



*Traffic Engineers and Transport Planners*

# Traffic Engineering Assessment

**Victoria Street and Bridge Road Activity Centres, Richmond**

**Prepared For  
City of Yarra**

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G22791R-01A**

## Traffic and Access Review

Victoria Street and Bridge Road Activity Centres, Richmond

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## Victoria Street and Bridge Road Activity Centres, Richmond

### Document Control

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## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
<b>2</b>	<b>Scope &amp; Methodology .....</b>	<b>2</b>
<b>3</b>	<b>Policy Context.....</b>	<b>4</b>
3.1	Plan Melbourne 2017-2050 .....	4
3.2	State Planning Policy Framework (SPPF) .....	5
3.3	Local Planning Policy Framework.....	6
3.3.1	Council Transport Statement 2006 .....	8
3.3.2	Transport Statement Review 2012 .....	9
3.3.3	Yarra Parking Management Strategy .....	9
3.3.4	Liveable Yarra Project .....	9
<b>4</b>	<b>Victoria Street/Bridge Road Built Form Framework .....</b>	<b>11</b>
<b>5</b>	<b>Existing Conditions .....</b>	<b>11</b>
5.1	Study Areas .....	11
5.2	Road Network .....	15
5.2.1	Arterial Road Traffic Volumes .....	19
5.2.2	SmartRoads .....	19
5.2.3	Traffic Conditions .....	22
5.3	Public Transport .....	22
5.4	Sustainable Travel Modes .....	24
5.4.1	Cycling .....	24
5.4.2	Walking .....	25
5.4.3	Car Share .....	25
<b>6</b>	<b>Transport Impacts.....</b>	<b>26</b>
<b>7</b>	<b>Access and Movement Plans .....</b>	<b>28</b>
7.1	Access Management Principles .....	28
7.2	Benefits of Limiting Vehicle Access to Victoria Street and Bridge Road.....	31
7.3	Access and Movement Plans .....	32
<b>8</b>	<b>Right-of-Way Management.....</b>	<b>33</b>
8.1	Categorisation of Laneways .....	33
8.2	Upgrading the Capacity of Laneways.....	35
8.3	Upgrades to Laneway to Accommodate Non-Vehicle Users .....	38
8.4	Recommendations .....	41
<b>9</b>	<b>Design and Development Overlay – Draft Schedule.....</b>	<b>42</b>
<b>10</b>	<b>Conclusions and Recommendations .....</b>	<b>45</b>

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

### List of Figures

Figure 1: Locality Map .....	13
Figure 2: Land Use Zoning Map .....	14
Figure 3: Victoria Street - View East .....	15
Figure 4: Victoria Street - View West .....	15
Figure 5: Bridge Road - View East .....	16
Figure 6: Bridge Road - View West .....	16
Figure 7: Church Street - View North .....	17
Figure 8: Church Street - View South .....	17
Figure 9: Burnley Street - View North .....	17
Figure 10: Burnley Street - View South .....	17
Figure 11: Lennox Street - View North .....	18
Figure 12: Lennox Street - View South .....	18
Figure 13: Coppin Street - View North .....	18
Figure 14: Coppin Street - View South .....	18
Figure 15: SmartRoads Map .....	21
Figure 16: Public Transport Map .....	23
Figure 17: Travel Smart Map .....	24
Figure 18: Walkscore Map - Richmond .....	25
Figure 19: Standard 3m-wide ROW 90-degree Splay .....	36
Figure 20: Non-Standard Varied-Width ROW Splay .....	37
Figure 21: Standard 3m-wide ROW Non-Right-Angle Splay .....	37
Figure 22: Shared Zone Example - Little Buckingham Street, Richmond .....	40
Figure 23: Shared Zone Example – Little Buckingham Street, Richmond .....	40
Figure 24: Minimum sight lines for pedestrian safety (Figure 3.3 - AS2890.1-2004) .....	41

### List of Tables

Table 1: Key Objectives of Plan Melbourne in relation to the Victoria and Bridge Road Activity Centres .....	4
Table 2: SPPF Transport Objectives .....	5
Table 3: LPPF Transport Objectives & Strategies .....	7
Table 4: Summary of Parking Recommendations from Liveable Yarra Project .....	10

## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
<b>2</b>	<b>Scope &amp; Methodology .....</b>	<b>2</b>
<b>3</b>	<b>Policy Context.....</b>	<b>4</b>
3.1	Plan Melbourne 2017-2050 .....	4
3.2	State Planning Policy Framework (SPPF) .....	5
3.3	Local Planning Policy Framework.....	6
3.3.1	Council Transport Statement 2006 .....	8
3.3.2	Transport Statement Review 2012 .....	9
3.3.3	Yarra Parking Management Strategy .....	9
3.3.4	Liveable Yarra Project .....	9
<b>4</b>	<b>Victoria Street/Bridge Road Built Form Framework .....</b>	<b>11</b>
<b>5</b>	<b>Existing Conditions .....</b>	<b>11</b>
5.1	Study Areas .....	11
5.2	Road Network .....	15
5.2.1	Arterial Road Traffic Volumes .....	19
5.2.2	SmartRoads .....	19
5.2.3	Traffic Conditions .....	22
5.3	Public Transport .....	22
5.4	Sustainable Travel Modes .....	24
5.4.1	Cycling .....	24
5.4.2	Walking .....	25
5.4.3	Car Share .....	25
<b>6</b>	<b>Transport Impacts.....</b>	<b>26</b>
<b>7</b>	<b>Access and Movement Plans .....</b>	<b>28</b>
7.1	Access Management Principles .....	28
7.2	Benefits of Limiting Vehicle Access to Victoria Street and Bridge Road .....	31
7.3	Access and Movement Plans .....	32
<b>8</b>	<b>Right-of-Way Management.....</b>	<b>33</b>
8.1	Categorisation of Laneways .....	33
8.2	Upgrading the Capacity of Laneways.....	35
8.3	Upgrades to Laneway to Accommodate Non-Vehicle Users .....	38
8.4	Recommendations .....	41
<b>9</b>	<b>Design and Development Overlay – Draft Schedule.....</b>	<b>42</b>
<b>10</b>	<b>Conclusions and Recommendations.....</b>	<b>45</b>

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

### List of Figures

Figure 1: Locality Map .....	13
Figure 2: Land Use Zoning Map.....	14
Figure 3: Victoria Street - View East.....	15
Figure 4: Victoria Street - View West .....	15
Figure 5: Bridge Road - View East .....	16
Figure 6: Bridge Road - View West.....	16
Figure 7: Church Street - View North .....	17
Figure 8: Church Street - View South .....	17
Figure 9: Burnley Street - View North .....	17
Figure 10: Burnley Street - View South .....	17
Figure 11: Lennox Street - View North.....	18
Figure 12: Lennox Street - View South.....	18
Figure 13: Coppin Street - View North .....	18
Figure 14: Coppin Street - View South .....	18
Figure 15: SmartRoads Map .....	21
Figure 16: Public Transport Map.....	23
Figure 17: Travel Smart Map.....	24
Figure 18: Walkscore Map - Richmond .....	25
Figure 19: Standard 3m-wide ROW 90-degree Splay.....	36
Figure 20: Non-Standard Varied-Width ROW Splay.....	37
Figure 21: Standard 3m-wide ROW Non-Right-Angle Splay.....	37
Figure 22: Shared Zone Example - Little Buckingham Street, Richmond.....	40
Figure 23: Shared Zone Example – Little Buckingham Street, Richmond .....	40
Figure 24: Minimum sight lines for pedestrian safety (Figure 3.3 - AS2890.1-2004) .....	41

### List of Tables

Table 1: Key Objectives of Plan Melbourne in relation to the Victoria and Bridge Road Activity Centres .....	4
Table 2: SPPF Transport Objectives.....	5
Table 3: LPPF Transport Objectives & Strategies.....	7
Table 4: Summary of Parking Recommendations from Liveable Yarra Project .....	10

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

Table 5: Arterial Road Traffic Volumes (Source: VicRoads Arterial Road Database - Feb 2017) .....	19
Table 6: Summary of SmartRoads Review .....	22

## List of Appendices

- Appendix A: Clause 18 of the Yarra Planning Scheme
- Appendix B: Existing Traffic Management Conditions
- Appendix C: Existing Laneway Conditions
- Appendix D: Existing Vehicle Access Arrangements
- Appendix E: Access Management Plans
- Appendix F: Proposed Traffic Management Plans
- Appendix G: ROW Recommendations

## 1 Introduction

Yarra City Council has initiated Built Form Frameworks for the Victoria Street and Bridge Road Activity Centres. These Built Form Frameworks will define the preferred future built form character of the precincts and include principles, guidelines and requirements to guide future development and to manage the level of change. Importantly, these frameworks will inform the preparation of future Design and Development Overlay (DDO) controls and policy for these areas.

The frameworks provide a guide as to what developmental changes can be expected within the Victoria Street and Bridge Road Activity Centres in the future at such time that they are implemented as DDO controls and ultimately, resulting in increased development. This increase in development has the potential to pose transport challenges for all modes along the Victoria Street and Bridge Road corridors and immediate areas.

In particular, a number of traffic engineering related issues have arisen through the creation and analysis of the framework process, including:

- concern in relation to the impact that additional development may have on the transport network, including the network performance of Victoria Street, Bridge Road and the local road network,
- likely VicRoads and PTV concerns relating to vehicle access arrangements to properties on Victoria Street and Bridge Road and the potential impact on the safety and efficiency of the road and tram network,
- the suitability of narrow laneways to provide appropriate access to new development and movement opportunities for people, cyclists, cars and service vehicles, and
- the need for an overall access and movement plan setting out the preferred arrangements for the Victoria Street and Bridge Road Activity Centres to support the level of development being proposed and to guide decision making and policy formulation.

While the traffic impacts of this growth on this constrained network this is acknowledged as a consideration, there is strong and committed strategic policy support to facilitate increased commercial and residential development in the Victoria Street and Bridge Road Activity Centres. In considering the planning of similar centres across Melbourne, Planning Panels have acknowledged that “future congestion should not stifle development”<sup>1</sup> and the “challenge of managing the road network should not prevent the Amendment from progressing”<sup>2</sup>.

It is important that this project recognises the network constraints, the strong strategic support for development in the precinct, and the approach of Planning Panels in the discussion and advice on the future traffic conditions and future performance of Victoria Street, Bridge Road and the local road network. In particular, this project must help to ensure that future consideration of traffic issues is focused on how best to manage the impacts of future development through improved access

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<sup>1</sup> Panel Report for Moreland Amendment C123

<sup>2</sup> Panel Report for Moreland Amendment C134

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond:

arrangements and measures to promote sustainable and active modes of travel through new development.

Traffix Group has been engaged by Yarra City Council to undertake an assessment of the future access arrangements, prepare access and movement plans and provide input into the content of the future Design and Development Overlay to facilitate appropriate access and movement throughout the Activity Centres. The objective of the access and movement plans is to facilitate 'best practice' access controls to properties abutting Victoria Street and Bridge Road (or located within the 'study area') and specifically:

- To maximise the efficiency of Victoria Street and Bridge Road.
- To ensure appropriately managed vehicle access is provided to properties within the Activity Centres.
- To minimise the potential for vehicle conflicts within laneways, ensuring appropriate treatments are put into place to maximise the capacity of laneways and local roads.
- To minimise impacts on tram and public transport services.
- Provide a high quality pedestrian environment along Victoria Street and Bridge Road.
- To minimise where possible the number of vehicle access points directly to arterial roads.
- Provide appropriate vehicle access to properties, including loading and waste collection considerations.

## 2 Scope & Methodology

The adopted methodology for undertaking this study was as follows:

- Undertake thorough site inspections of the entire study areas to document and map:
  - existing access arrangements for each individual property,
  - existing traffic management treatments for all arterial and local roads and rear laneways within the study areas,
  - existing configuration of each road and laneway within the study areas (including carriageway width and road reservation width), and
  - foreseeable access constraints to each individual property should development occur.
- Review and categorisation of laneways into 3 categories (unconstrained, partially constrained or highly constrained) in order to better understand their potential to currently accommodate additional traffic under their existing conditions and configuration. Key factors include laneway width, laneway length, laneway connections (i.e. continuous or dead-end) and physical layout (i.e. bends within the laneway network). These factors are discussed in more detail further in the report.
- High level review of the developmental changes forecast within the Built Form Framework in regards to traffic impacts, in particular the intensity of traffic movements and vehicle circulation within the surrounding road network within the Victoria Street and Bridge Road Activity Centres.

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

- Review of the capacity for laneways and local roads to accommodate the forecast level of traffic based on development potential and their existing configuration.
- Review of what configuration or adjustments may be necessary to laneways or local road configurations in order to accommodate this increase in vehicle movements and to minimise potential for vehicle conflicts within the study areas. In particular, impacts on Arterial Roads to be minimised as much as practically possible.
- Liaise with stakeholders including representatives from Council to understand the relevant authority concerns and desirable access outcomes having regard to the potential impact on the safety and efficiency of the road and tram network.
- Prepare “access” maps showing the location and form of new, altered and retained access arrangements and laneways required to provide appropriate access to future developments.
- Prepare draft wording for the traffic engineering aspects of the future Design and Development Overlay, which sets out design objectives and outcomes, permit application requirements, and decision guidelines for assessing future planning permit applications, based on the desired access outcomes for future development.

### 3 Policy Context

#### 3.1 Plan Melbourne 2017-2050

Plan Melbourne is the State Government plan that will guide the growth of Melbourne city for the next 35 years. It sets the strategy for supporting jobs, housing and transport, while building on Melbourne's legacy of distinctiveness, liveability and sustainability.

The plan includes a number of key transport and urban planning objectives that the Built Form Framework aims to facilitate. The most relevant objectives are listed in the table below.

**Table 1: Key Objectives of Plan Melbourne in relation to the Victoria and Bridge Road Activity Centres**

Outcome	Directions	Policy
Outcome 2 Melbourne provides housing choice in locations close to jobs and services.	Manage the supply of new housing in the right locations to meet population growth and create a sustainable city.	Facilitate an increased percentage of new housing in established areas to create a city of 20-minute neighbourhoods close to existing services, jobs and public transport.
	Deliver more housing closer to jobs and public transport.	Facilitate well-designed, high-density residential developments that support a vibrant public realm in Melbourne’s central city.  Direct new housing and mixed-use development to urban renewal precincts and sites across Melbourne.  Support new housing in activity centres and other places that offer good access to jobs, services and public transport  Provide support and guidance for greyfield areas to deliver more housing choice and diversity.
Outcome 3 Melbourne has an integrated transport system that connects people to jobs and services and goods to market.	Transform Melbourne’s transport system to support a productive city.	Provide high-quality public transport access to job-rich areas.  Improve arterial road connections across Melbourne for all road users.  Provide guidance and certainty for land use and transport development through the Principal Public Transport Network and the Principal Freight Network.  Improve the efficiency of the motorway network.  Support cycling for commuting.
	Improve local travel options to support 20-minute neighbourhoods.	Create pedestrian-friendly neighbourhoods.  Create a network of cycling links for local trips.  Improve local transport choices.
Outcome 5	Create a city of 20-minute neighbourhoods.	Create mixed-use neighbourhoods at varying densities.

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

Outcome	Directions	Policy
Melbourne is a city of inclusive, vibrant and healthy neighbourhoods.		Support a network of vibrant neighbourhood activity centres.
	Create neighbourhoods that support safe communities and healthy lifestyles.	Improve neighbourhoods to enable walking and cycling as a part of daily life.

### 3.2 State Planning Policy Framework (SPPF)

Clause 18 of the SPPF details state-wide objectives, strategies and policy guidelines relating to transport, including land use and transport planning, the transport system, walking, cycling, the principal public transport network, management of the road system, car parking ports, airports and freights.

The SPPF Transport objectives that are relevant to Yarra are set out in Table 2 below.

**Table 2: SPPF Transport Objectives**

Clause	Objectives
<b>18.01-1 Land Use and Transport Planning</b>	To create a safe and sustainable transport system by integrating land-use and transport.
<b>18.01-2 Transport System</b>	To coordinate development of all transport modes to provide a comprehensive transport system.
<b>18.02-1 Sustainable Personal Transport</b>	To promote the use of sustainable personal transport.
<b>18.02-2 Cycling</b>	To integrate planning for cycling with land use and development planning and encourage as alternative modes of travel.
<b>18.02-3 Principal Public Transport Network</b>	To upgrade and develop the Principal Public Transport Network and local public transport services in Metropolitan Melbourne to connect activity centres, link activities in employment corridors and link Melbourne to the regional cities.
<b>18.02-4 Management of the Road System</b>	To manage the road system to achieve integration, choice and balance by developing an efficient and safe network and making the most of existing infrastructure.
<b>18.02-5 Car Parking</b>	To ensure an adequate supply of car parking that is appropriately design and located.

A copy of Clause 18 of the Planning Scheme is attached at Appendix A, and details the strategies and policy guidelines relating to each of the objectives listed in Table 1.

Detailed state-wide requirements in relation to car parking, loading and bicycle parking are set out at Clause 52.06, 52.07 and 52.34 of the Planning Scheme respectively.

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

### 3.3 Local Planning Policy Framework

While Clause 18 sets out the state-wide planning policy in relation to transport, each Council also sets its own local policies at Clauses 20, 21 and 22 of the Planning Scheme.

Clause 21 sets out the Municipal Strategic Statement (MSS).

Clause 21.03 sets out the vision for the municipality, as follows:

#### Land Use

- *The City will accommodate a diverse range of people, including families, the aged, the disabled, and those who are socially or economically disadvantaged.*
- *Yarra will have increased opportunities for employment.*
- *There will be an increased provision of public open space.*
- *The complex land use mix characteristic of the inner City will provide for a range of activities to meet the needs of the community.*
- *Yarra's exciting retail strip shopping centres will provide for the needs of local residents, and attract people from across Melbourne.*

#### Built Form

- *Yarra's historic fabric which demonstrates the development of metropolitan Melbourne will be internationally recognised.*
- *Yarra will have a distinctive identity as a low-rise urban form, with areas of higher development and highly valued landmarks.*
- *People will safely get together and socialise in public spaces across the City.*
- *All new development will demonstrate design excellence.*

#### Transport

- *Local streets will be dominated by walkers and cyclists.*
- *Most people will walk, cycle and use public transport for the journey to work.*

#### Environmental sustainability

- *Buildings throughout the City will adopt state-of-the-art environmental design.*
- *Our natural environment will support additional species of flora and fauna.*

*This vision is pursued by the objectives and strategies set out in the land use, built form, transport, environmental sustainability and neighbourhood sections under Clauses 21.04- 21.08.*

Clause 21.06 sets out Yarra's detailed local Transport policy. The preamble states the following:

*Yarra needs to reduce car dependence by promoting walking, cycling and public transport use as viable and preferable alternatives. This is also a key message of Melbourne 2030 and fundamental to the health and well-being of the community.*

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

*While the scope of the planning scheme in managing an integrated transport system is limited, Council will work towards improving the quality of walking and cycling infrastructure as a priority. Note that the term “walking” includes people who use wheelchairs.*

*Parking availability is important for many people, however in Yarra unrestricted car use and parking is neither practical nor achievable. Car parking will be managed to optimise its use and to encourage sustainable transport options.*

The specific objectives and strategies for Transport management in Yarra are detailed in Table 2 below.

**Table 3: LPPF Transport Objectives & Strategies**

Clause	Objective	Strategies
<b>21.06-1 Walking &amp; Cycling</b>	To provide safe and convenient pedestrian and bicycle environments.	30.1 Improve pedestrian and cycling links in association with new development where possible. 30.2 Minimise vehicle crossovers on street frontages. 30.3 Use rear laneway access to reduce vehicle crossovers.
<b>21.06-2 Public Transport</b>	To facilitate public transport usage.	31.1 Require new development that generates high numbers of trips to be easily accessible by public transport.
<b>21.06-3 The Road System &amp; Parking</b>	To reduce the reliance on the private motor car.	32.1 Provide efficient shared parking facilities in activity centres. 32.2 Require all new large developments to prepare and implement integrated transport plans to reduce the use of private cars and to encourage walking, cycling and public transport.
	To reduce the impact of traffic.	33.1 ensure access arrangements maintain the safety and efficiency of the arterial and local road networks. 33.2 Ensure the level of service needed for new industrial and commercial operations does not prejudice the reasonable needs of existing industrial and commercial operations to access Yarra’s roads.

The City of Yarra is currently undertaking a review of a number of Municipal Strategic Statement (MSS) policy themes, including Transport.

