVEMENT

### 4.6.1 FOOTPATH DESIGN DETAILING

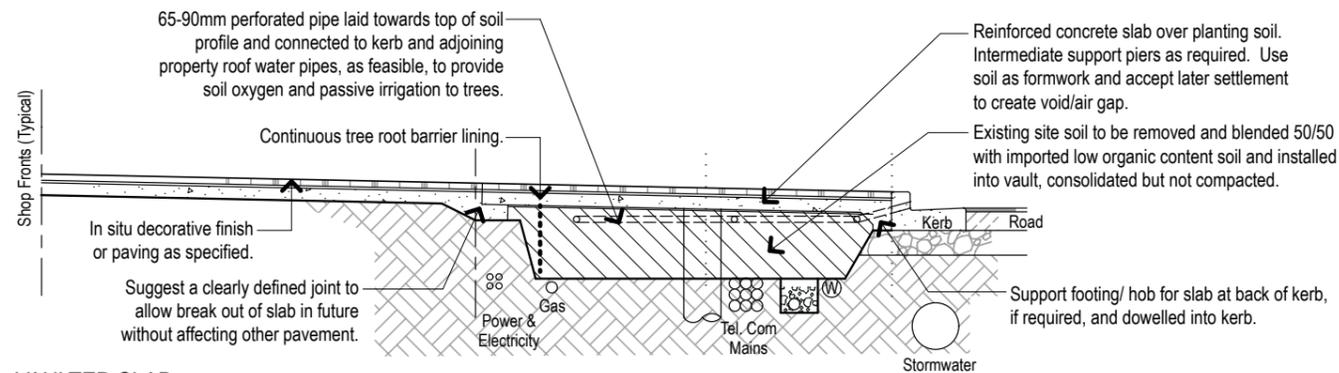
The design of the footpath improvement requires balancing the needs of pedestrians, street tree and urban infrastructure. Typically tree roots can have a significant negative impact as the root system searches out favourable conditions that can sometimes lead to breaking footpaths or infiltrating utilities and service infrastructure.

Achieving this proper balance in the planting design will provide a high quality pedestrian environment, enable the street trees to reach their optimum dimensions and minimise impacts to vital utilities and service infrastructure.

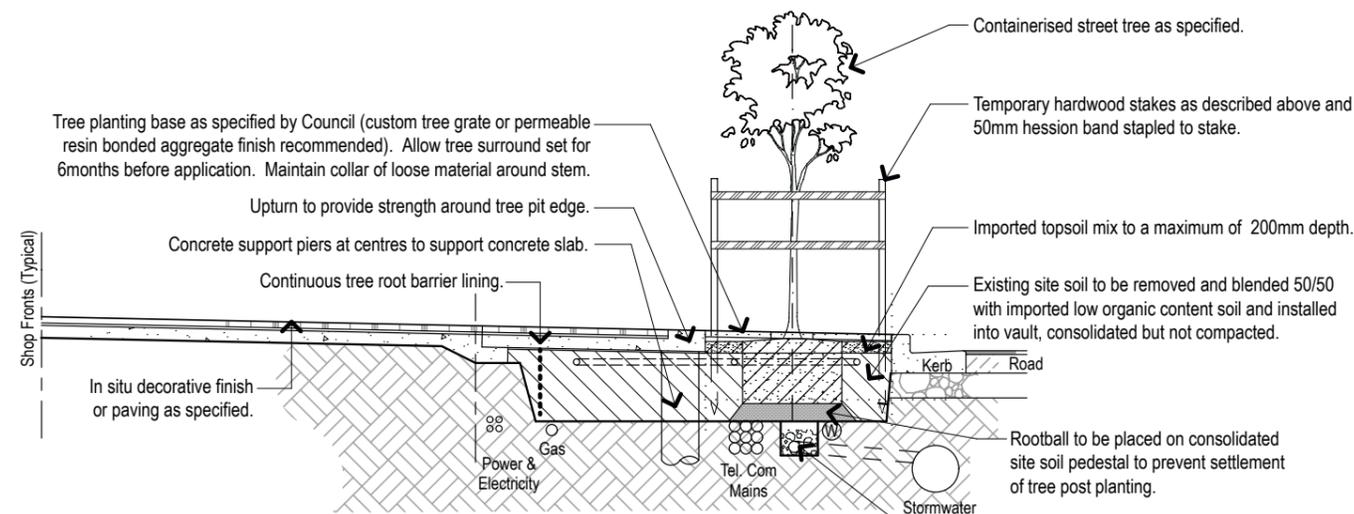
The vaulted slab design detail, illustrated below, will provide this balance for Queen Street. Key aspects include:

- › Reinforced concrete slab with support pier - this allow for the paving top coat or pavers to be applied level and even (to address trip hazard issues); while also providing protection from root damage.
- › Linear soil vault - this allows for a tree root growing area.
- › Root barrier - these line the edge of the soil vault and provide additional protection to the footpath and buildings.

Determining the most appropriate engineering methods to achieve these footpath improvements will be determined during detailed design.



VAULTED SLAB



PLANTING AREA

Vaulted slab and tree planting detail

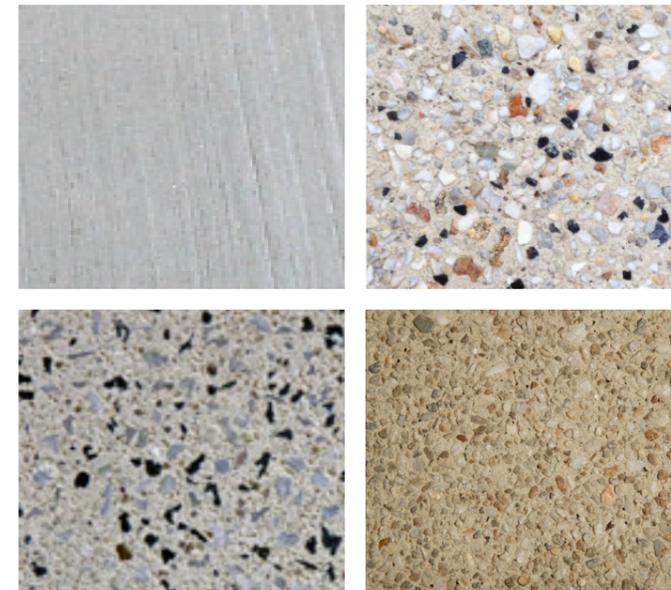
(Based on Arterra Design, Street Tree Assessment Report, Rev A, 29th Jan 2013)

### 4.6.2 PAVING MATERIALS PALETTE

The footpath improvements provide a variety of options for finishing the new reinforced concrete slab. The recommended paving options include the following:

#### PAVING TYPE 1: IN SITU CONCRETE

The sealed in situ concrete will include an appropriate colour oxide mix to create the decorative topping on the slab. This paving type results in a smooth finish with areas of honed highlights/patterning.



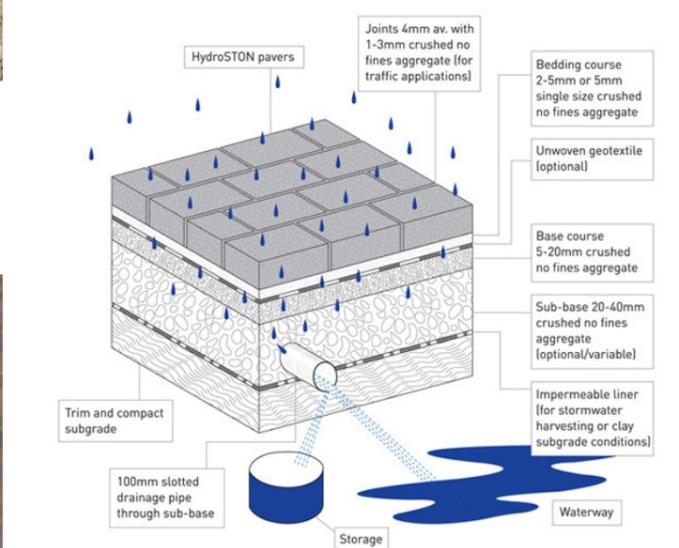
#### PAVING TYPE 2: AUSTRAL - LONDON BRICK

Intended for use in the activation areas, the London brick comes in a variety of colours and can be laid in a variety of different colourful mosaic patterns.