Yarra’s Planning Scheme Review – Report on Findings (October 2014) sets out the following in relation to the current Transport policy in the Planning Scheme:

*An effective and efficient transport network is at the heart of a vibrant, equitable and prosperous municipality. In inner city environments, the management of the limited road and transport space and resources can require balancing of a number of objectives. This is a particular challenge in Yarra, due to the travel demands generated by:*

- *the strategic location of the municipality on the edge of the central city*
- *the significant and growing mobile population, and*
- *the presence and proximity of major event attractors.*

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

*Transport is currently addressed separately in the Context and Vision provisions of the Scheme as well as in strategy at Clause 21.06. It is also addressed in some specific policies such as the parking, access and traffic provisions of Built Form and Design Policy (Clause 22.10).*

*The current policy expresses a preference to reduce car dependency and encourage walking, cycling and public transport use. This appears to have had some success, with Yarra having a higher bicycle use rate than other parts of Melbourne.*

*There are still, however, inconsistencies regarding the requirement for Green Travel Plans, the use of car share schemes and reductions or waiving of on-site car parking.*

*Carparking was considered a particularly contested political issue in the initial consultation; any position or strategy regarding carparking is unlikely to satisfy all stakeholders. The Parking Strategy and Local Area Transport Management Policy provides a framework for the development of local area traffic management schemes.*

*The Scheme would be assisted with clear direction about how Council seeks to facilitate greater use of public transport, walking and cycling, and how and in what circumstances this will translate into reduced car parking, car sharing schemes and the like. The approach should include consideration of car parking in activity centres on a precinct wide basis (rather than site-by-site) as well as strategies relating to visitor car parking and increased bicycle parking.*

Relevant additional policies and studies (which do not form part of the Planning Scheme) are summarised below.

### 3.3.1 Council Transport Statement 2006

City of Yarra's Strategic Transport Statement 2006 sets out a clear desire to reduce car dependence in the City of Yarra by promoting walking, cycling and public transport use as viable and preferable alternatives.

The Strategic Transport Statement sets out the following hierarchy of transport modes which forms the basis for decision making and actions related to transport in the City:

1. Pedestrians (including wheelchairs and walking with prams)
2. Cyclists
3. Tram
4. Bus/train
5. Taxi users/car sharers
6. Freight vehicles
7. Motorcyclists
8. Multiple occupants local traffic
9. Single occupants local traffic
10. Multiple occupants through traffic
11. Single occupants through traffic

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

The vision of Council's Transport Statement 2006 is ... *"to create a city which is accessible to everyone irrespective of levels of personal mobility and where a fulfilling life can be had without the need for a car"*.

There are seven key Strategic Transport Objectives (STO) to achieve this vision.

Of particular relevance is STO 5, which is to ... *"ensure Council's response to parking demand is based on Yarra's hierarchy and sustainable transport principles"*.

### 3.3.2 Transport Statement Review 2012

The City of Yarra's Strategic Transport Statement was reviewed in 2012.

Relevant key actions include the following:

- *Develop guidelines for assessing planning permit applications for car parking dispensation.*
- *Develop guidelines for car share operators that address the issues of location, number of bays and signage so that operators are clear as to the process and responsibilities.*

### 3.3.3 Yarra Parking Management Strategy

The Yarra Parking Management Strategy provides the framework around Yarra's policies for parking permit schemes, parking enforcement, the provision of disability access parking, managing parking around shopping strips, signage and all other parking-related issues and topics.

Council's website states that the fundamental aims of the Strategy are:

- *to reduce the number of cars parking in Yarra,*
- *to promote public transport as an alternative to driving, and*
- *to ensure visitors contribute to the cost of providing Yarra's parking infrastructure.*

A key aim underpinning this strategy is Council's desire to promote sustainable travel, such as cycling, walking and public transport.

Action Area 4 of Council's Parking Management Strategy is an integrated approach for Municipal Parking Strategy and in particular identifies a need to further develop Yarra's policy to provide a disincentive to car ownership and use by working with other sections of Council to promote behaviour change, sustainable transport and introduce more sustainable transport infrastructure.

### 3.3.4 Liveable Yarra Project

In 2015 Council undertook an extensive community engagement process known as the "Liveable Yarra Project". The consultation consisted of a number of elements including a People's Panel, Advisory Committees, and Targeted Community Workshops, and covered a range of topics, one of which was "Access and Movement".

The "engagement summary" document prepared by Capire Consulting Group (January 2016) summarised the consultation in relation to access and movement as follows:

*"Access and movement received the highest number of priority votes at 64. Actions around the improvement of cycling, walking and non-automotive transport modes were strongly supported. Panel members suggested trialling street closures to "reclaim" street share for cyclists and*

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond:

*pedestrians. The trade-off of busier arterials was seen as largely acceptable pending the trials. Panel members were very supportive of Council efforts to lobby for public transport upgrades.”*

The specific Access and Movement recommendations which were summarised in the “engagement summary” document are as set out in Table 3 below.

**Table 4: Summary of Parking Recommendations from Liveable Yarra Project**

Action No.	Action	Support from People’s Panel
1	Articulate targets for street share. Develop a municipality wide plan for transport and access.	86% support 12% not sure 2% disagree
2	Close local (residential) streets to through traffic including living streets.	36% support 48% not sure 16% disagree
3	Increase space for pedestrians and bikes, dedicated lanes/corridors. Decrease car space on the streets.	63% support 22% not sure 15% disagree
4	Require better bicycle parking as part of major development.	76% support 14% not sure 10% disagree
5	Reduce barriers that discourage riding, improve safety, connections, lighting. Council to provide additional cycling infrastructure – a comprehensive network that consistently provides a good level of service.	75% support 18% not sure 7% disagree
6	Move away from a “predict and provide” approach to providing car parking in new development.	86% support 12% not sure 2% disagree
7	Continue to work with State Government to improve performance of current public transport infrastructure assets.	36% support 48% not sure 16% disagree
8	Continue lobbying for improved public transport (new infrastructure and services).	63% support 22% not sure 15% disagree

## 4 Victoria Street/Bridge Road Built Form Framework

Victoria Street and Bridge Road are important commercial and retail areas within the Yarra Local Government Area that has been identified in State and local planning policy documents as an area suitable for accommodating significant residential and commercial growth, principally through redevelopment of sites and development in new upper levels to existing buildings.

Built Form Frameworks are being prepared for the Victoria Street and Bridge Road Activity Centres. These provide recommendations in relation to building heights and setbacks, amongst other areas and will guide the future form and development in these centres.

This report informs and supports the traffic engineering aspects of the Built Form Framework. It seeks to manage the impact of new development by encouraging appropriate vehicle access outcomes, in particular the use of side and rear frontages for vehicle access instead of arterial roads. This strategy is important to promoting pedestrian and cycle friendly environments and support public transport services along these roads.

The development outcomes proposed under the Built Form Framework have been taken into account when formulating our recommendations. In particular, the envisioned development intensity abutting and accessing the local road/laneway network has been a key factor in the recommendations of this report.

## 5 Existing Conditions

### 5.1 Study Areas

The study areas extend for approximately 2.1km and 2.2km long sections of Victoria Street and Bridge Road, respectively, between Hoddle Street and the Yarra River and encompass effectively all of the properties adjacent to both Victoria Street and Bridge Road between Hoddle Street and the Yarra River as shown in the locality plan provided on the following page at Figure 1.

In addition to these properties, a number of other areas are included within the study areas, including properties along the rail corridor to the south of Victoria Street (i.e. Regent Street), amongst a number of smaller Precincts.

Our review does not include 'island sites' that are isolated from Victoria Street or Bridge Road (as identified in Figure 1. From a transport perspective, these areas are less critical as they generally already have alternative vehicle access options than arterial roads.

Land within the study areas is generally zoned 'Commercial 1 Zone' with a small section of residential uses at the east end of both Victoria Street and Bridge Road. There is also a large amount of land zoned either 'Priority Development Zone 1' or 'Comprehensive Development Zone 1' at the eastern end of Victoria Street.

Significant land uses within the vicinity of the study area include:

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond:

- North Richmond Station, located south of Victoria Street, between Hoddle Street and Church Street.
- The Hive Shopping Centre, located on Victoria Street, between Hoddle Street and Church Street.
- Abbotsford Primary School, located north of Victoria Street, between Hoddle Street and Church Street.
- The Carlton United Brewery, located north of Victoria Street, adjacent to the northern boundary of the site.
- Victoria Gardens Shopping Centre, located on Victoria Street at the eastern end of the study area.
- The Epworth Hospital, located on Bridge Road, east of Hoddle Street.
- Richmond Plaza, located on Bridge Road, at the intersection with Church Street.
- Richmond Town Hall, located on Bridge Road, between Church Street and Burnley Street.

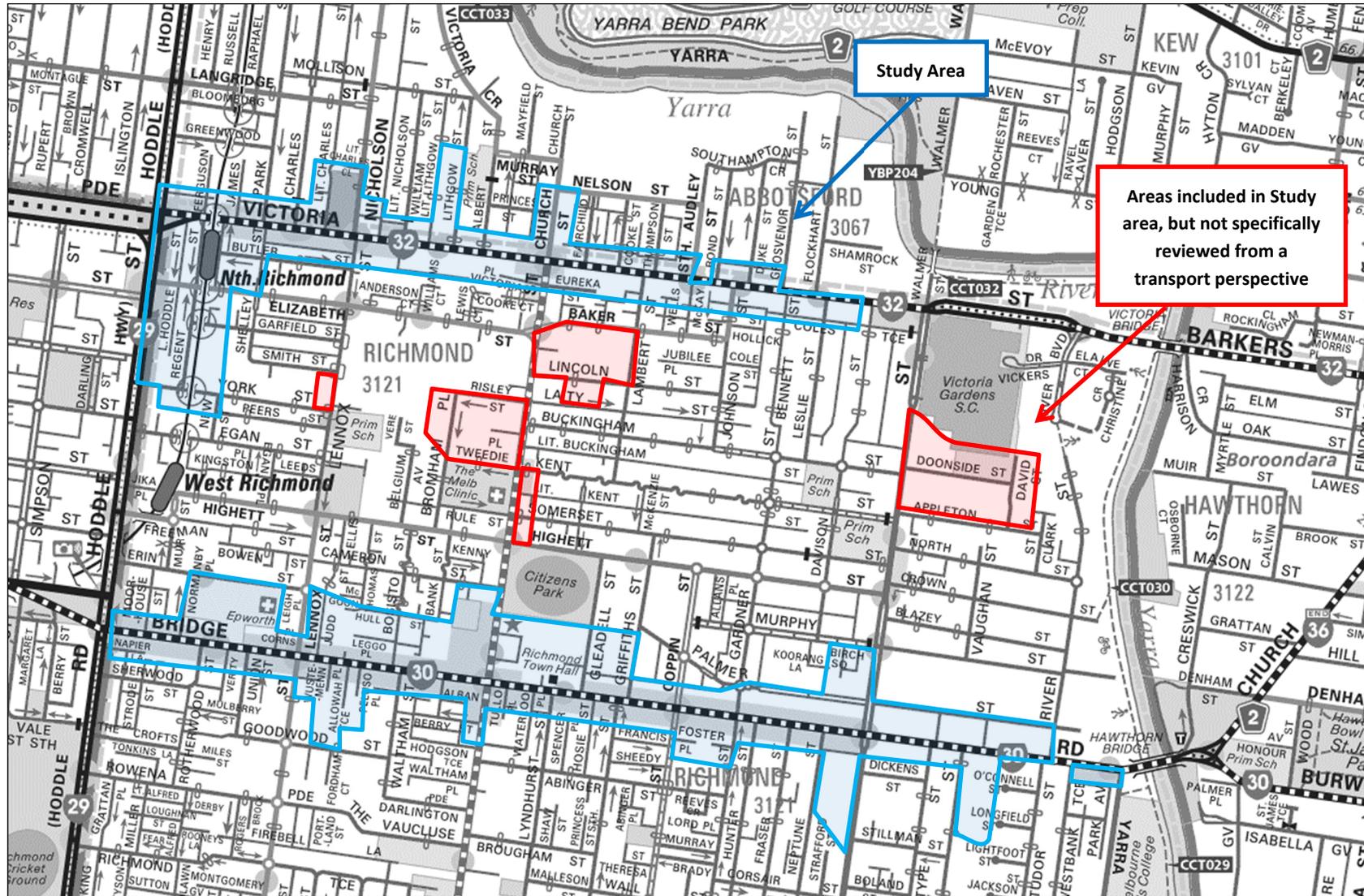
In the wider area, the following Activity Centres and key land uses are located in close proximity to the study area:

- West Richmond Station, located between the Victoria Street and Bridge Road activity centres, east of Hoddle Street.
- Melbourne's Sports Precinct is located west of Punt Road, beginning to the south-west of the boundary of the study area.
- The Melbourne CBD begins approximately 2km from the western end of the study area.
- The Swan Street Road Activity Centre, located approximately 800m south of Bridge Road.
- The Smith Street Activity Centre, located approximately 800m west of Victoria Street.

All of these areas are readily accessible from the study area via walking, cycling or a short public transport trip.

Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond: Victoria Street and Bridge Road Activity Centres, Richmond

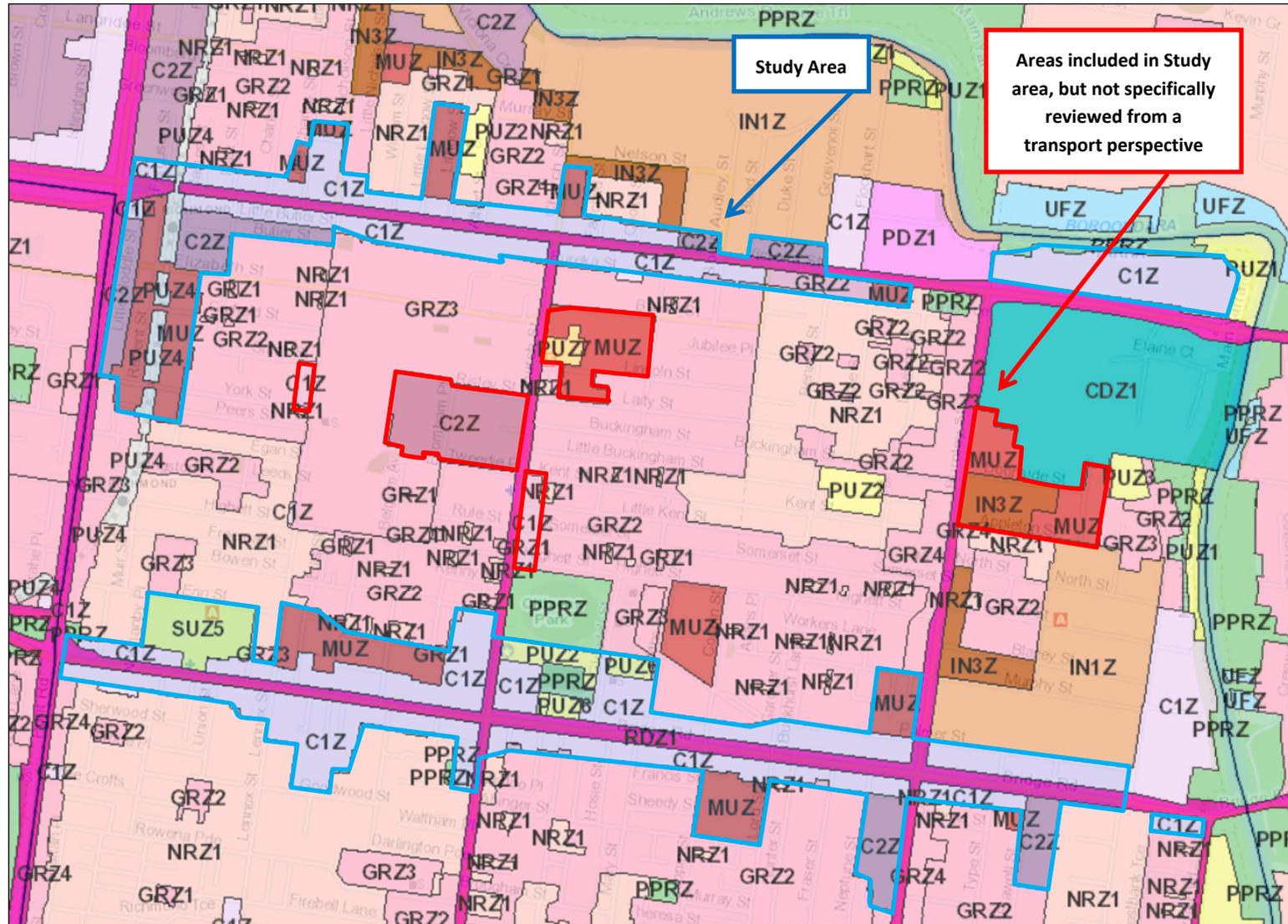


Source: Melway

Figure 1: Locality Map

**Traffic Engineering Assessment**

Victoria Street and Bridge Road Activity Centres, Richmond: Victoria Street and Bridge Road Activity Centres, Richmond



Source: Planning Schemes Online

**Figure 2: Land Use Zoning Map**

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond

### 5.2 Road Network

The following section describes the higher order roads within the study areas. This study has also reviewed the local roads and laneways within the study area.

A detailed review of the existing traffic management measures on arterial and local roads within the study areas is provided at Appendix B.

A detailed review of the existing conditions of ROWs is included at Appendix C of this report.

A map of existing vehicle access points to properties within the study area abutting arterial roads is included at Appendix D of this report.

**Victoria Street** is a VicRoads declared arterial road and Road Zone Category 1 which extends in an east-west direction for approximately 2km between Punt Road in the west (where it continues as Victoria Parade) and the Yarra River in the east (where it continues as Barkers Road).

Within the study area, Victoria Street typically provides with two through traffic lanes in each direction, with tram lines running within the central traffic lanes. The outer traffic lanes also provide kerbside parallel parking with clearways applying during the AM peak (7am-9:15am) on the southern side of the street and during the PM peak (4:30pm-6:30pm) on the northern side of the street.

A number of the tram stops between Hoddle Street and Church Street are 'easy access stops' which have a raised kerbside lane adjacent to the tram stop. Parking is prohibited along these sections of road, and vehicle access is allowed in either lane.

U-turns are prohibited on Victoria Street due to the solid white centreline. West of Church Street, a 40km/h speed limit applies to Victoria Street. East of Church Street, a 60km/h speed limit applies.

Photographs of Victoria Street, depicting the typical cross section of Victoria Street are presented in Figure 3 and Figure 4.



Figure 3: Victoria Street - View East

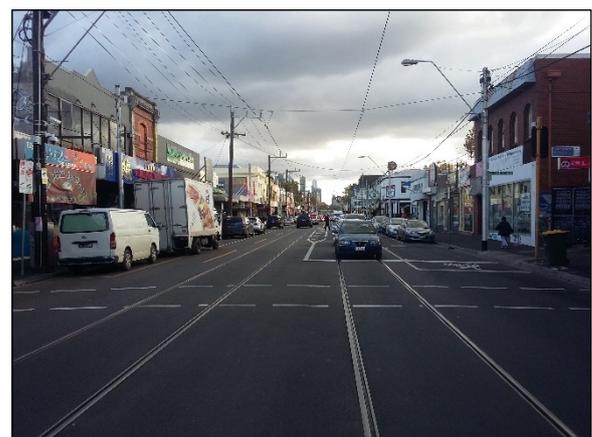


Figure 4: Victoria Street - View West

**Bridge Road** is a VicRoads declared arterial road and Road Zone Category 1 which extends in an east-west direction for approximately 2km between Punt Road in the west (where it continues as Wellington Parade) and the Yarra River in the east (where it continues as Burwood Road).

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

Within the study area, Bridge Road typically provides with two through traffic lanes in each direction, with tram lines running within the central traffic lane or central fairway. The outer traffic lanes also provide kerbside parallel parking with clearways applying during the AM peak (7am-9:15am) on the southern side of the street and during the PM peak (4:30pm-6:30pm) on the northern side of the street.

A number of the tram stops between Hoddle Street and Church Street are 'easy access stops' which have a raised kerbside lane adjacent to the tram stop. Parking is prohibited along these sections of road, and vehicle access is allowed in either lane.

To the east of Church Street, the tram line is separated from vehicle traffic via a raised yellow dividing strip.

U-turns are prohibited on Bridge Road due to the solid white centreline. West of Burnley Street, a '40km/h 7am-mid' speed limit applies to Victoria Street. Outside of these times a 60km/h speed limit applies. East of Burnley Street, a 60km/h speed limit applies at all times.

Photographs of Bridge Road, taken west of Church are presented in Figure 3 and Figure 4.



Figure 5: Bridge Road - View East

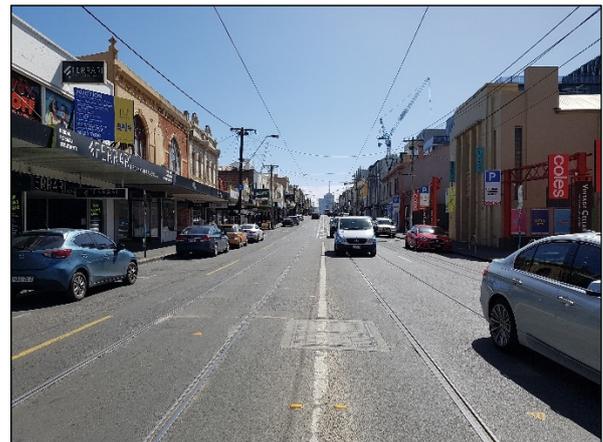


Figure 6: Bridge Road - View West

**Church Street** is a VicRoads declared arterial road and Road Zone Category 1 which extends in a north-south direction for approximately 3km between the Yarra River in the south (where it continues as Chapel Street) and the Yarra River in the north.

Within the study area, Church Street typically provides two through traffic lanes in each direction, with tram lines running within the central traffic lane. To the south of Bridge Road, a 40km/h speed limit applies, and to the north, a 60km/h speed limit applies.

Photographs of Church Street, taken at Cameron Street, are presented in Figure 7 and Figure 8.

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond



Figure 7: Church Street - View North

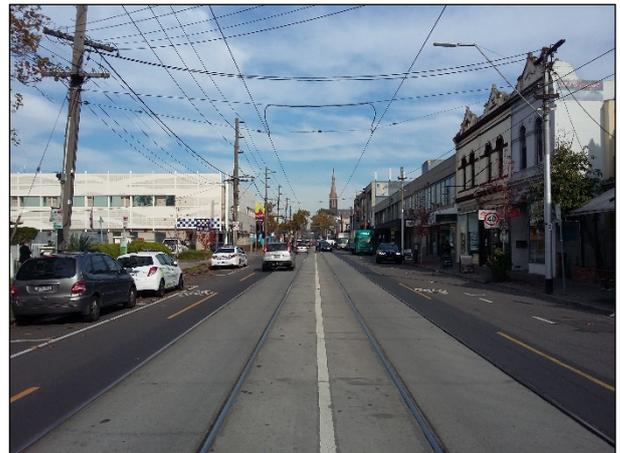


Figure 8: Church Street - View South

**Burnley Street** is a VicRoads declared arterial road and Road Zone Category 1 which extends in a north-south direction between CityLink/Barkly Avenue and Victoria Street. Burnley Street is also nominated as a Traffic Route and Bicycle Priority Route.

Within the study area, Burnley Street provides a traffic lane, bicycle lane and kerbside parking lane in each direction. Intermittently, a dividing median is provided. A 60km/h speed limits to Burnley Street.

Photographs of Burnley Street, taken at Bridge Road, are presented in Figure 9 and Figure 10 below.

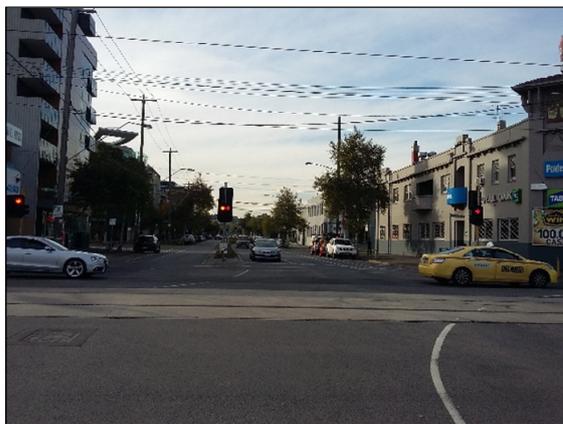


Figure 9: Burnley Street - View North



Figure 10: Burnley Street - View South

**Lennox Street/Nicholson Street** functions as a Collector Road managed by Council. Lennox Street provides a north-south link between Swan Street and Victoria Street. Between Bridge Road and Highett Street, Lennox Street provides a through traffic lane, bicycle lane and alternating kerbside parallel parking or angle parking in both directions. Lennox Street narrows to the north of Highett Street, with no entry to Lennox Street in the northbound direction at Highett Street. North of Highett Street, a traffic lane is provided in each direction, and kerbside parking is provided on the west side of the road. Between Elizabeth Street and Victoria Street, northbound traffic into Lennox Street at the Elizabeth intersection is prohibited, and southbound traffic into Lennox Street from Victoria Street is prohibited, with two-way flow in between these two roads. To the north of Church Street, Lennox Street continues as Nicholson Street, where a traffic lane, bicycle lane and kerbside parking lane are provided in each direction.

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

Photographs of Lennox Street, taken at Corns Place, are presented in Figure 11 and Figure 12.



**Figure 11: Lennox Street - View North**



**Figure 12: Lennox Street - View South**

**Coppin Street** functions as a Collector Road managed by Council. Coppin Street provides a north-south link between Barkly Avenue and Highett Street. Coppin Street is a Bicycle Priority Route. Within the study area, Coppin Street provides a through traffic lane, bicycle lane and kerbside parallel parking in both directions. To the south of Bridge Road, the traffic lanes are separated by centrally located trees and to the north of Bridge Road, median parking is provided. Photographs of Coppin Street, taken at Bridge Road, are presented in Figure 13 and Figure 14 below.



**Figure 13: Coppin Street - View North**



**Figure 14: Coppin Street - View South**

**Punt Road** is a VicRoads declared arterial road which extends in a north-south direction at the western boundary of the study area. Punt Road is a preferred traffic route and key north-south link on the eastern side of the Melbourne CBD.

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond

### 5.2.1 Arterial Road Traffic Volumes

The following table sets out the Average Annual Daily Traffic Volumes of the arterial roads within the study area. This information is sourced from the VicRoads Arterial Road Database (February, 2017).

**Table 5: Arterial Road Traffic Volumes (Source: VicRoads Arterial Road Database - Feb 2017)**

Road Name	Average Annual Daily Traffic Volume
<b>Victoria Street</b>	
Btw Church/Hoddle	18,000
Btw Burnley/Church	18,300
Btw High/Burnley	23,000
<b>Bridge Road</b>	
Btw Hoddle/Lennox	17,900
Btw Lennox/Church	18,200
Btw Church/Coppin	18,600
Btw Coppin/Burnley	20,600
Btw Burnley/Yarra	23,000
<b>Church Street</b>	
Bridge to Highett	12,700
Highett to Elizabeth	13,600
Elizabeth to Victoria	12,800
<b>Burnley Street</b>	
Bridge to Victoria	12,400

### 5.2.2 SmartRoads

VicRoads have developed the SmartRoads tool in order to better manage competing interests for limited road space by giving priority use of the road to different transport modes at particular times of the day.

Under SmartRoads, all road users continue to have access to all roads, but over time the Smartroads plan aims to change how roads managed in order to:

- facilitate good pedestrian access into and within activity centres in periods of high demand,
- prioritise trams and buses on key public transport routes that link activity centres during morning and afternoon peak periods,
- encourage cars to use alternative routes around activity centres to reduce the level of 'through' traffic,
- encourage bicycles through further developing the bicycle network, and

## **Traffic Engineering Assessment**

### Victoria Street and Bridge Road Activity Centres, Richmond

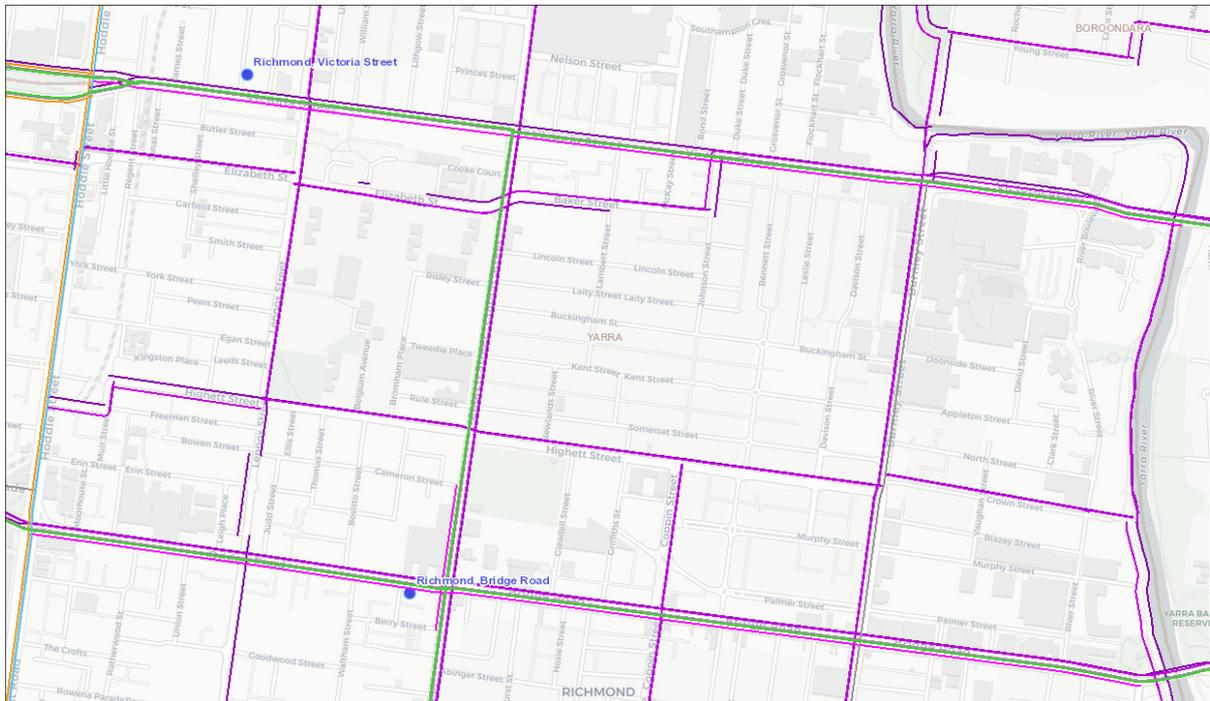
- prioritise trucks on important transport routes that link freight hubs and at times that reduce conflict with other transport modes.

The SmartRoads Plan for the Victoria Street and Bridge Road Activity Centres and immediate surrounds is provided at Figure 15.

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

Table 6 summarises the function of Victoria Street, Bridge Road and key intersecting arterial roads within the study area.



Source: VicRoads

#### Legend

<b>Tram Priority Route</b>	●● Future Bus Priority Route	<b>Traffic Routes</b>	<b>Bicycle Priority Route</b>	●● Local Secondary Access Route	<b>Central, Principal &amp; Regional Activity Areas</b>
— Tram Priority Route	<b>Preferred Traffic Route</b>	— Traffic Route	— Bicycle Priority Route	●● Specialised & Major Activity Areas	■ Central Activities Area
●● Future Tram Priority Route	— Preferred Traffic Route	●● Future Traffic Route	<b>Local Roads</b>	●● Specialised Activities Area	■ Principal Activities Area
<b>Bus Priority Route</b>	●● Future Preferred Traffic Route	<b>Pedestrian Priority</b>	— No Priority	●● Major Activities Area	■ Regional Activities Area
— Bus Priority Route		— Pedestrian Priority Route	— Local Primary Access Route		

Figure 15: SmartRoads Map

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

**Table 6: Summary of SmartRoads Review**

Road	Tram Priority Route	Bus Priority Route	Preferred Traffic Route	Traffic Route	Pedestrian Priority Route	Bicycle Priority Route
Victoria Street	Y	N	N	Y	Y	Y – Partially
Bridge Road	Y	N	N	Y	Y	Y
Church Street	Y	N	N	Y	Y - Partially	Y
Burnley Street	N	N	N	Y	N	Y
Coppin Street	N	N	N	N	N	Y
Lennox Street	N	N	N	N	N	Y - Partially

The SmartRoads plan clearly sets out that sustainable transport modes are the key priorities for both Victoria Street and Bridge Road into the future. This includes tram services, walking and cycling. While both these roads have a traffic carrying function, it is not a preferred traffic route.

### 5.2.3 Traffic Conditions

Key intersections along Victoria Street and Bridge Road are operating at or near capacity during peak hours. This includes at Punt Road, Burnley Street and Church Street. Various traffic analysis conducted by Traffix Group and other consultants have found that these intersections operate at or near capacity during the commuter peak hours, with congestion on one or more legs at various times.

The provision of Clearways at commuter peak hours provides additional capacity in the peak direction, however both Bridge Road and Victoria Street can experience congestion at other times during the day and on the weekend.

## 5.3 Public Transport

The subject site is located in an area that is well serviced by rail and tram services as follows:

- North Richmond Station and West Richmond Station are located at the western end of the study area and provides access to the South Morang and Hurstbridge Lines.
- Tram Route 12 operates between Victoria Gardens and St Kilda via Richmond, the city and South Melbourne and runs along Victoria Street.
- Tram Route 109 operates between Box Hill and Port Melbourne via Mont Albert, the city and Southbank and runs along Victoria Street.
- Tram Route 48 operates between North Balwyn and Victoria Docklands via Kew Richmond and the City and runs along Bridge Road.
- Tram Route operates between Docklands and Vermont South via Burwood, Hawthorn, Richmond and the city and runs along Bridge Road.
- Tram Route 78 operates between North Richmond and Balaclava via Prahran and runs along Church Street through the study area.

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

- A total of 11 different bus services operate along Hoddle Street to the western end of the study area, adjacent to the Victoria Parade/Hoddle Street intersection.

These public transport services are shown on the Public Transport Map at Figure 16 below.

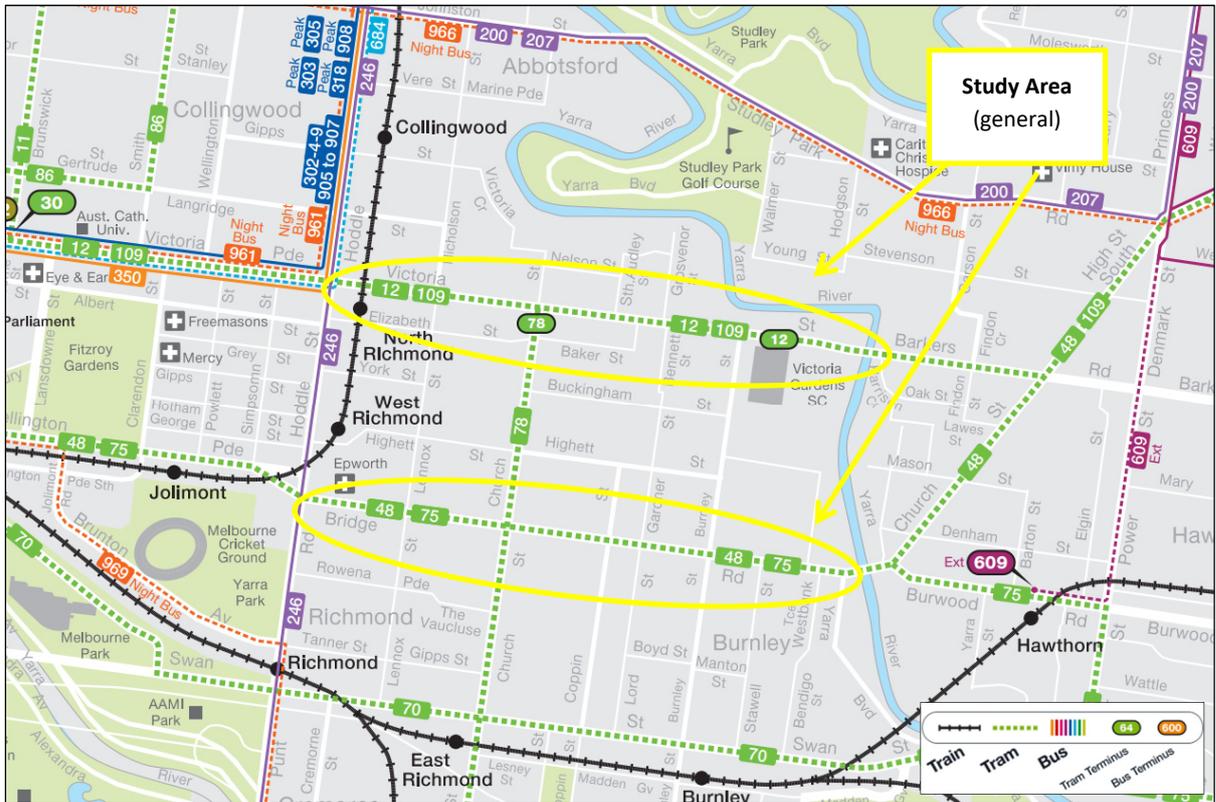


Figure 16: Public Transport Map

### 5.4 Sustainable Travel Modes

The study area is well served by alternative transport modes. Figure 17 below shows the Travel Smart Map for the study area.



Figure 17: Travel Smart Map

Source: City of Yarra

#### 5.4.1 Cycling

Victoria Street and Bridge Road are nominated as an informal bicycle routes. On-road bicycle lanes are provided on several of the north-south streets which intersect the study area including Church Street, Burnley Street and Coppin Street. Key off-road bicycle routes include the Capital City Trail along the Yarra River to the east and the Main Yarra Trail to the south.

The high level of bicycle infrastructure within and surrounding the study area provides cyclists with convenient access to the surrounding suburbs.

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond

### 5.4.2 Walking

The study area is highly walkable with many everyday services and destinations within convenient walking distance. The Walkscore<sup>3</sup> map for Richmond is below, with most areas of Richmond scoring well over 90 (classified as a 'Walkers Paradise'). The Melbourne CBD, Victoria Street, Bridge Road and Smith Street Activity Centres are all within a walkable distance from Victoria Street and Bridge Road.

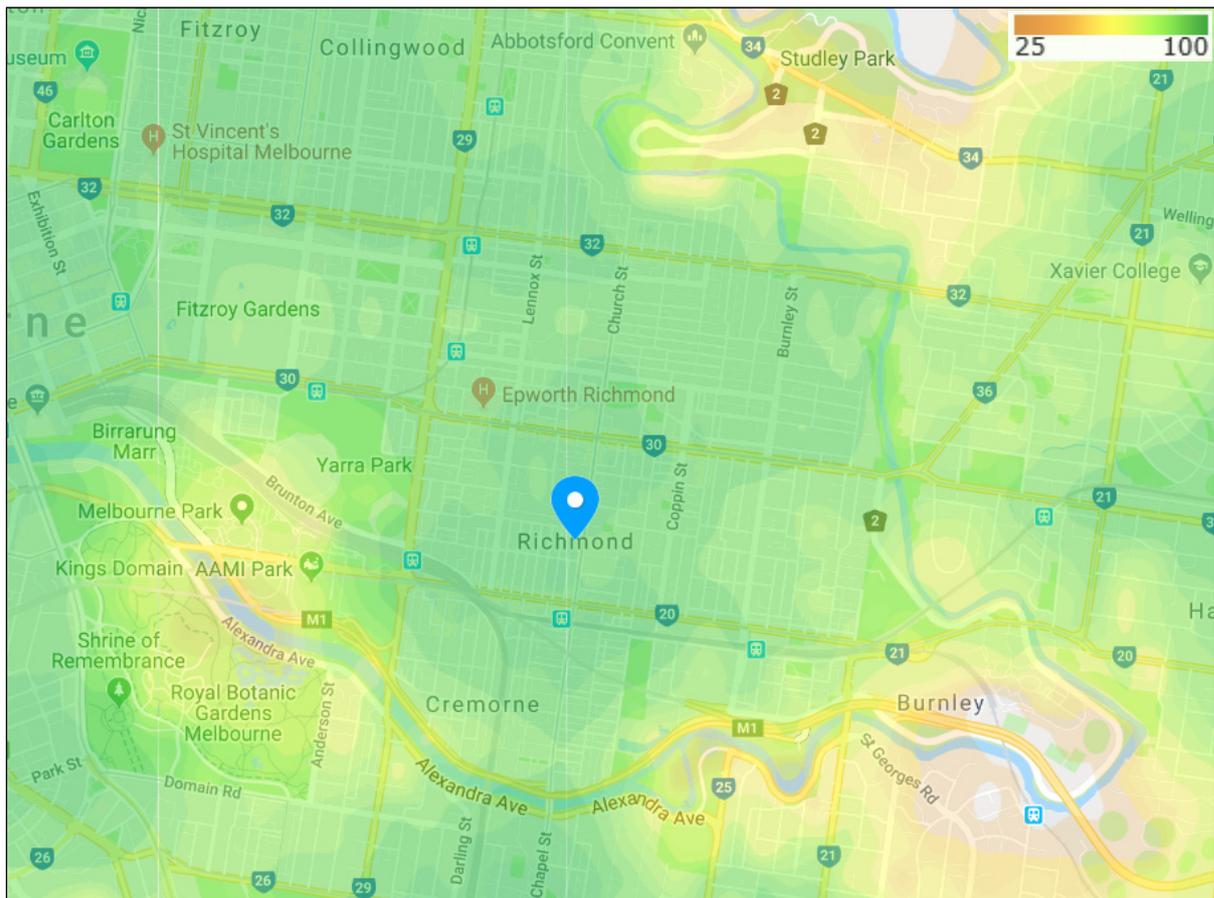


Figure 18: Walkscore Map - Richmond

### 5.4.3 Car Share

As shown on the TravelSmart map at Figure 17, there are a number of car share vehicles located within the study area and surrounding streets, particularly at the western end of the study area.