#### PAVING TYPE 3: PERMEABLE PAVER

These paver have a charcoal colour finish that provide the following benefits: fully permeable, durable and nonslip; improve on-site water retention and water quality; reduce surface pooling; increase water supply to landscaping and trees; allow root aeration; and improve urban micro-climates.



## 4.7 ACTIVATION AREAS

The activation areas on the concept design have been identified as social activity generators to provide function and space along Queen Street. These areas have been strategically placed to break up the long linear footpath environment and be within easy walking from area to area.

These areas will be designed to provide comfort and generate community engagement, interactivity for adults and children, and connections with local businesses. Each activation area will be designed in a unique manner which will provide a dynamic series of space and function as well as being laid out evenly on both sides of the street for access and movement.

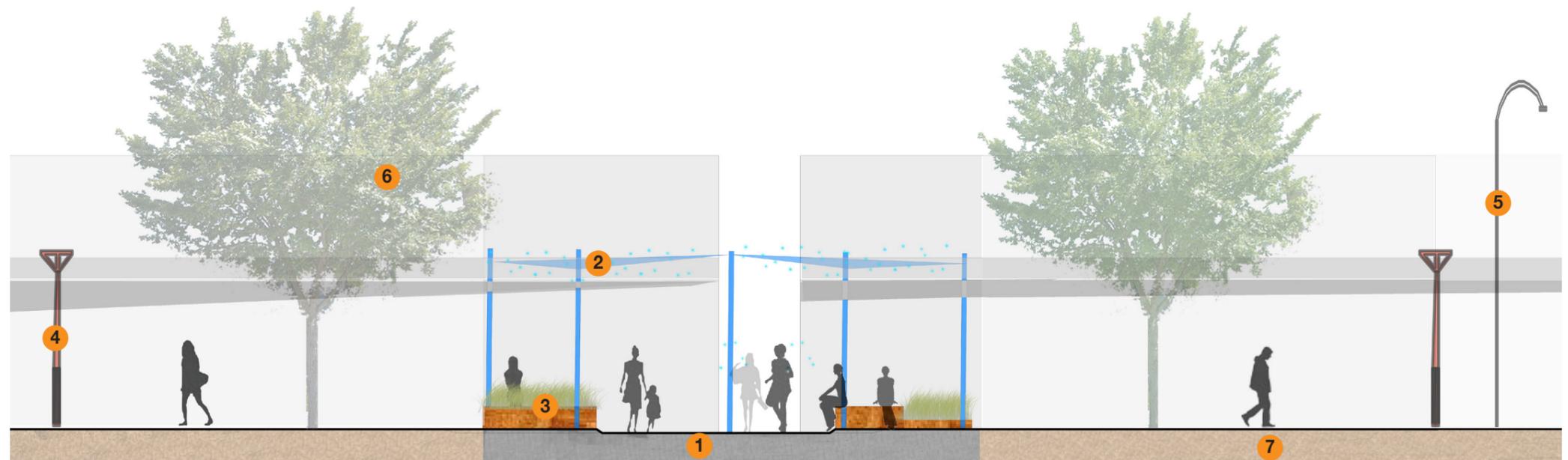
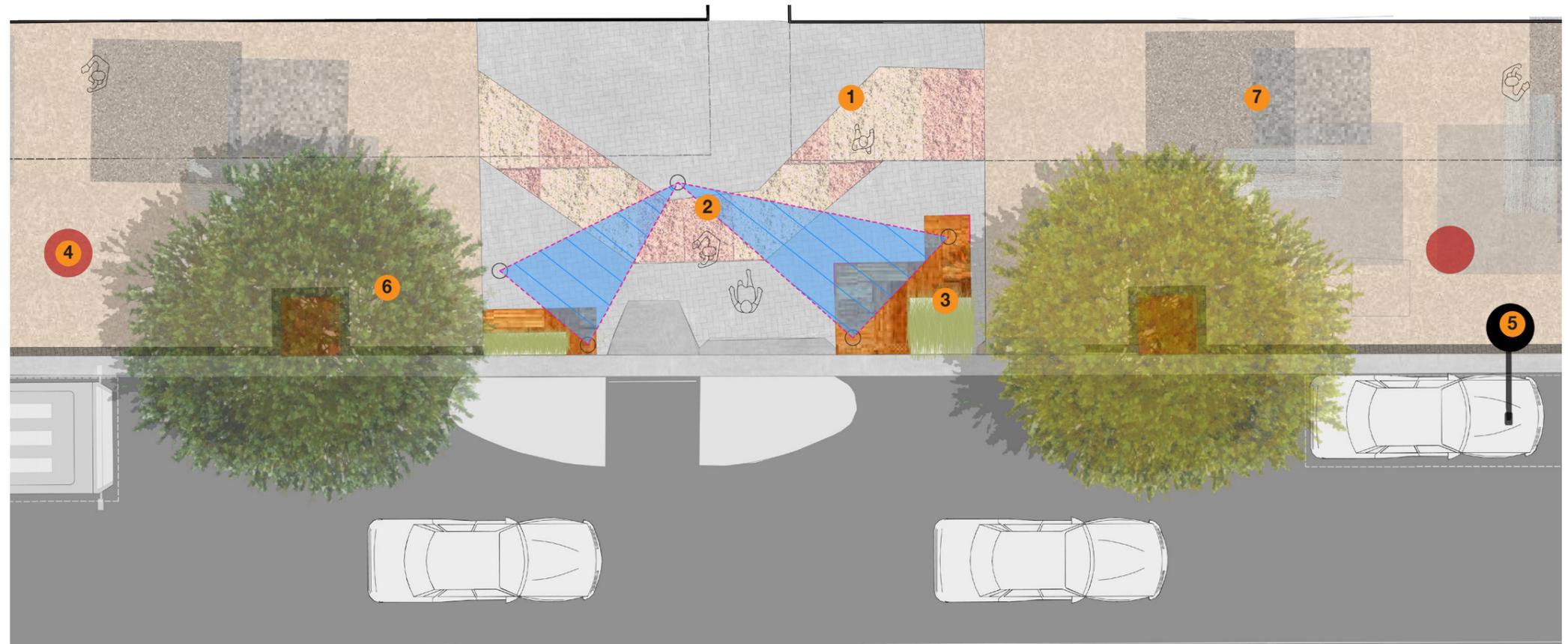
There are three major themes for the twelve activation areas not including the redevelopment of St Marys Square. These three themes came as a result of the engagement process for the SIP. The three themes are as follows:

- › **Lighting & Art** - reflects the need for more lighting in Queen Street whilst achieving it through the use of interesting art like form that will draw people into the space. A typical example is shown to the right.
- › **Greenscape** - reflects a more soothing natured environment supplemented with lush planting, feature trees and plenty of seating. These areas will provide for comfort and relaxation in the urban environment of Queen Street.
- › **History & Art** - reflects a combination of the events and traditions that have shaped St Marys, as well as the current culture and how the story of this area is and will continue to evolve. This theme is intended to evoke an emotional and sensory attachment to Queen Street.

All activation areas are to be laid with brick paving in contrast to the regular new footpath upgrade. Custom elements such as benches and planters with integrated or recesses lights should be included in these areas.

### ACTIVATION AREA & ADJACENT ELEMENTS

- 1 DECORATIVE BRICK PAVING
- 2 LIGHTING FEATURE
- 3 PLAZA SEATING WITH PLANTING
- 4 PEDESTRIAN LIGHT POLE
- 5 VEHICULAR LIGHT POLE
- 6 STREET TREE
- 7 CONCRETE SLAB WITH DECORATIVE FINISH



This is a representative example of a Lighting & Art activation area.

## 4.8 STREET FURNITURE

The type and style of street furniture selected for Queen Street is heavily influenced from the input received during the engagement process. Generally, it was expressed that there is a need to consolidate furniture near activation areas to break up the visual appearance of the footpath environment. To achieve this two categories for street furniture were developed:

- › **General Streetscape** - should include items that are unobtrusive, robust, long lasting and low maintenance.
- › **Activation Areas & St Marys Square** - should include the use of nonstandard custom designed furniture items. These will provide variation amongst the general streetscape furniture and help to denote these areas as special places along Queen Street.

While a final street furniture materials palette has not been selected, the following principles should guide the selection of street furniture for Queen Street:

- › Ensure furniture is placed to provide an inclusive environment with universal access for all, which complies with the highest safety and design standards.
- › Ensure the custom designed and general rest seating consistent with AS1428 principles and is installed at appropriate intervals along Queen Street.
- › Ensure furniture within activation areas is positioned to facilitate and encourage interactions between people.
- › Position rubbish bins close to activation areas and pedestrian crossing points to ensure additional public amenity and easy maintenance.
- › Ensure all furniture is designed in a cost effective manner that is low maintenance and easy replacement of elements that may need become damaged over time.

Selection of appropriate street furniture for each of these categories will be determined during detailed design.



Examples of materials to be used along Queen Street as part of the SIP.

## 4.9 PUBLIC ART

The artwork opportunities for Queen Street should be engaging, interactive, colourful and contribute to the local storytelling and history of St Marys and Queen Street.

Building on Council's **Queen Street Riches and Textures 2012 art.mentorship.community engagement** project is a prime example of local art that can be incorporated into the streetscape environment along Queen Street. Projecting images from this program onto blank building facades and vacant shop fronts should be a priority public art project to accompany the improvements along Queen Street.

This example of public art responds to the 'Confident and Lively' place character for Queen Street. It also builds on the key community directions that emerged through the community engagement process.

Additional information and details regarding the public art strategy can be found in the Place Making Strategy, prepared by Place Partners.



Examples of images from the Riches and Textures program to become projected artwork. The section shown is of the southern corner of Phillip Street at Queen Street.

## 4.10 ACCESS

Any future works shall comply with Australian Standards for access and mobility including AS1428 and AS4586 and be designed to:

- › Facilitate easy and generous movement for all people.
- › Ensure that future design works incorporate facilities for all, using universal design principles and compliance with relevant Australian Standards.

### FOOTPATHS AND KERBS

- › Consider Penrith City Council's 'All Welcome Project' that requires building edges to be maintained as clear zones free from permanent and temporary obstacles.
- › Footpath areas adjoining the building lines to provide a clear path of travel unimpeded by street furniture, dining tables, free standing signage and other objects that can be hazardous for people with vision impairment.
- › Footpath pavement that provides smooth and even flush jointed materials with appropriate slip resistance and appropriate cross falls.
- › Kerb ramps are to be in accordance with AS1428.
- › All kerb ramp widths generally should exceed the relevant standards as shown in standard AS1428.

### SEATING

- › Well designed rest seating consistent with AS1428 principles that is installed at appropriate intervals along Queen Street.
- › Ensure there is a mix of seating types, including seating with backrests, arm rests and heel area under the seat to enable easier movement to stand up.

### PARKING

- › Accessible parking spaces shall be strategically located and accessible paths of travel to and from pedestrian generators and Queen Street shall be provided.
- › Signage is required to demonstrate where accessible off street parking is located.

### MOVEMENT AND TRANSPORT

- › Encourage pedestrian and cycle movement so as to minimise use of vehicles moving through the space.
- › Provide facilities for cyclists, including bike racks, to encourage diverse modes of transport.
- › Bus stops shall comply with all relevant aspects of the Disability Discrimination Act (DDA) Transport Standard.



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AUSTRALIA

**DOVES**  
JEWELLERS  
SINCE 1955

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real people fast cash!

Baldo's HAIR CARE CENTRE

st. george ATM  
HOBBYPRO  
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MODELS

**SPACKMAN  
MOSSOP AND  
MICHAELS**