The provision of these car share vehicles provides drivers with a viable alternative to owning their own personal vehicle and actively encourages the use of alternative transport modes. Residents within Richmond do not need a car for everyday trips as they have convenient access to public transport and are within convenient walking and cycling distance of many activities within the Melbourne CBD and nearby Activity Centres. Car share vehicles provide a car on demand for those trips that specifically require a vehicle.

<sup>3</sup> <https://www.walkscore.com/score/richmond-victoria>

## 6 Transport Impacts

This study does not seek to undertake detailed traffic modelling of Victoria Street and Bridge Road or their key intersections. Traditional traffic modelling relies on estimates of future growth of land use intensity and assumptions about future trip generation rates and transport mode choice to assess the impact on a transport network. In our view, these critical modelling assumptions cannot be determined with any certainty for the Victoria Street and Bridge Road Activity Centres.

There are a number of factors that mean that preparing a detailed traffic model for these Activity Centres is not possible. At this time, Yarra City Council has not completed a detailed study regarding possible increases in dwelling numbers or commercial floor space on specific sites or within the Victoria Street and Bridge Road Activity Centres, which is an essential requirement of any model.

Council is also in the process of reviewing car parking provisions within the City of Yarra, including the Victoria Street and Bridge Road Activity Centres. Future policy is expected to move away from a 'predicted and provide' approach to car parking provision (as identified by the Liveable Yarra Project) towards using car parking as a tool to encourage sustainable transport choices. Car parking provision rates are expected to be lower than have historically been required. The provision of car parking can have a significant impact on the traffic generated by a development site and the mode choice of trips generated by any development and this will greatly affect any assessment of future traffic conditions.

Fundamentally though, a detailed traffic model would not assist in achieving the key objectives of this study, which is to best manage the transport challenges posed by new development. This is primarily achieved by apply best principles access management techniques to manage this new development.

Victoria Street and Bridge Road are constrained arterial roads with a finite capacity and it is well established that Victoria Street and Bridge Road are congested arterial roads. Growth in trips to and within the Activity Centres will be largely catered for by alternative transport modes such as public transport, walking and cycling. This study aims to promote these modes in the following key ways:

### **Public Transport**

- Maximise the efficiency of tram services on Victoria Street, Bridge Road and Church Street, specifically by minimising the impact of traffic accessing properties along Victoria Street, Bridge Road and Church Street.
- Minimise potential conflicts between vehicle access points and future tram stop upgrades.

### **Walking**

- Provide a high-quality pedestrian environment, including by minimising the impact of vehicle access points along key pedestrian routes, especially arterial roads.
- To protect and enhance pedestrian connectivity to key destinations within the Activity Centres.
- Promote public transport by providing good pedestrian links to public transport stops.

### **Cycling**

- Promote a safe cycling environment by minimising the number of conflict points with vehicles.

Key outcomes of this assessment are:

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

- Access and Movement Plans for properties located within the study areas of The Framework for Victoria Street and Bridge Road. These plans apply best practice vehicle access management techniques to properties primarily abutting Victoria Street and Bridge Road (but also a number of properties within the wider study area) to manage the impacts of vehicle access to abutting properties on these three modes and maximise the efficiency of the arterial road network. A detailed model of traffic movements along Victoria Street and Bridge Road would be of no assistance to this assessment. These techniques would be recommended notwithstanding any traffic model.

To take a historical example on Swan Street, a detailed traffic model of the Swan Street/Lennox Street intersection or Swan Street/Church Street intersection would have no impact on vehicle access locations adopted for the Dimmeys redevelopment at 140 Swan Street. Vehicle access to the rear and side of the property, rather than directly to Swan Street was chosen on best practice access management principles.

- Recommended changes to the ROW and local road network to better service the vehicle access needs of properties within the study area, especially those with Arterial Road frontages.

These two outcomes are reviewed in the following sections.

## 7 Access and Movement Plans

The following section sets out our recommended Access and Movement Plans for all properties within the study area.

The detailed Access Management Plans are attached at Appendix E.

The detailed Traffic Management Plans required to support the Access Control Plans are attached at Appendix F.

### 7.1 Access Management Principles

VicRoads generally adopts the AustRoads Guide to Traffic Management with regard to its access management principles for managing the arterial road network. In particular, the AustRoads Guide to Traffic Management Part 5: Road Management sets out the following relevant guiding principles:

- *Transport and other functions served by roads, the needs of abutting land use, along with wider government strategic objectives, all influence how roads are managed. The functional classification of a road relates to its role within the road network. There are two main functions of road networks and roads:
 
  - ‘mobility’ that is concerned with the movement of through traffic and focussed on the efficient movement of people and freight, and
  - ‘access’ that relates to the ease with which traffic from land abutting roads can enter or leave the road.*
- *Recent developments in policy and strategic planning initiatives are aimed at giving greater recognition to walking activity in road and transport planning. This has arisen from policy settings in the transport and health sectors recognising the need to move towards more sustainable forms of transport (by foot, bicycle or public transport) and towards healthier activity (walking, cycling) by the community generally (AustRoads 2013a).*
- *This has led to recognition of the need for planning and providing a road network which caters for the potential increase in active travel such as walking and cycling. This is a fundamental factor for consideration in striving for balance between the mobility and access functions of roads in the network.*

Importantly, in the context of Victoria Street and Bridge Road, as inner-city areas (the western ends of which is less than 1.5km walking distance from the CBD), the move to sustainable forms of transport (foot, bicycle or public transport) has more than just health benefits. It is an integral component to the success of The Frameworks (and ultimately structure plans), having regard to the significant capacity constraints of the existing road network to accommodate additional private vehicle movements.

Accordingly, it is imperative that the planning for an increase in the density of development within the Victoria Street and Bridge Road Activity Centres is accompanied by an access management strategy that recognises the importance of these sustainable transport modes, and also plans for the inevitable

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

increase in pedestrians and cyclists as well as improvements to the public transport network along these important corridors.

The AustRoads Guide to Traffic Management Part 5: Road Management states the following in relation to the role of different road types:

- *The primary function or balance of different functions may be reflected in the classification of a road. In its purest form, road classification may consist of two basic road types which have fundamentally different traffic and environmental goals:*
  - *arterial roads, the main function of which is to provide for the safe and efficient movement of people and freight, and*
  - *local roads, which provide direct access to abutting land uses and which contribute to the overall functioning of areas bounded by arterial roads or other barriers. The basic function of a local road is to provide a good environment in which to live or conduct a business and to enable vehicular access to abutting land.*
- *The need for access planning and management arises because vehicle movements generated by abutting properties can potentially create interruptions in the traffic flow along a road. On many roads, these interruptions are of little or no concern. However, on arterial roads carrying high traffic volumes or fast moving traffic, where traffic efficiency is of greater importance, these interruptions can create a greater risk of crashes, inefficiencies and other costs to the community. An effective access management strategy for a road or site contributes to the best outcome for the community by protecting the level of traffic service on important through traffic routes while providing road users with safe and appropriate access to adjacent land.*

Victoria Street and Bridge Road are Arterial Roads (Road Zone Category 1) and accordingly, they have an important role in the broader arterial road network context to provide for through traffic. Victoria Street and Bridge Road are both priority tram routes and part of the Principle Public Transport Network (PPTN).

These roles of Victoria Street and Bridge Road (arterial through traffic, priority public transport route and activated pedestrian links) create an environment which is not conducive to providing direct vehicular access to properties which could create interruptions in the flow of both vehicular and pedestrian traffic along Victoria Street and Bridge Road.

Accordingly, taking into account Victoria Street and Bridge Road's primary purpose, and noting that within the study areas the majority of properties have alternative access potential (via rear laneways and/or local roads), there should be strong policy support within any Planning Scheme amendment (such as a DDO) to guide future access to development to be via the lower order road network.

### Safety

Part 13 of the AustRoads Guide to Traffic Management addresses Road Environment Safety, as follows:

- *Managing safety in the road environment means managing the risk that injury will occur, whether it arises from the behaviour of road users, the performance of vehicles or the characteristics of the road environment. Making roads safer means reducing the risk. This applies to all road users – vehicle drivers, riders, passengers, cyclists, and pedestrians.*

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

- *Safe operation of the road and traffic system is a fundamental goal for road designers and traffic engineers who have a prime responsibility for addressing the safety factors related directly to the road environment itself.*

Fundamental principles for managing safety in road design, traffic management and remedial treatment practice include:

- speed management,
- conflict management,
- hazard management, and
- road user information management.

In the context of managing vehicular access to Victoria Street and Bridge Road, conflict management is the primary safety principle which can be influenced.

Notably, it is important to provide a continuous safe environment for pedestrians at-grade along the Victoria Street and Bridge Road public realm, and this can be achieved by minimising (if not removing all together) intermediate private property access points.

#### Policy Support

Council's Strategic Transport Statement sets out the following hierarchy of transport modes which forms the basis for decision making and actions related to transport in the City:

1. Pedestrians (including wheelchairs and walking with prams)
2. Cyclists
3. Tram
4. Bus/train
5. Taxi users/car sharers
6. Freight vehicles
7. Motorcyclists
8. Multiple occupants local traffic
9. Single occupants local traffic
10. Multiple occupants through traffic
11. Single occupants through traffic

Council's transport modal hierarchy for decision making places pedestrians, cyclists and trams in the top 3, and places vehicular traffic at the bottom.

This hierarchy recognises the importance of sustainable modes into the future and supports the recommended access management strategy to utilise rear laneways and side streets wherever possible. Direct access to arterial roads being a last resort (with consideration for "no parking provision" potentially being preferable for some sites), noting the importance of Bridge Road and Victoria Street for pedestrians and trams in particular.

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond

### 7.2 Benefits of Limiting Vehicle Access to Victoria Street and Bridge Road

The principle of limiting direct vehicle access to both Victoria Street and Bridge Road provides the following key benefits:

- It promotes a safe and friendly pedestrian walking environment, by reducing breaks in the footpath, reducing pedestrian-vehicle conflict points and increasing the amount of active street frontage along Victoria Street and Bridge Road. It also eliminates instances of vehicles blocking the footpath.
- It eliminates the potential conflict between the introduction of future accessible tram stop upgrades and property access points. The design of accessible tram stops is generally incompatible with property access points.
- It limits vehicle access to Victoria Street and Bridge Road to public road intersections, where Council and VicRoads have a greater degree of control in the implementation of traffic management measures. This improves the efficiency and safety of the road network for all users.
- The reduced number of intersections allows the concentration of effort of traffic management measures and safety improvements at a limited number of locations.
- It reduces the number of locations where right turn movements occur, thereby potentially reducing delays to trams and improving road safety.

However, the benefits of limiting vehicle access to Victoria Street and Bridge Road need to be tempered against other competing demands, including:

- For some land uses (such as supermarkets), convenient and direct access to the arterial road network is important for the viability of the use and to minimise impact on local roads.
- Access to Victoria Street and Bridge Road for trucks undertaking on-site loading may be a desirable outcome (although any loading facilities should be internal to the building). This includes business deliveries, waste collection and providing a loading bay for residents to move into/out of buildings. These may not be possible from within laneways for some sites and depending on the land use proposed. Such movements would be infrequent and may be necessary if alternative access is not available.
- Some sites do not have alternative access options and have existing access points to Victoria Street and Bridge Road. It is not possible to deny access to sites that already have direct access to Victoria Street and Bridge Road and do not have reasonable alternatives. However, upon redevelopment these accesses can include new controls to limit their impact, in particular left-in/left-out restrictions. A left-in/left-out restrictions results in the smallest impact on the arterial road network from an efficiency and safety perspective.

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond

### 7.3 Access and Movement Plans

The detailed Access Management Plans attached at Appendix E.

The plans classify road frontages into three categories:

- **Access prohibited** – this category is where vehicle access is not desirable or supported. This classification generally relates to Victoria Street and Bridge Road frontages or frontages of other key local roads close to significant intersections (Church Street and Burnley Street)

**Access not preferred** – this category relates to locations where access is not preferred in favour of alternatives, however these sites may not have reasonable alternative access locations (i.e. vehicle access to these sections may be the only option available to the site). Vehicle access solutions that do not involve access to these locations are encouraged. This may include consolidation of sites that allow vehicle access to a preferred location or the non-provision of car parking for smaller development sites.

- **Access preferred** – vehicle access to these frontages is supported and encouraged.

To implement these plans will require some changes to the existing traffic management treatments and the configuration of public roads and laneways. This includes:

- Widening laneways to accommodate additional vehicle movements. This would involve developments abutting certain laneways being required to setback at ground level (although the building could extend over the laneway at upper levels).
- Provision of passing areas at the entrance to ROWs.
- Changing laneways to operate in a one-way direction.
- Provision of splays at laneway corners and intersections to increase their functionality.
- Recommending Council review the use of a shared zone.

Proposed Traffic Management Plans attached at Appendix F show the recommended traffic management changes and instances where laneways should be widened, to accommodate a rear outcome for redevelopment sites fronting Victoria Street and Bridge Road.

The following section provides an outline of our methodology behind the recommendations of the Traffic Management Plans and detailed recommendations for individual laneways is attached at Appendix G.

## 8 Right-of-Way Management

The following sections provide:

- An outline of the methodology behind our categorisation of laneways within the study area
- A description of laneway characteristics and how these affect the capacity of laneways to accommodate vehicles, pedestrians and cyclists.
- A detailed description for each of the options considered to improve the laneway network.

### 8.1 Categorisation of Laneways

As part of the review process of the current capacity of existing laneways to accommodate additional future development traffic volumes, we have reviewed and categorised laneways within the study areas into 3 categories (unconstrained, partially constrained or highly constrained) in order to better understand their potential to currently accommodate additional traffic under their existing conditions and configuration.

Key factors include laneway width, laneway length, laneway connections (i.e. continuous or dead-end) and physical layout (i.e. bends within the laneway network). These factors are discussed in more detail below.

The laneway assessment classified all laneways within the study area by their potential to accommodate additional traffic. Laneways have initially been classified at three levels:

- **Unconstrained** – these laneways have very few, if any, development constraints. As a result, they are well suited to accommodating additional traffic. Changing the laneway to operate one-way (where possible) has not been considered as a constraint.
- **Partially Constrained** – these laneways have some potential constraints that limit their capacity to accommodate traffic, however they are generally easily addressed. Common issues include insufficient width, long length and lack of splays at critical locations.
- **Highly Constrained** – this laneway has fundamental issues that cannot easily resolved. This usually relates to very narrow laneways or heritage constraints that limit the opportunities to alter the laneways.

When assessing the capacity of laneways, a number of factors need to be considered. For most laneways, it is a combination of factors that contribute to its classification.

The key factors that influence the classification of a laneway are outlined below:

- **Laneway width.** This is the single most important factor to the operation and capacity of a laneway. To provide a single traffic lane, a laneway should be at least 3.0m wide. A width slightly less than 3.0m (down to 2.8m) is also functional, although constrained. Laneways less than 2.8m wide are problematic for vehicle access and should be considered as pedestrian only laneways and/or have very limited development potential (it is acknowledged that some narrow laneways within the study area are in practice used for vehicle access currently).

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

Laneways become capable of supporting simultaneous two-way traffic at a width of 5.5m if not built up (i.e. 5.5m between walls) or 6.0m wide between building walls. This width removes most capacity constraints of laneways and effectively makes them unconstrained.

- **One-way or two-way operation.** For single width laneways, a one-way laneway has a significantly higher capacity than a laneway permitting two-way traffic. One-way operation eliminates vehicle conflict within the laneway and can support a high level of access/development from the laneway. One-way laneways are unconstrained in this assessment.
- **Continuous.** A continuous laneway can generally be made to operate in a one-way direction. Generally, a continuous, straight laneway was classified as unconstrained because it can be made one-way to address capacity constraints.

A dead end laneway has less capacity to handle additional traffic and the laneway cannot be made one-way to manage traffic flow. However, this factor is only relevant for single width laneways, a laneway wide enough for two-way traffic is not constrained just because it has a dead end.

- **Laneway Length.** This factor ties into laneway width and whether it is a continuous laneway or not. A long, single width (3m up to 6.0m wide) laneway will experience a high level of vehicle conflict due to higher traffic volumes, higher development potential (more properties accessing it) and more chances of vehicles meeting the laneway.

There are no set rules regarding the 'tipping point' for when two-way traffic in a single width laneway reaches capacity. It is a combination of factors including traffic volume, configuration and length that contribute to a laneway's capacity. Laneway length is therefore a contributing factor that impacts on laneways in combination with other factors.

- **Physical layout.** A straight laneway has the highest vehicle carrying capacity. Bends in laneways may create operational issues, particularly if:
  - There are no splays around the inside corner of the bend to facilitate vehicle access. For instance, a 90° bend between two 3m wide laneways is inaccessible to vehicles without a splay.
  - Due to a lack of sight distance, vehicles cannot see each other approaching the blind corner. For single lane laneways, this can be a serious issue if drivers meet near the bend, the laneways are long and there are no passing opportunities.
- **Number of Abutting Properties and Frontage.** The number of properties and their frontages are relevant to the potential future traffic conditions of a laneway. There are a number of ways this factor can influence laneways:
  - Short laneways may only serve a limited number properties and accordingly with a low development potential, a short laneway may effectively be 'unconstrained'.
  - A large number of narrow lots might make widening a laneway problematic.
  - If the number of abutting properties to the laneway is small, a short, narrow laneway is unlikely to be constrained.
- **Heritage constraints.** We are not heritage experts and we have relied on information provided by Council in this regard. Properties that have heritage value may create issues in that they may not easily be modified and this was taken into account during our initial review. Heritage properties abutting a laneway may limit options to widen the laneway.

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond

The follow factors were not considered when assessing the development potential of laneways:

- The condition of the laneway (does it need maintenance? Is it in disrepair?).
- The material the laneway is constructed with or type of surface treatment (gravel, asphalt, bluestone, etc.).

As existing Council assets, the condition of the laneway is not especially relevant. It is Council's on-going responsibly to maintain laneways as appropriate.

Some larger developments will warrant upgrading the surface of laneways (for instance, from gravel to asphalt). However, the condition of the laneway is less relevant than its physical configuration. Council also has a number of methods of upgrading the surfaces of laneways, including as permit conditions for significant developments or special charge schemes of abutting properties. These issues are easier to resolve than physical issues with a laneway's configuration.

### Summary

From the above, it is apparent that the capacities of laneways are impacted by a large number of factors. In addition, it is challenging to concisely quantify how all the various factors influence each other. There are very few 'hard and fast' rules that define when a laneway is constrained or not and accordingly, this assessment is somewhat subjective and our assessment is based on our engineering judgement and experience.

## 8.2 Upgrading the Capacity of Laneways

### Capacity of a standard 3m wide laneway

Under Clause 56.06 of the Planning Scheme, Table C1 provides an outline of the design of roads, one of which includes an 'Access Lane', which is defined as *a side or rear lane principally providing access to parking on lots with another street frontage*. Table C1 continues on to state that an Access Lane has a traffic volume of up to 300 vehicles per day (vpd) and this is typically adopted as the environmental capacity laneway. This also represents an indicative peak volume of 30 vehicles per peak hour (two-way).

The options in terms of increasing the traffic capacity of existing laneways follows:

- **Conversion to one-way operation.** For single-width laneways, a one-way laneway has a significantly higher capacity than a laneway permitting two-way traffic. One-way operation eliminates vehicle conflicts within the laneway and can support a high level of access/development from the laneway. The key advantages of this option are that it is usually easy to implement and does not require/rely on additional land. For this reason, one-way operation is our preferred solution to upgrading laneways. One-way laneways are effectively unconstrained and their environmental capacity is typically taken as being in the order of 1,000 vehicles per day.
- **Laneway width.** One of the most important factors to the operation and capacity of a laneway. To provide a single traffic lane, a laneway should be at least 3.0m wide. A width slightly less than 3.0m (down to 2.8m) is also functional, although constrained. Laneways less than 2.8m wide are problematic for vehicle access and should be considered as pedestrian only laneways and/or have

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

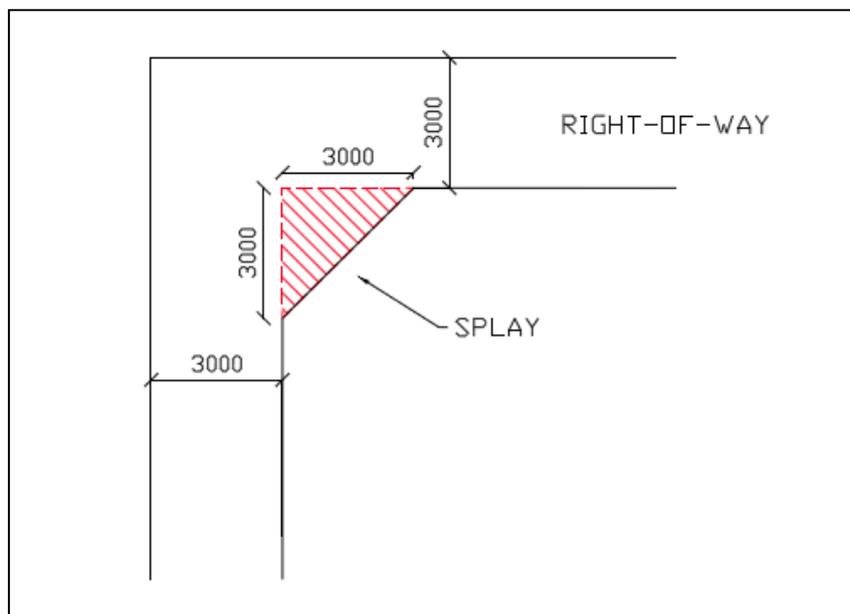
very limited development potential (it is acknowledged that some narrow laneways within the study area are in practice used for vehicle access currently).

Laneways become capable of supporting simultaneous two-way traffic at a width of 6.0m, which removes most capacity constraints of laneways and makes them unconstrained. However, widening laneways can be problematic, particularly in situations where a large number of properties front a ROW or the subdivision pattern is finely grained.

Where we have recommended laneway widening, the minimum road reserve width should be 6.0m. This can be achieved by setting back buildings, which are the overhang the ROW on the levels above. It is recommended that a height clearance of 3.5m is provided in these circumstances (which is usually achievable with ground floor commercial uses).

- **Splays.** ROWs often incorporate bends and for narrow ROWs, splays are essential to facilitate vehicle access. This study recommends a universal splay of 3m x 3m is provided on the inside of all ROW bends and intersections between two ROWs. This splay facilitates access by vehicles up to the B99 design car from AS2890.1-2004 (i.e. not trucks), which is appropriate in our view.

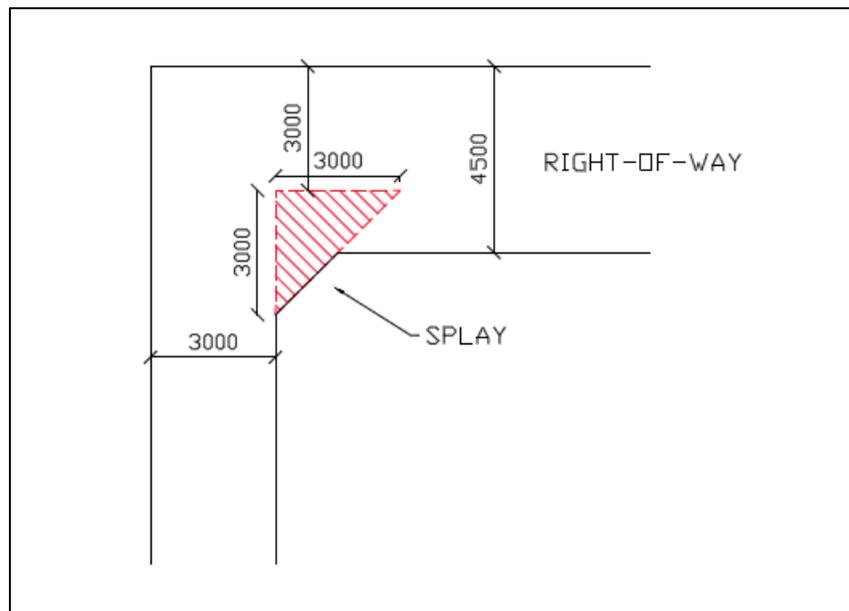
The shape of the splay can be vary depending on the width(s) of the intersecting ROWs. These arrangements are shown in the figures below.



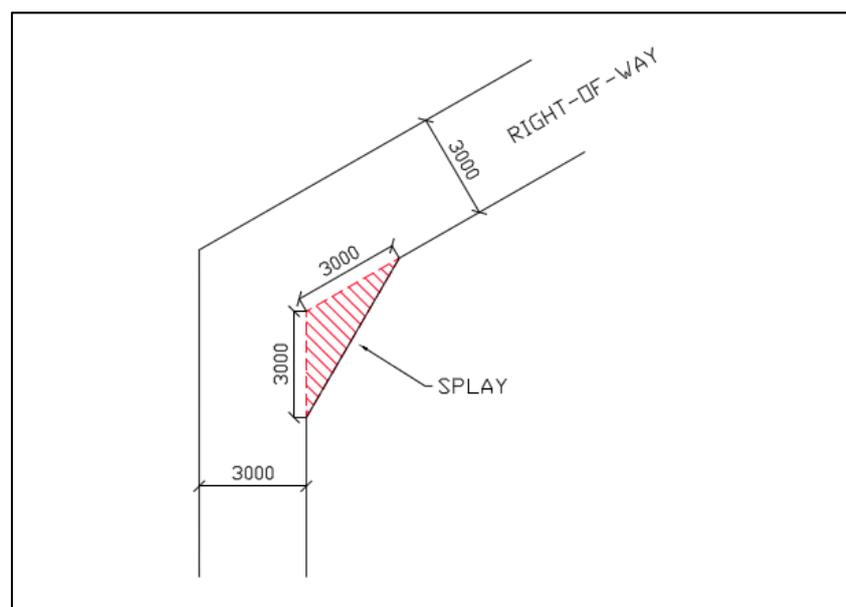
**Figure 19: Standard 3m-wide ROW 90-degree Splay**

## Traffic Engineering Assessment

Victoria Street and Bridge Road Activity Centres, Richmond



**Figure 20: Non-Standard Varied-Width ROW Splay**



**Figure 21: Standard 3m-wide ROW Non-Right-Angle Splay**

Some laneways already have splays of various sizes. This study recommends that the splays available are standardised over time to be 3m x 3m.

- **Passing bay at entrance to laneway.** In some situations, it may not be possible to widen laneways or enforce a one-way operation due to varying constraints, including dead end laneways. A potential solution is to provide for a passing bay either at the entrance to the laneway (ideally) or elsewhere along the laneway.

This passing area allows any conflicting vehicle movements to pass away from the road network and pedestrian footpaths. As a guide, Clause 52.07-9 (which applies to private accessways) requires passing areas to be 6.1m wide for a distance of at least 7m from the major road boundary.

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

The width required to achieve this passing area would be required to be taken from one (or more) of the properties located on either side of the entry to the laneway. Alternatively, informal passing areas may be provided within the laneways as a result of buildings setting back their ground floor to facilitate vehicle access to and from their sites (i.e. car spaces or garages that are directly accessed from the laneway). This setback may allow for informal passing opportunities within laneways, thereby increasing the capacity of the laneway.

A passing area allows drivers to manage vehicle conflicts within laneways more easily and raises the capacity of the laneway above 30 vehicles per hour. If all properties along a laneway are required to setback to achieve a 6m width (to increase the laneway capacity), each setback incrementally increases the capacity of the laneway and over time achieves a full two-way laneway.

### 8.3 Upgrades to Laneway to Accommodate Non-Vehicle Users

The sharing of the road space in laneways between pedestrians and vehicles is common practice and acceptable. Accordingly, there is no specific need or requirement to widen laneways to provide separate pedestrian spaces. Generally, issues only arise if laneways carry a high volume of vehicles.

For the most part, it is our view that laneways within the study areas should be used primarily for vehicle access, rather than pedestrian movement. It is our view is that in most cases, pedestrians within the activity centres should ideally be walking along the footpaths of main roads or other local roads where pedestrian amenity is higher, footpaths are wider and of higher quality and there is more activity along the street.

There are properties within the study area that may provide some uses accessed directly from laneways. For instance, dwellings that only front a laneway and rely on the laneway as their sole pedestrian access point. In these instances, new development should provide a pedestrian refuge area, which could be a separate footpath along the site's frontage or similar separation between the laneway and the building façade. A full pedestrian connection or separate footpath to the nearest road is not required, but a separate area for pedestrians to safely enter/exit a building directly fronting a laneway is necessary.

Cyclists generally don't use laneways, unless it is the final stage of their journey to a property. Most laneway surfaces can accommodate cyclists, although some bluestone laneways can be uncomfortable to use and cyclists may prefer to walk their bicycles the final stage of the journey. In our view, there is no need to upgrade laneway surfaces specifically for cyclists.

#### Shared Zones

There are a number of laneways within the study area that have intermediate widths (3-6m wide) that provide carriageways in the order of 3m wide and narrow footpaths (<1m) on one or both sides of the road. Often these footpaths are obstructed by poles. An example would be Tullo Place. These laneways would function better if reconfigured as Shared Zones. An example of which is Little Buckingham Street (between Church Street and Lambert Street) in Richmond. The essential feature of the Shared Zones is the removal of separate footpaths and provision of flush, shared surface. This provides an enhanced pedestrian environment and also assists vehicle access to abutting properties.

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

A shared zone is a road or network of roads where pedestrians, cyclists and vehicles shared the roadway. A shared zone provides improved amenity for pedestrians and an improved streetscape.

The *VicRoads' Supplement to Austroads Guide to Traffic Management Part 8: Local Traffic Area Traffic Management (2008) (dated October, 2015)*, provides guidance as to appropriate locations for a shared zone, including design guidelines.

A summary of these guidelines is provided below:

#### Appropriate Locations

- Low volume streets where pedestrians outnumber motor vehicles and where the pedestrian needs are best met by walking on the roadway, and
- Where the street has been constructed or reconstructed to a sufficient degree to ensure significant visual interruption and where speed is physically restrained, and
- Where there is no cross traffic.

#### Inappropriate Locations

- Not suitable where traffic volumes exceed 200 vehicles in a peak hour, or over 1000 vehicles between 7am and 7pm.
- If there is a history of vehicle speed problems.
- Unprotected locations where approach speeds exceed 40-50km/h.

#### Design Guidelines

- The road should be discontinuous and any kerb removed to enhance the sense of equality between pedestrians and vehicles.
- Speed reduction devices installed at a spacing of approximately 40m and staggered if possible.
- Straight lengths of no more than 50m without speed reduction devices.
- Maximum design speed of 20km/h – typically either 10km/h or 20km/h.
- Entry and exit points to be clearly signed.
- No provision for traffic to flow across the path.
- Surface texture treatment in order to differentiate between the shared zone and surrounding road network.

An example of a shared zone in a laneway environment is Little Buckingham Street in Richmond. An aerial view of how this treatment has been implemented for part of the laneway (the portion which has been recently developed) and a street level view are shown at Figure 22 and Figure 23, respectively.

**Traffic Engineering Assessment**  
 Victoria Street and Bridge Road Activity Centres, Richmond



**Figure 22: Shared Zone Example - Little Buckingham Street, Richmond**



**Figure 23: Shared Zone Example – Little Buckingham Street, Richmond**

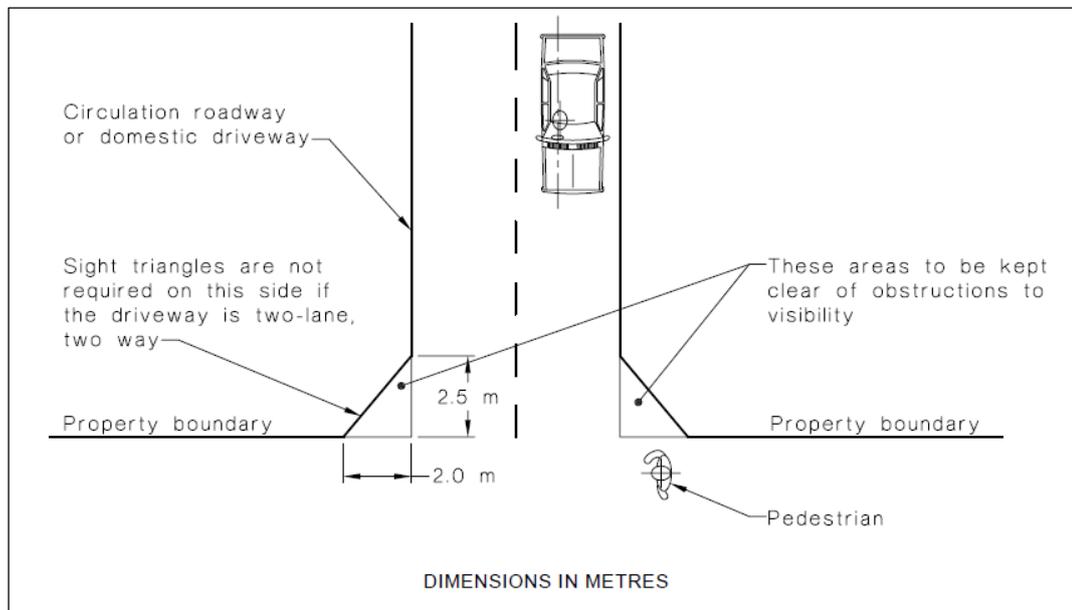
**Other Considerations**

Some consideration should be provided to allowing for ‘pedestrian sight triangles’ at the exit location of laneways at their intersections with roads. Under Clause 52.06 of the Planning Scheme and

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

AS2890.1-2004, pedestrian sight triangles measuring 2.5m into the property and 2m along the property boundaries are required on both sides of a single-width accessway (i.e. 3m or similar), whilst in cases of widened accessways, a pedestrian sight triangle is only required on the departure side of the laneway. This is shown at Figure 24 below.



**Figure 24: Minimum sight lines for pedestrian safety (Figure 3.3 - AS2890.1-2004)**

Both of these standards refer to private driveways (not public roads), however the principle is a valid. It should be acknowledged that in practice, most laneways in the City of Yarra would not provide pedestrian sight triangles and that providing sight triangles may be problematic for heritage sites.

For these reasons, we have not specifically recommended splays at every ROW entrance. Splays can be required of individual sites as part of future planning permit conditions.

## 8.4 Recommendations

Our recommendations regarding various laneway upgrades is attached at Appendix G.

The Appendix provides the detailed reason behind the recommendations for the various laneways within the study area.

## 9 Design and Development Overlay – Draft Schedule

The following section sets a series of recommendations in regards to transport engineering that could be incorporated into a Design and Development Overlay.

### **DDO – Victoria Street and Bridge Road Access Management**

#### **Schedule **XX** to the DESIGN AND DEVELOPMENT OVERLAY**

##### **1.0 Design Objectives**

- To encourage the creation of a high quality public realm with active street frontages at ground level.
- To ensure that vehicular access to development does not adversely impact on the amenity of neighbouring properties.
- To ensure that vehicular access to development does not adversely impact on the primary pedestrian realm on Victoria Street and Bridge Road.
- to ensure that vehicular access to development minimises the impact on the level of service, efficiency and safety of the arterial road and tram network.

##### **2.0 Application Requirements**

An application for development of land within the precinct must include, as appropriate, the following information to the satisfaction of the Responsible Authority:

- A Traffic Engineering Report prepared by a suitably qualified traffic engineer that demonstrates how the development minimises impacts on the level of service, safety and amenity of Victoria Street OR Bridge Road (including tram services), reduces car dependence and promotes sustainable transport modes to the satisfaction of the Responsible Authority, and identifies, as appropriate:
  - on-site car parking and bicycle parking provisions;
  - expected traffic volumes and impact on the existing road network including impacts on the operational efficiency and road safety of the tram route;
  - any modifications to existing roads and/or laneways and/or provision of new laneway(s) in accordance with the Access and Movement Plan;
  - impact on pedestrian and bicycle routes; and
  - measures to reduce conflict and improve pedestrian and bicycle amenity, and
  - details regarding loading and waste collection.
- A Green Travel Plan prepared by a suitably qualified person outlining site-specific initiatives and actions to encourage the use of more sustainable transport options by the occupiers of the land. The Green Travel Plan should include:
  - a description of the location in the context of alternative modes of transport and objectives for the Green Travel Plan; and
  - outline Green Travel Plan measures for the development including, but not limited to:

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

- (i) occupant welcome packs (details of tram, train and bus timetables relevant to the local area should be included in the pack of information provided to purchasers and/or occupiers as well as relevant information in relation to car share),
  - (ii) bicycle parking and facilities available on the land, and
  - (iii) monitoring and review.
- A detailed response as to how the development achieves the objectives of Clause 22.06 Transport, as appropriate.

### 3.0 Buildings and Works

#### Pedestrian Access, Movement and Amenity

Any new development should make a positive contribution to the pedestrian environment by:

- providing pedestrian access to buildings from Victoria Street/Bridge Road and/or a local road where possible and separating vehicular access (including loading and waste collection activities),
- providing high quality streetscape treatment (including street furniture, bicycle parking, lighting and landscaping) along main pedestrian routes;
- providing a canopy for weather protection over the footpath to Victoria Street/Bridge Road; and
- relocating affected and/or new utilities, cabling and service infrastructure underground where possible.

#### Car Parking and Vehicle Access

- Car parking should be provided in a manner so as not to be intrusive to the design elements of structures and to not dominate the street frontage.
- Areas set aside for car parking are to be located to avoid fronting on to Victoria Street/Bridge Road at either ground or podium levels.
- Vehicular access points to Victoria Street/Bridge Road, Church Street and Burnley Street should be avoided.
- Vehicular access should be from rear lanes or from side streets in accordance with the Access and Movement Plan.
- Direct vehicular access to arterial roads will be considered as a last resort where it has been demonstrated that all other options have been exhausted, and only in instances where it is not practical to waive the car parking and/or loading requirements and facilitate waste collection on-street.
- Vehicle access points to Victoria Street/Bridge Road, Church Street and Burnley Street should be made redundant and kerb reinstated.
- Where pedestrian access to a new development from Victoria Street/Bridge Road is not possible (for example where an existing heritage façade prevents access to future above ground development), consideration should be given to setting development back off the rear laneway to improve safety of access from the laneway for pedestrians to provide either separate footpaths or pedestrian spaces clear of the laneway to allow safe pedestrian entrances to the development.
- The recommendations of the Access and Movement Plans (such as the provision of splays, ROW widening, etc) should be implemented where possible.

## Traffic Engineering Assessment

### Victoria Street and Bridge Road Activity Centres, Richmond

- Vehicle ingress and egress into development, including loading facilities and building servicing, must be designed to ensure a high quality pedestrian amenity and limit potential conflict between vehicle movements and pedestrian activity.
- Car parking facilities should not dominate the public realm and should be integrated into the architecture of the building.

#### 4.0 Decision Guidelines

Before deciding on an application, the responsible authority must consider, as appropriate:

- The extent to which the development makes a positive contribution to the overall vitality of the Victoria Street/Bridge Road Activity Centres.
- The Access and Movement Plans
- The impact on the operation of all transport modes, including public transport services, walking and cycling
- The contribution the development makes to walkability, permeability and streetscape appearance of the area.
- The layout and appearance of areas set aside for vehicular access, loading and unloading and the location of any proposed car parking.
- Proposed access locations and treatments, and the impacts on traffic conditions on surrounding streets, as considered under a Transport Engineering Report.
- The views of VicRoads and DEDJTR.

#### 5.0 References

*Bridge Road – Victoria Street Built Form Framework Plan*, David Loch Associates, February, 2018

*Traffic and Access Review, Victoria Street and Bridge Road Activity Centres*, Traffix Group Pty Ltd, May, 2018

## 10 Conclusions and Recommendations

Access Management Plans have been prepared for all properties identified within the Victoria Street and Bridge Road Activity Centre study areas, which includes (but not limited to) properties abutting Victoria Street and Bridge Road, to map out how vehicle access to new developments can be managed to reduce the impact of vehicle access directly to Victoria Street and Bridge Road. Suitably designed and controlled vehicle access is a key component in achieving the objectives of maximising the efficiency of Victoria Street and Bridge Road for trams and vehicles and providing a high quality pedestrian environment.

Traffic Management Plans have been prepared to support the Access Management Plan. These plans recommend changes to the laneway and local road networks in order to improve access to properties fronting arterial roads and support rear access outcomes.

This report also recommends a series of traffic engineering requirements for a future Design and Development Overlay.

# Appendix A: Clause 18 of the Yarra Planning Scheme

## 18.01 INTEGRATED TRANSPORT

28/03/2018  
VC145

### 18.01-1 Land use and transport planning

16/01/2018  
VC142

#### Objective

To create a safe and sustainable transport system by integrating land-use and transport.

#### Strategies

Develop integrated transport networks to connect people to jobs and services and goods to market.

Plan urban development to make jobs and services more accessible by:

- Ensuring equitable access is provided to developments in accordance with forecast demand, taking advantage of all available modes of transport and to minimise adverse impacts on existing transport networks and the amenity of surrounding areas.
- Coordinating improvements to public transport, walking and cycling networks with the ongoing development and redevelopment of the urban area.
- Requiring integrated transport plans to be prepared for all new major residential, commercial and industrial developments.
- Connecting activity centres, job rich areas and outer suburban areas through the Principal Public Transport Network.
- Providing for bus routes and stops and public transport interchanges in new development areas.
- Providing safe, convenient and direct pedestrian and cycling access to job rich areas, public transport interchanges and urban renewal precincts.
- Promote walking and cycling when planning for new suburbs, urban renewal precincts, greyfield redevelopment areas and transit-oriented development areas (such as railway stations).

Integrate public transport services and infrastructure into new development.

#### Policy Guidelines

Planning must consider as relevant:

- *The Victorian Transport Plan* (Department of Transport, 2008).
- *Public Transport Guidelines for Land Use and Development* (Department of Transport, 2008).
- *Cycling into the Future 2013 - 23* (State Government of Victoria, 2012).
- *Principal Public Transport Network 2017* (State Government of Victoria, 2017).

### 18.01-2 Transport system

31/03/2017  
VC134

#### Objective

To coordinate development of all transport modes to provide a comprehensive transport system.

#### Strategies

Require transport system management plans for key transport corridors and for major investment proposals.

Reserve land for strategic transport infrastructure.

Incorporate the provision of public transport and cycling infrastructure in all major new State and local government road projects.

Locate transport routes to achieve the greatest overall benefit to the community and with regard to making the best use of existing social, cultural and economic infrastructure, minimising impacts on the environment and optimising accessibility, safety, emergency access, service and amenity.

Locate and design new transport routes and adjoining land uses to minimise disruption of residential communities and their amenity.

Plan or regulate new uses or development of land near an existing or proposed transport route to avoid detriment to, and where possible enhance the service, safety and amenity desirable for that transport route in the short and long terms.

Facilitate infrastructure that connects and improves train services between key regional cities and townships and Melbourne.

Ensure that pedestrian and cyclist access to public transport is facilitated and safeguarded.

Ensure transport practices, including design, construction and management, reduce environmental impacts.

Ensure careful selection of sites for freight generating facilities to minimise associated operational and transport impacts to other urban development and transport networks.

Consider all modes of travel, including walking, cycling, public transport, taxis and private vehicles (passenger and freight) in providing for access to new developments.

### **Policy guidelines**

Planning must consider as relevant:

- *The Victorian Transport Plan* (Department of Transport, 2008).
- *Freight Futures: Victorian Freight Network Strategy for a more prosperous and liveable Victoria* (Department of Transport, 2008).
- *Public Transport: Guidelines for land use and development* (Department of Transport, 2008).
- Any relevant highway strategy published by VicRoads.

## 18.02 MOVEMENT NETWORKS

28/03/2018  
VC145

### 18.02-1 Sustainable personal transport

31/03/2017  
VC134

#### Objective

To promote the use of sustainable personal transport.

#### Strategies

Encourage the use of walking and cycling by creating environments that are safe and attractive.

Develop high quality pedestrian environments that are accessible to footpath-bound vehicles such as wheelchairs, prams and scooters.

Ensure development provides opportunities to create more sustainable transport options such as walking, cycling and public transport.

Ensure cycling routes and infrastructure are constructed early in new developments.

Improve access to the public transport network by:

- Ensuring integration with walking and cycling networks.
- Providing end of trip facilities for pedestrians and cyclists at public transport interchanges.

### 18.02-2 Cycling

31/03/2017  
VC134

#### Objective

To integrate planning for cycling with land use and development planning and encourage as alternative modes of travel.

#### Strategies

Direct and connected bicycle infrastructure should be provided to and between key destinations including activity centres, public transport interchanges and major attractions.

Cycling infrastructure (on-road bicycle lands off-road bicycle paths) should be planned to:

- Separate cyclists from other road users, particularly motor vehicles.
- Provide the most direct route practical.

Require the provision of adequate bicycle parking and related facilities to meet demand at education, recreation, shopping and community facilities and other major attractions when issuing planning approvals.

Provide improved facilities, particularly storage, for cyclists at public transport interchanges, rail stations and major attractions.

Ensure provision of bicycle end of trip facilities in commercial buildings.

Develop local cycling networks and new cycling facilities that support the development of 20-minute neighbourhoods and that link to and complement the metropolitan-wide network of bicycle routes - the Principal Bicycle Network.

#### Policy guidelines

Planning must consider as relevant:

- *Guide to Road Design, Part 6A: Pedestrian and Cycle Paths.*
- *Cycling into the Future 2013 – 23* (State Government of Victoria, 2012).

## 18.02-3

31/03/2017  
VC134

### Principal Public Transport Network

#### Objective

To facilitate greater use of public transport and promote increased development close to high-quality public transport routes in Metropolitan Melbourne.

#### Strategies

Maximise the use of existing infrastructure and increase the diversity and density of development along the Principal Public Transport Network, particularly at interchanges, activity centres and where principal public transport routes intersect.

Identify and plan for new Principal Public Transport Network routes.

Support the Principal Public Transport Network with a comprehensive network of local public transport.

Plan for local bus services to meet the need for local travel as well as providing for connections to the Principal Public Transport Network.

Improve the operation of the public transport network by providing for:

- A metro-style rail system.
- Extended tram lines and the establishment of a light rail system.
- Road-space management measures including transit lanes, clearways, stops and interchanges.

Ensure development supports the delivery and operation of public transport services on the Principal Public Transport Network.

#### Policy guidelines

Planning must consider as relevant:

- *Public Transport Guidelines for Land Use and Development* (Department of Transport, 2008).
- *The Victorian Transport Plan* (Department of Transport, 2008).
- *Cycling into the Future 2013 - 23* (State Government of Victoria, 2012).
- *Principal Public Transport Network 2017* (State Government of Victoria, 2017).

## 18.02-4

31/03/2017  
VC134

### Management of the road system

#### Objective

To manage the road system to achieve integration, choice and balance by developing an efficient and safe network and making the most of existing infrastructure.

#### Strategies

Plan and regulate the design of transport routes and nearby areas to achieve visual standards appropriate to the importance of the route with particular reference to landscaping, the control of outdoor advertising and, where appropriate, the provision of buffer zones and resting places.

Provide for grade separation at railway crossings except with the approval of the Minister for Transport.

Make better use of roads for all road uses through such techniques as the provision of wider footpaths, bicycle lanes, transit lanes (for buses and taxis) and specific freight routes.

Selectively expand and upgrade the road network to provide for:

- High-quality connections between Metropolitan Melbourne and regional cities, and between regional cities.
- Upgrading of key freight routes.
- Ongoing development in outer suburban areas.

- Higher standards of on-road public transport.
- Improved key cross-town arterial links in the outer suburbs including circumferential and radial movement.

Improve roads in developing outer-suburban areas by providing for all road users including cars, bicycles, public transport, and freight, commercial and service users.

Improve the management of key freight routes to make freight operations more efficient while reducing their external impacts.

Ensure that road space complements land use and is managed to meet community and business needs.

## 18.02-5

31/03/2017  
VC134

### Car parking

#### Objective

To ensure an adequate supply of car parking that is appropriately designed and located.

#### Strategies

Allocate or require land to be set aside for car parking subject to the existing and potential modes of access including public transport, the demand for off-street car parking, road capacity and the potential for demand management of car parking.

Encourage the efficient provision of car parking through the consolidation of car parking facilities.

Prepare plans for the design and location of local car parking to:

- Protect the role and function of nearby roads, enable easy and efficient use and the movement and delivery of goods.
- Achieve a high standard of urban design and protect the amenity of the locality, including the amenity of pedestrians and other road users.
- Create a safe environment, particularly at night.
- Facilitate the use of public transport.

Protect the amenity of residential precincts from the effects of road congestion created by on-street parking.

Plan adequate provision for taxi ranks as part of activity centres, transport interchanges and major commercial, retail and community facilities.

#### Policy guidelines

Planning must consider as relevant:

- *Public Transport Guidelines for Land Use and Development* (Department of Transport, 2008).

**Traffic Engineering Assessment**

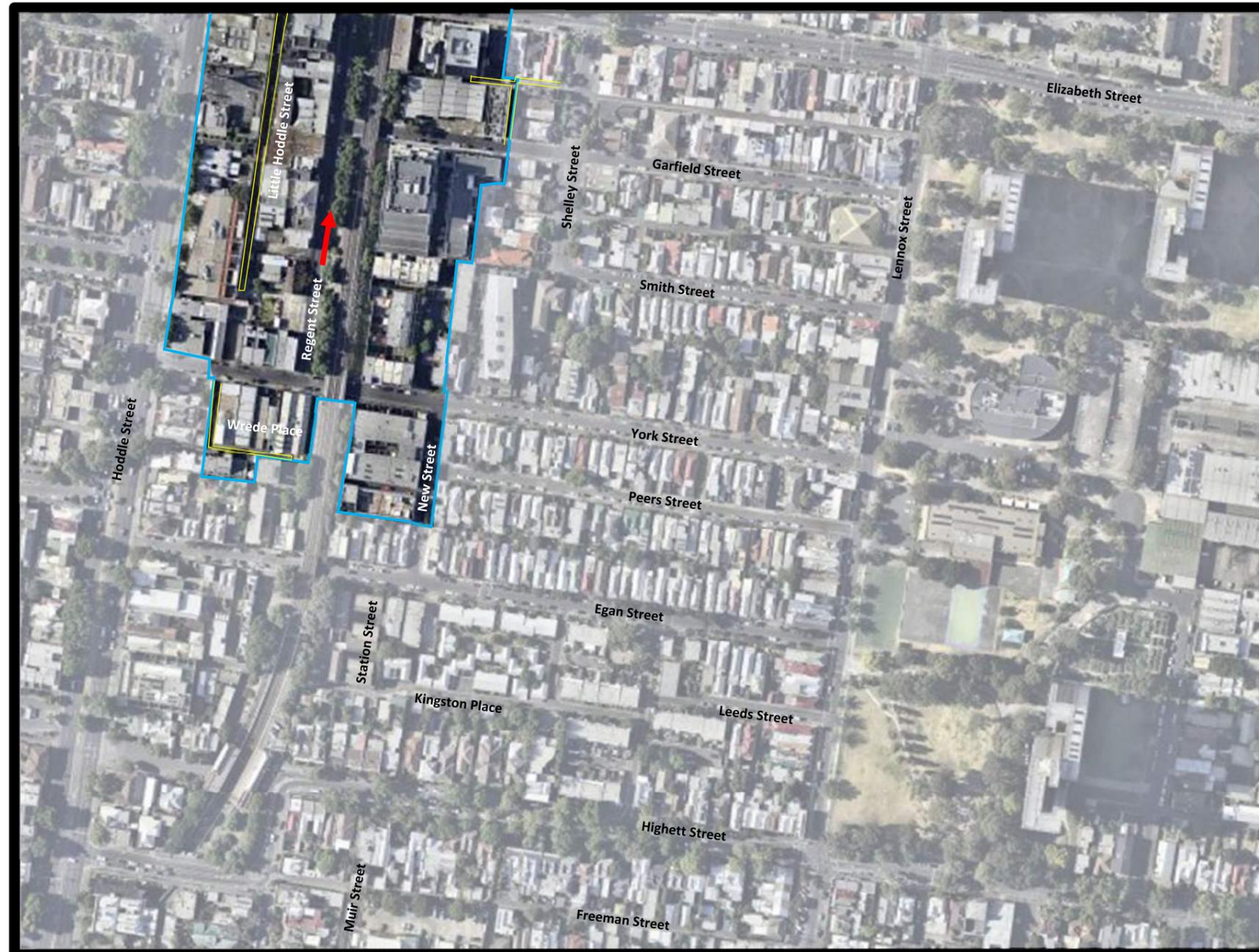
Victoria Street and Bridge Road Activity Centres, Richmond

Appendix B:  
Existing Traffic Management  
Conditions



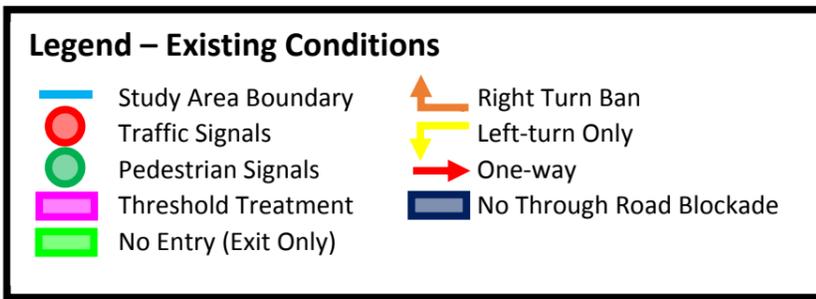
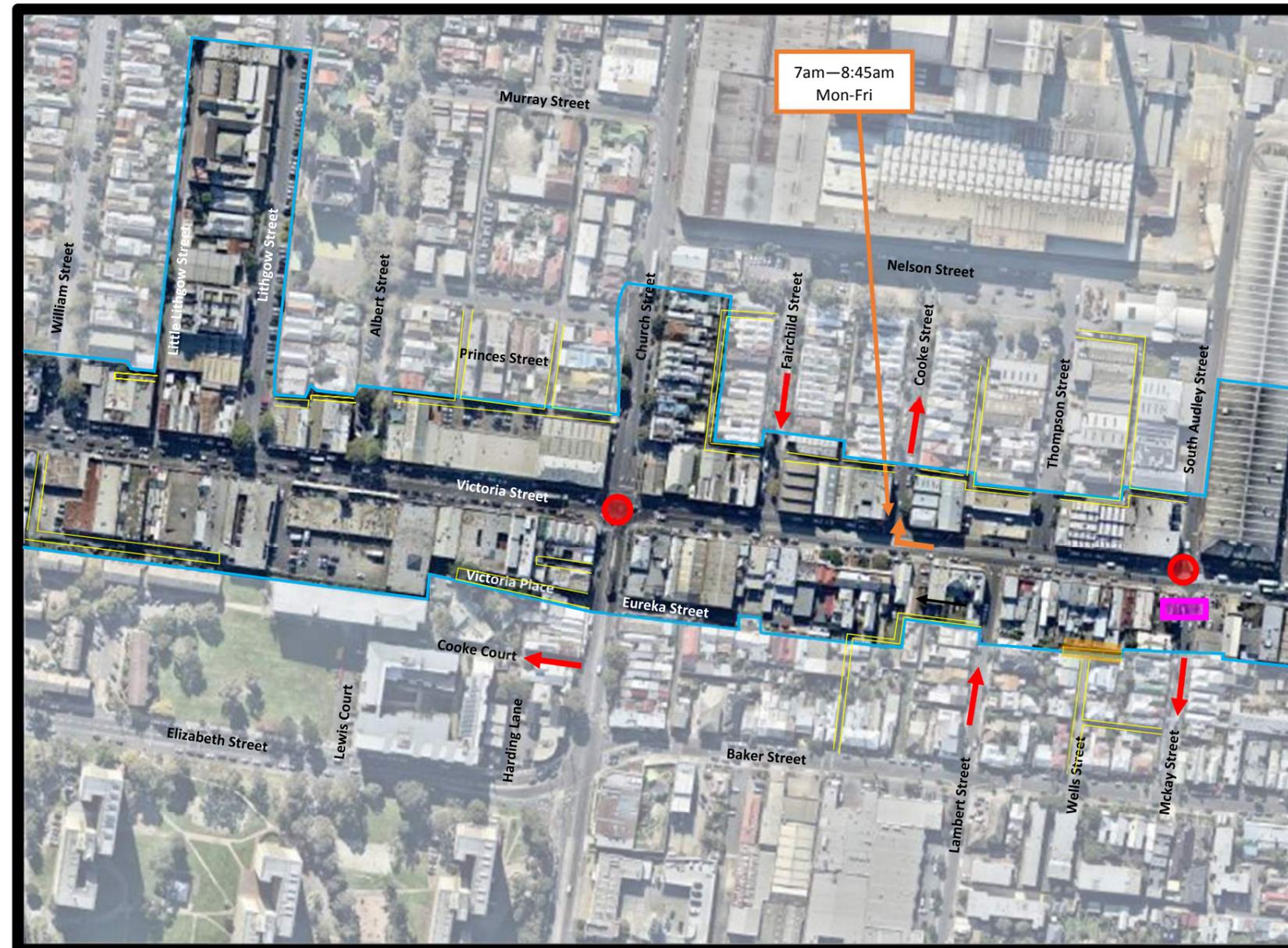
**Legend – Existing Conditions**

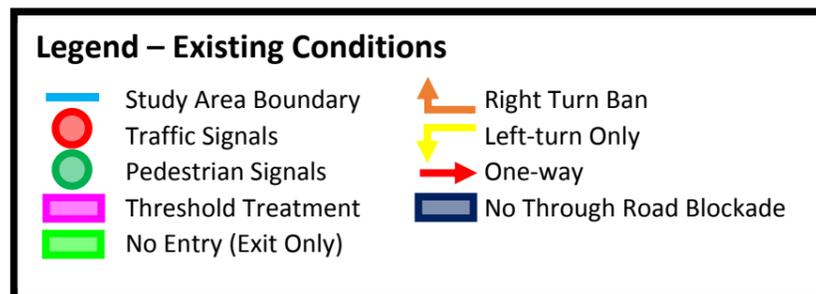
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	Traffic Signals		Left-turn Only
	Pedestrian Signals		One-way
	Threshold Treatment		No Through Road Blockade
	No Entry (Exit Only)		

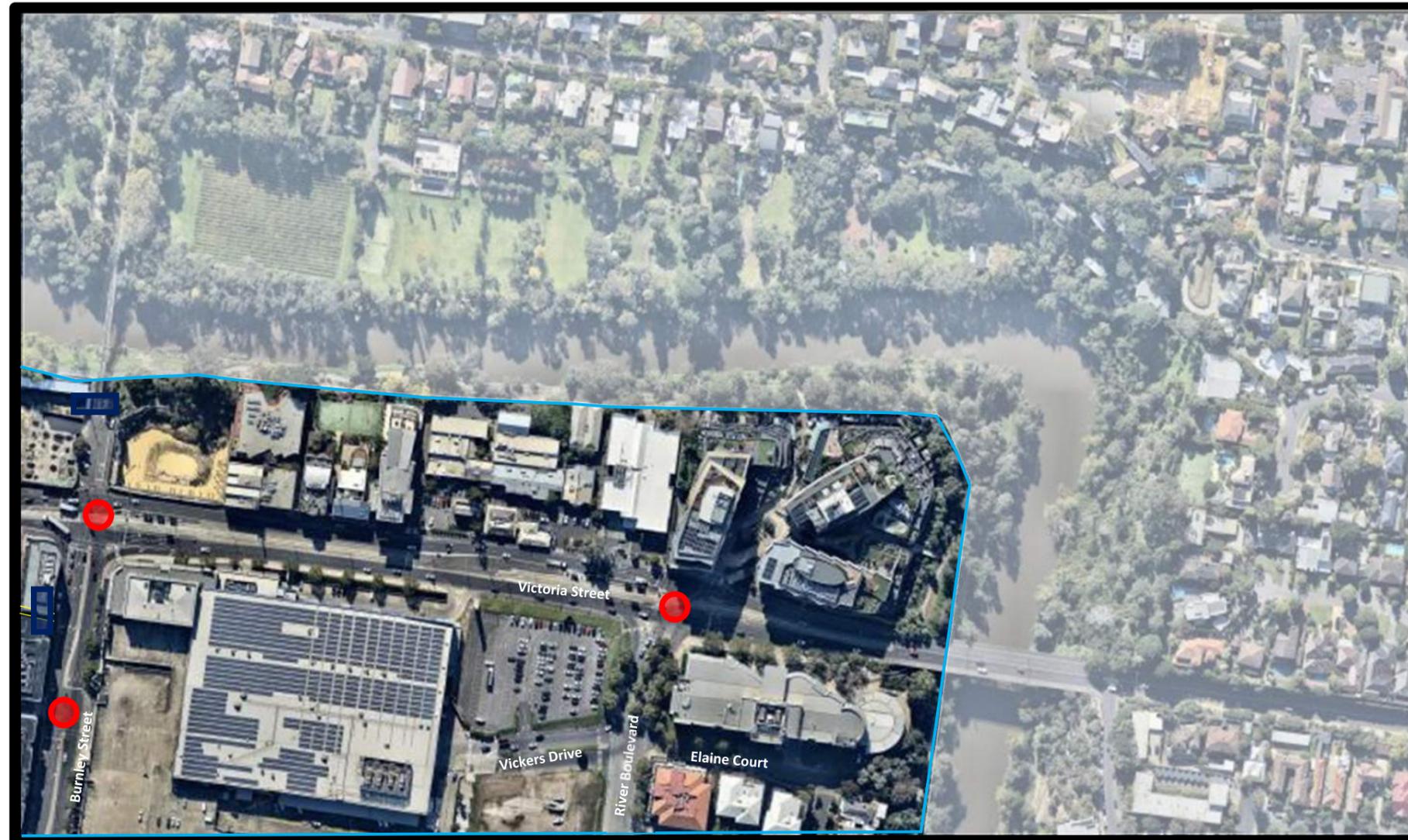


**Legend – Existing Conditions**

 Study Area Boundary	 Right Turn Ban
 Traffic Signals	 Left-turn Only
 Pedestrian Signals	 One-way
 Threshold Treatment	 No Through Road Blockade
 No Entry (Exit Only)	

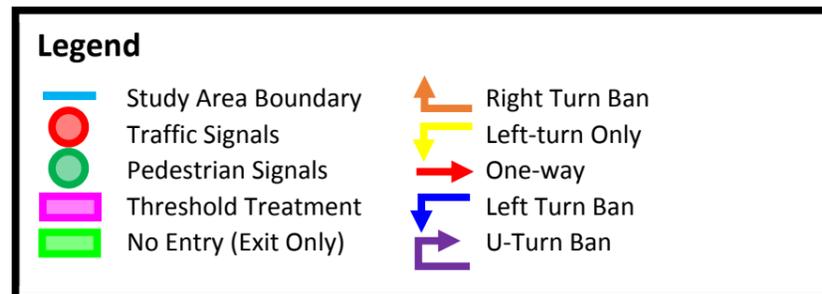
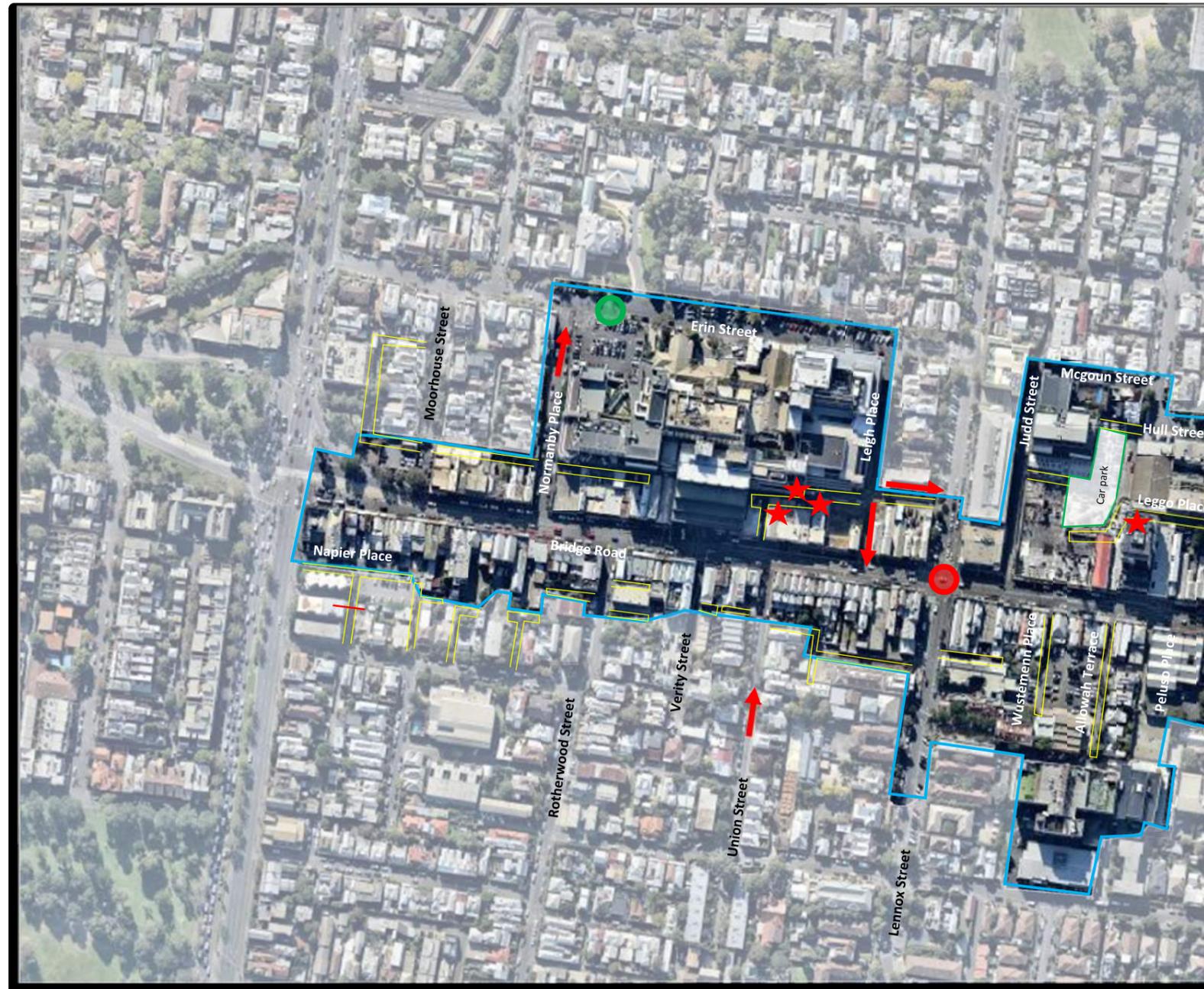






**Legend – Existing Conditions**

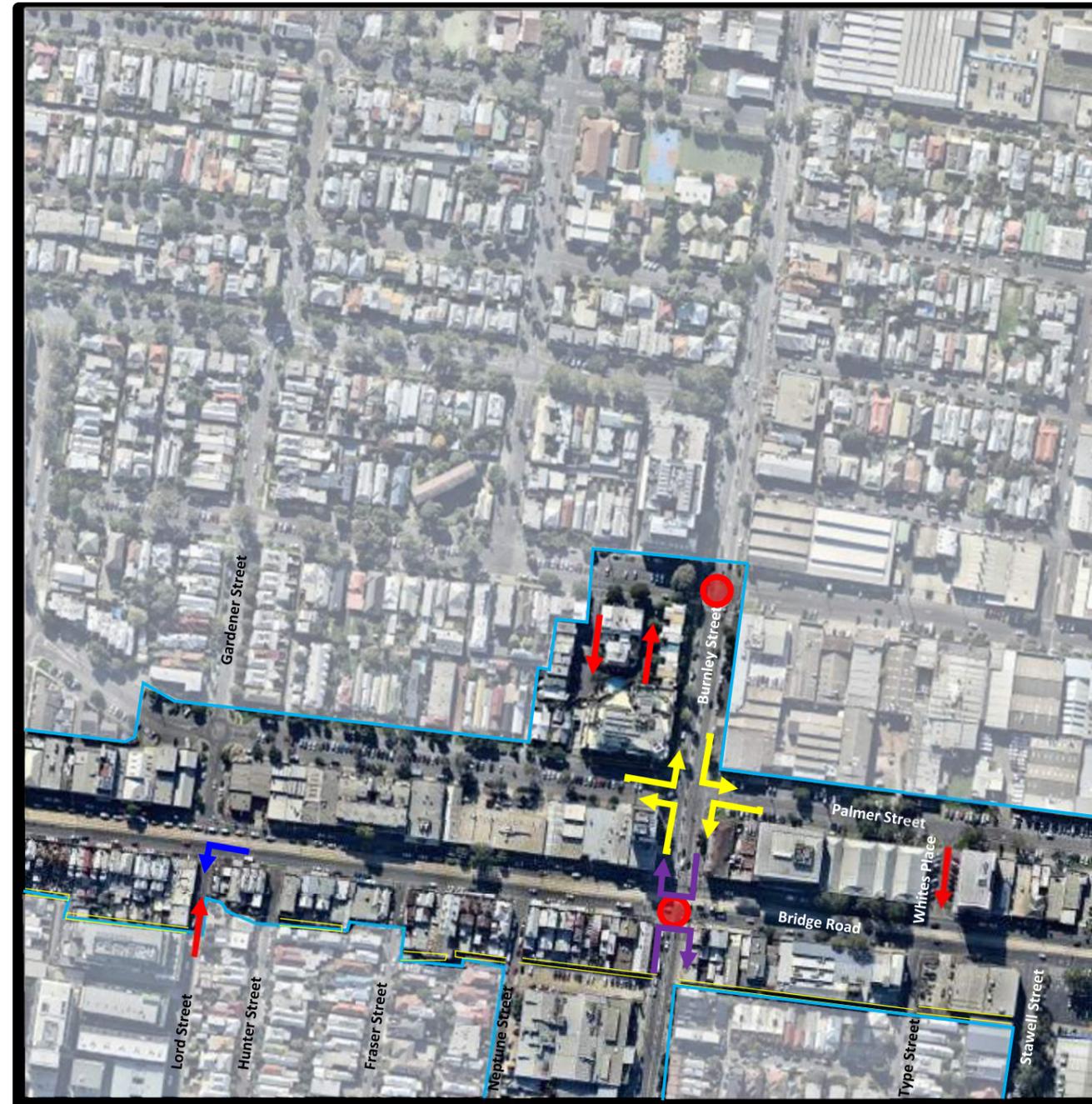
 Study Area Boundary	 Right Turn Ban
 Traffic Signals	 Left-turn Only
 Pedestrian Signals	 One-way
 Threshold Treatment	 No Through Road Blockade
 No Entry (Exit Only)	





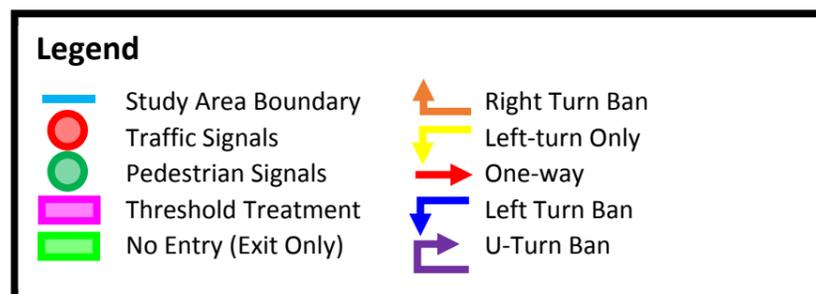
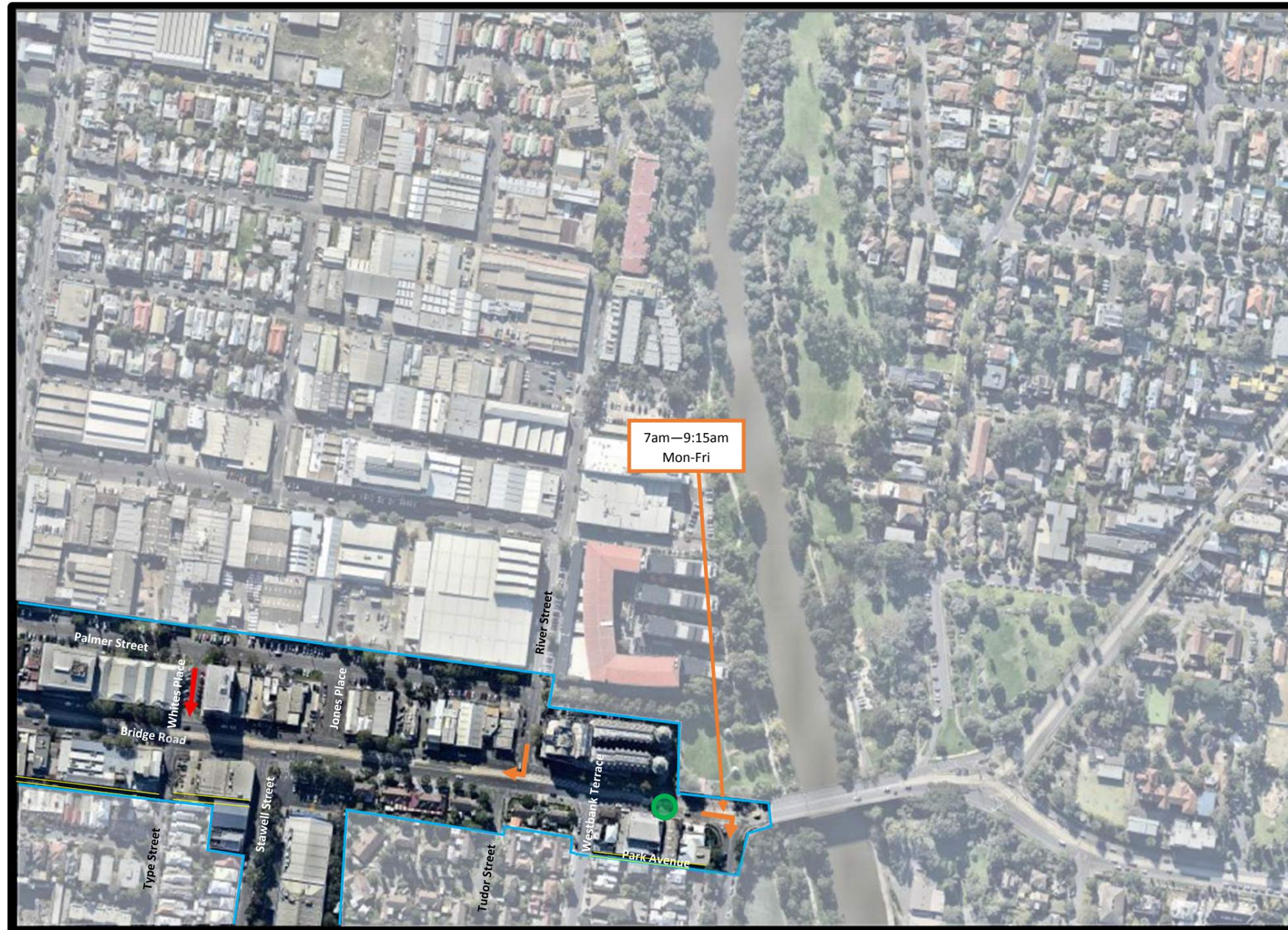
**Legend**

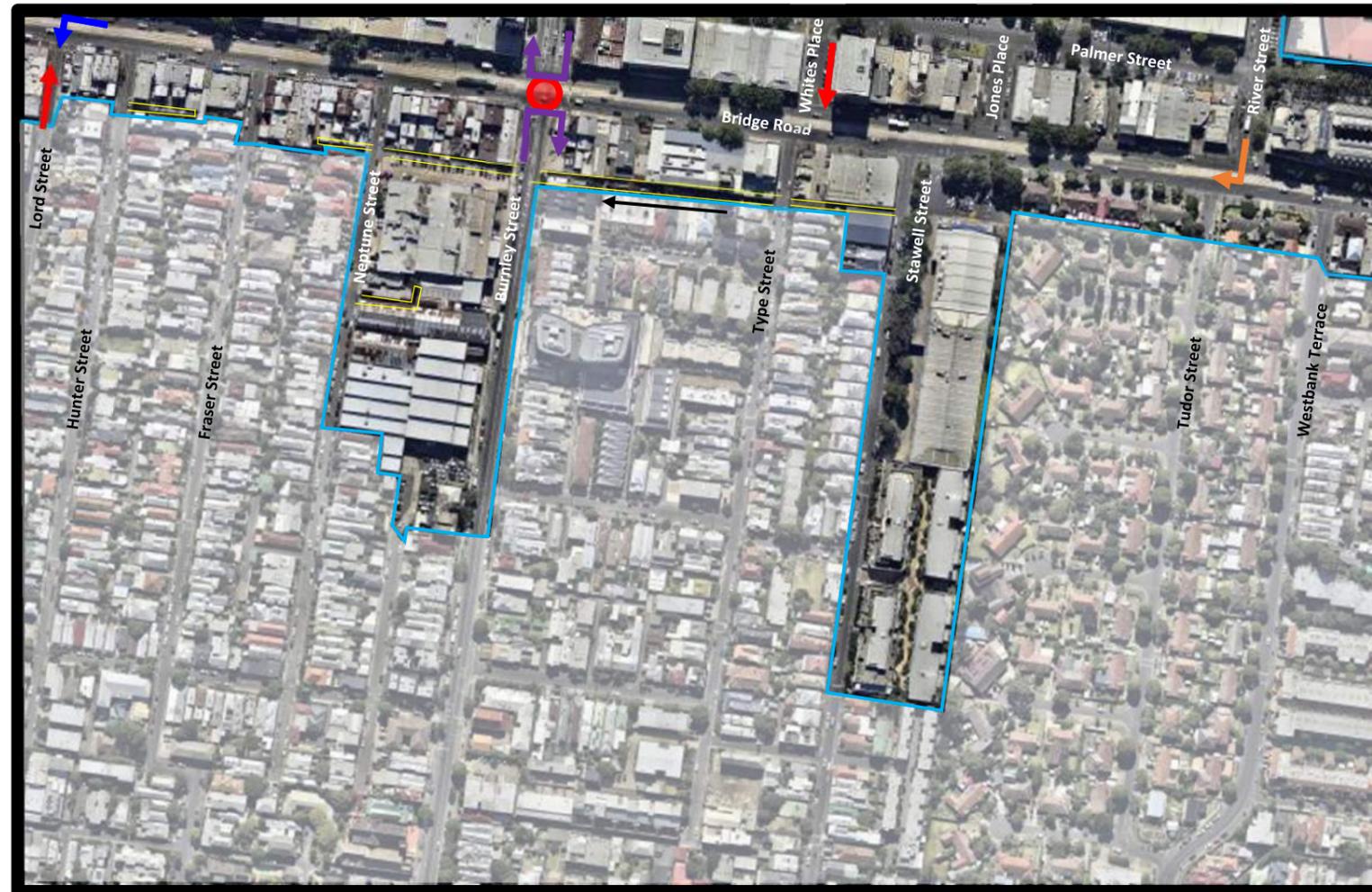
	Study Area Boundary		Right Turn Ban
	Traffic Signals		Left-turn Only
	Pedestrian Signals		One-way
	Threshold Treatment		Left Turn Ban
	No Entry (Exit Only)		U-Turn Ban



**Legend**

	Study Area Boundary		Right Turn Ban
	Traffic Signals		Left-turn Only
	Pedestrian Signals		One-way
	Threshold Treatment		Left Turn Ban
	No Entry (Exit Only)		U-Turn Ban

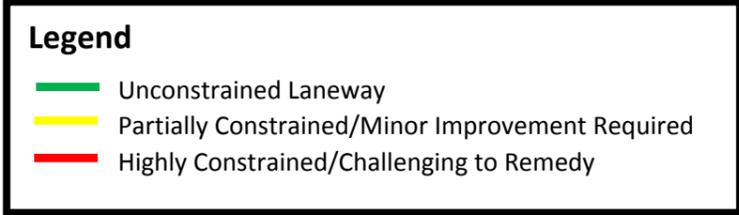
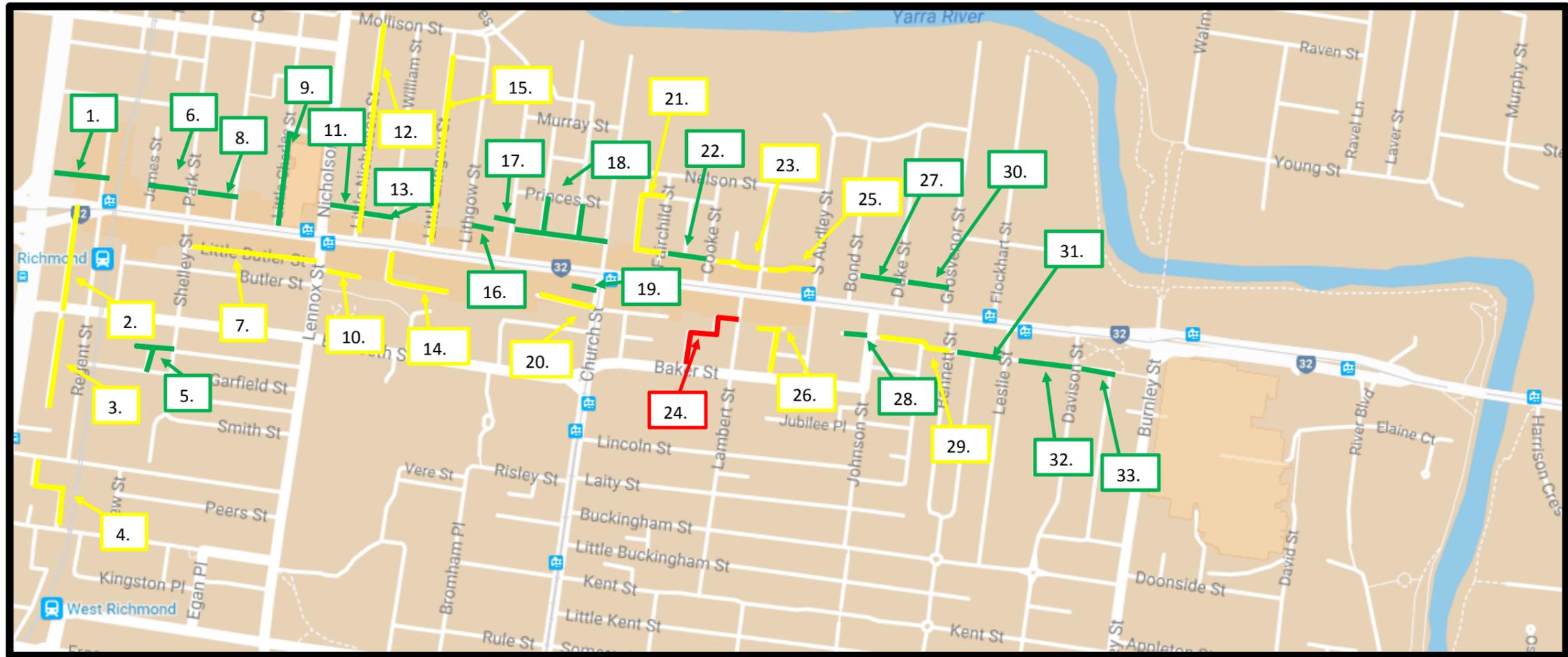




**Legend**

	Study Area Boundary		Right Turn Ban
	Traffic Signals		Left-turn Only
	Pedestrian Signals		One-way
	Threshold Treatment		Left Turn Ban
	No Entry (Exit Only)		U-Turn Ban

# Appendix C: Existing Laneway Conditions



Street Name	Description	Photo
<p><b>1: ROW (from Hoddle Street to Ferguson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.85m-3.6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – No footpaths</li> <li>• Material – Asphalt</li> <li>• Layout Features – continuous, generally straight</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short, straight and connected at both ends.</li> </ul>	
<p><b>2: Little Hoddle Street (from Elizabeth Street to Victoria Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.6m</li> <li>• Road reservation – 5.95m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – Narrow kerbside/footpath on both sides</li> <li>• Material – Asphalt</li> <li>• Layout features – continuous, straight</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Single lane for two-way traffic</li> <li>• Long length, some development potential</li> <li>• Could be made two-way by creating a shared zone and removing the footpaths</li> </ul>	
<p><b>3: Little Hoddle Street (from Elizabeth Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.7m-4.8m</li> <li>• Road Reserve – 4.85m-6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking along sections of the east side of the laneway</li> <li>• Footpaths – Narrow kerbing/path</li> <li>• Material – Asphalt</li> <li>• Layout features – dead end, straight, narrows down towards the south</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Long</li> <li>• Narrower than 6m without road reserve</li> <li>• Parking Arrangements limit two-way flow</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>4: Wrede Place (from York Street to Egan Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.4m-3.85m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – No footpaths</li> <li>• Material – Bluestone in sections and asphalt in sections</li> <li>• Layout features – continuous, s-shaped, no splays</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of splays makes navigating corners difficult</li> </ul>	
<p><b>5: ROW (from Shelley Street to Garfield Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2m-3.95m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – No footpaths</li> <li>• Material – Asphalt</li> <li>• Layout features – continuous with a 90 degree bend and extending dead end section to the west, splays on south-east corner</li> </ul> <p><b>Constraints: Unconstrained laneway</b> Short and connected at both ends.</p>	
<p><b>6: ROW (from James Street to Park Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way, must turn right at Park Street</li> <li>• Parking – Shared off-street car park on south side of ROW</li> <li>• Footpaths – No footpaths</li> <li>• Material – Asphalt with bluestone kerbing</li> <li>• Layout features – continuous, straight</li> </ul> <p><b>Constraints: Unconstrained laneway</b> Short, straight and connected at both ends.</p>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>7: Little Butler Street (from Shelly Street to Lennox Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.7m-3m</li> <li>• Road reservation – 3.95m-4.75m</li> <li>• Traffic management – Two-way</li> <li>• Parking – kerbside parallel both sides</li> <li>• Footpaths – No footpaths</li> <li>• Materials – Asphalt</li> <li>• Layout features – continuous, straight</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Long length</li> <li>• Inability to easily widen for 2-way traffic flow</li> <li>• Could be made one-way</li> </ul>	
<p><b>8: ROW (from Park to Charles)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.1m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Shared off-street car park on south side and west end of ROW</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> <li>• Layout features – continuous, straight</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	
<p><b>9: Little Charles Street (from Victoria Street to Little Charles Close)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m</li> <li>• Road reservation – 5.15m</li> <li>• Traffic management – One-way (southbound)</li> <li>• Parking – No parking</li> <li>• Footpath – Narrow path on east side, with traversal onto road required at power poles</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to one-way nature</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>10: ROW (from Lennox Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Car Park at east end</li> <li>• Footpath – No footpaths</li> <li>• Material – Concrete</li> <li>• Layout features – slight bend to the south</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Constrained due to dead end</li> </ul>	
<p><b>11: ROW (from Nicholson Street to Little Nicholson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.55m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	
<p><b>12: Little Nicholson Street (from Victoria Street to Mollison Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.9m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> <li>• Layout Features – loading activity occurs frequently, blocking traversal of ROW</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Long length</li> <li>• Insufficient for 2-way flow</li> <li>• Could be made one-way</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>13: ROW (from Little Nicholson Street to William Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.95m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – narrow</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	
<p><b>14: ROW (from Victoria Street to END, opposite William Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.75m for north-south section and 3m for east-west section</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> <li>• Layout Features – Splay provided at bend, over land of 176 Victoria Street</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Single Lane</li> <li>• Length</li> <li>• 90 degree bend</li> <li>• Some development potential</li> <li>• Would require widening for two-way traffic, particularly north-south leg</li> </ul>	
<p><b>15: Little Lithgow Street (from Victoria Street to Mollison Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.1m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Slightly too narrow for two-way traffic flow</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>16: ROW (from Lithgow Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.4m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Sufficient width for two-way traffic flow</li> </ul>	
<p><b>17: ROW (from Albert Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	
<p><b>18: ROW (from Albert Street to Church Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.4m</li> <li>• Traffic management – Two-way, right turn only at Fairchild Street</li> <li>• Parking – Car park at midpoint of ROW</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p>Layout features – there is are two connecting north-south ROWs extending northerly</p> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to being continuous, could be one-way</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>19: ROW (from Church Street to End)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.05m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	
<p><b>20: Victoria Place (from Church Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.75m, 5.7m aisle for western car park</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at western end</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: (Partially constrained)</b></p> <ul style="list-style-type: none"> <li>• Dead end</li> <li>• Some development potential</li> </ul>	
<p><b>21: ROW (from Fairchild Street to Fairchild Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way, must enter via right turn from Fairchild, exit via left turn to Fairchild</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> </ul> <p>Layout features – connects to ROW extending north-south that loops back to Fairchild Street</p> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• No splay</li> <li>• Low development potential</li> <li>• Single lane</li> <li>• Length</li> <li>• Bends</li> </ul>	

Street Name	Description	Photo
<p><b>22: ROW (from Fairchild to Cooke Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.9m</li> <li>• Traffic management – Two-way, must travel south on Fairchild Street, and north on Cooke Street</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – there is a ROW that extends northerly, where there are no splays, making it difficult to traverse due to the narrow width</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	
<p><b>23: ROW (from Cooke Street to Thompson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.1m-3.8m</li> <li>• Road Reservation – 3.1m-4.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout Features – there is a kink in the ROW at the midpoint, which is also where a northerly ROW also connects, the 4.2m width of the connecting ROW provides space to navigate this kink</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• An improved splay would assist with the kink in the ROW, especially for service vehicles</li> </ul>	

Street Name	Description	Photo
<p><b>24: ROW (from Lambert Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.8m-4m</li> <li>• Traffic management – Two-way</li> <li>• Parking –No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt and bluestone</li> <li>• Layout features – There are a number of bends in the ROW. Splays are provided in the narrower sections, but not for bends connecting to the 4m width section. The ROW also connects to Baker Street in the south</li> </ul> <p><b>Constraints: Highly constrained</b></p> <ul style="list-style-type: none"> <li>• Length, number of properties</li> <li>• Narrow</li> <li>• Bends with without splays</li> <li>• Properties at corners are outside of the study boundary</li> </ul>	
<p><b>25: ROW (from Thompson Street to South Audley Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.6m-3.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Car park on the north side of the ROW, behind 2 Thompson Street</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a kink in the middle of the ROW, where there is another northerly connected ROW. Potentially challenging to navigate the kink</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Kink</li> <li>• Lack of Splays</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>26: ROW (East-west ROW connected to Wells Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.7m-4.85m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout Features – connects to the northern end of Wells Street. No splays are provided at the intersection</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• 90 degree bends</li> <li>• Lack of splays</li> </ul>	
<p><b>27: ROW (from Bond Street to Duke Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.4m</li> <li>• Traffic management – Two-way, Bond Street is one-way northerly and Duke Street is one-way southerly</li> <li>• Parking – No Parking</li> <li>• Footpath – No Footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	
<p><b>28: ROW (from Johnson Street to END, on west side of Johnson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.55m-6.35m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: (Unconstrained laneway)</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	

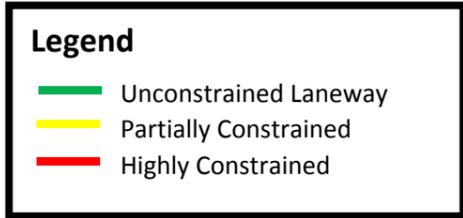
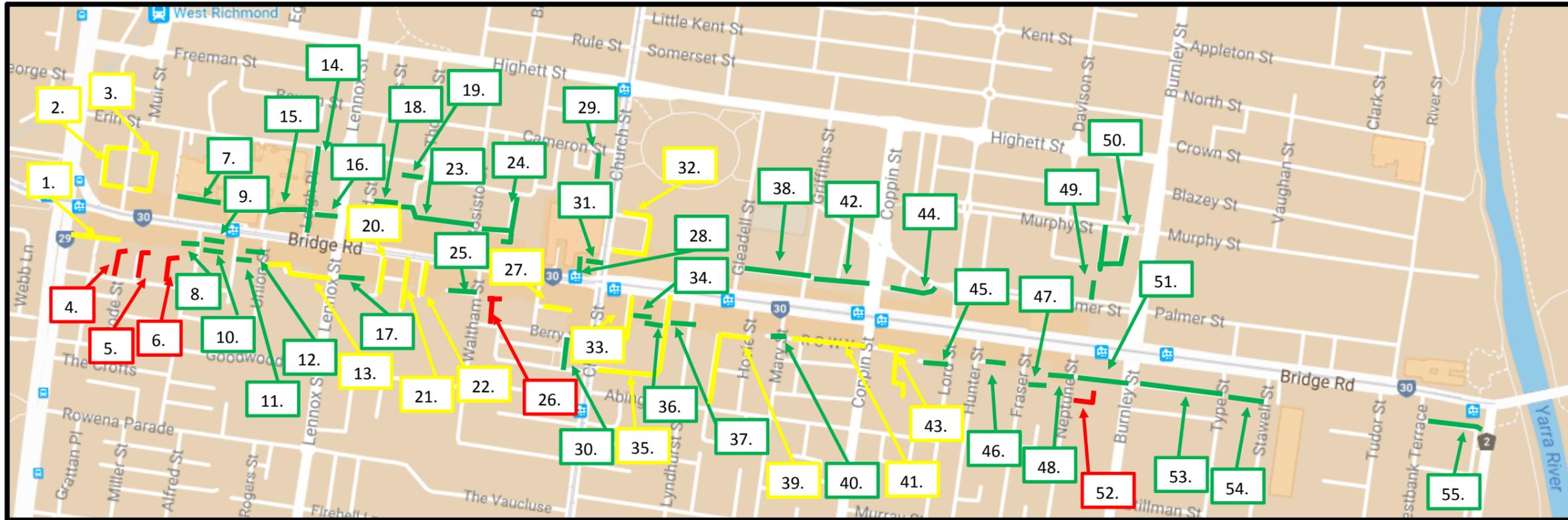
Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>29: ROW (from Johnson Street to Bennett Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.95m-3.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No Footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a kink in the ROW, which also connects to a southerly ROW. There is a splay on the south-west side of the intersection</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Kink</li> </ul>	
<p><b>30: ROW (from Duke Street to Grosvenor Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.4m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	
<p><b>31: Coles Terrace (from Bennett Street to Leslie Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.7m-2.9m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No parking</li> <li>• Material – Bluestone</li> <li>• Layout features – There is a connecting southerly ROW of 3.05m width with a splay on the south-west corner of the intersection</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	

Street Name	Description	Photo
<p><b>32: Coles Terrace (from Leslie Street to Davidson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Bluestone</li> <li>• Layout features - There is a connecting southerly ROW of 2.85m width with a slight splay on each corner. Corner is still quite difficult to traverse due to narrow width, and shallow depth of splay</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	
<p><b>33: Coles Terrace (from Davidson Street to Burnley Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.6m-4.6m</li> <li>• Traffic management – Bollards prevent vehicles from entering/exiting ROW at Burnley Street</li> <li>• Parking – No parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Asphalt</li> <li>• Layout features - There is a connecting southerly ROW of 3.05m width with no splays. Low vegetation and kerbing on the northern side of the ROW allow for the vehicle body to overhang.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <p>Unconstrained due to short length, low development potential</p>	



Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>1: Napier Lane (from Hoddle Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.85m</li> <li>• Trafficable width – 4.3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Car park attached to eastern end of lane</li> <li>• Footpaths – No footpaths</li> <li>• Material – Bluestone</li> <li>• Layout features – There is a connecting ROW to the south which connects to Sherwood Street, however bollards block access.</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Limited Carriageway</li> </ul>	
<p><b>2: ROW (from west side Moorhouse Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – No footpaths</li> <li>• Material – Bluestone</li> <li>• Layout features –there is a connecting northbound ROW which loops back to Moorhouse Street, with splays at the corners</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing opportunities</li> <li>• Lack of sight distance around bends.</li> </ul>	
<p><b>3: ROW (from east end of Moorhouse Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2-3.25m</li> <li>• Traffic Management – Two-way</li> <li>• Parking – Car park at east end of ROW</li> <li>• Footpaths – No footpaths</li> <li>• Material – Bluestone</li> <li>• Layout features – connecting ROW to the north which loops back to Moorhouse Street, with splays on each corner</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing opportunities</li> <li>• Lack of sight distance around bends.</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>4: ROW (East-West section of westernmost ROW from Sherwood Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.7m-3m</li> <li>• Road reservation – 3.95m-4.75m</li> <li>• Traffic management – Two-way</li> <li>• Parking – kerbside parallel both sides</li> <li>• Footpaths – No footpaths</li> <li>• Materials – Asphalt</li> <li>• Layout features – connected to ROW at the south, of width 3.6m, with no splays provided.</li> </ul> <p><b>Constraints: Highly Constrained</b></p> <ul style="list-style-type: none"> <li>• Single lane</li> <li>• No Splays at T-intersection</li> <li>• Limited potential to widen critical north-south link</li> </ul>	
<p><b>5: ROW (East-West section of middle ROW from Sherwood Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – connected to ROW at the south, of width 3.5m, with no splays provided.</li> </ul> <p><b>Constraints: Highly Constrained</b></p> <ul style="list-style-type: none"> <li>• Single lane</li> <li>• No Splays at T-intersection</li> <li>• Limited potential to widen critical north-south link</li> </ul>	
<p><b>6: ROW (easternmost ROW from Sherwood Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.75m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Narrow width and bend at north end. Setback property on western side.</li> </ul> <p><b>Constraints: Highly Constrained</b></p> <ul style="list-style-type: none"> <li>• Single lane</li> <li>• No Splays at T-intersection</li> <li>• Limited potential to widen critical north-south link</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>7: ROW (from Normanby Place to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.3m, widens at intersection with Normanby Place</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Asphalt</li> <li>• Layout features – Hospital uses this ROW</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Passing area at entrance to laneway</li> </ul>	
<p><b>8: ROW (from west side of Rotherwood Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Bluestone</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Wide enough for two-way traffic flow</li> <li>• Short length</li> </ul>	
<p><b>9: ROW (from east side of Rotherwood Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.05m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Layout features – short and narrow</b></p> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Limited development potential</li> </ul>	
<p><b>10: ROW (from east side of Rotherwood Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.8m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Car park on south side</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Limited development potential</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>11: ROW (from Verity Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 6.05m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Open tandem parking for adjacent properties</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Limited development potential</li> </ul>	
<p><b>12: ROW (West side of Union Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way, No Entry to Union Street from Bridge Road</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Limited development potential</li> </ul>	
<p><b>13: ROW (East side of Union Street to Lennox Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.7m-3.75m</li> <li>• Traffic management – Two-way, No Entry to Union Street from Bridge Road</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt and Bluestone</li> <li>• Layout features – there is a kink involving two 90 degree bends. A splay is provided on one side of the northern bend</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Non-functional kink breaks laneway into two parts</li> </ul>	
<p><b>14: Leigh Place (from Bridge Road to Erin Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.7m</li> <li>• Road reserve – 9m</li> <li>• Traffic management – Two-way for northern section, One-way for southern section connecting to Bridge Road</li> <li>• Parking – No parking</li> <li>• Footpath – Footpath on west side</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• One-way</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>15: ROW (from Leigh Place to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.55m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Slight kink at the middle, still easily traversable</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul>	
<p><b>16: Corns Place (from Leigh Place to Lennox Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.1m</li> <li>• Traffic management – Two-way, must turn left at Leigh Place</li> <li>• Parking – Car park at midpoint of ROW</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Continuous</li> <li>• Could be made one-way</li> </ul>	
<p><b>17: ROW (from Lennox Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: (Unconstrained laneway)</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	
<p><b>18: ROW (from Judd Street to Carpark)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 6m (including mountable kerbing)</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – Mountable footpath on south side</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: (Unconstrained laneway)</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Mountable kerbing allows for two-way passing</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>19: ROW (from Hull Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at southern end</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Small number of adjacent properties</li> </ul>	
<p><b>20: Wustemenn Place (from Bridge Road to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.65m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at southern end</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout Features – Narrow width, shares car park with Allowah Terrace</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing area</li> <li>• Dead end</li> <li>• Could be connected to Allowah Terrace</li> </ul>	
<p><b>21: Allowah Terrace (from Bridge Road to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at southern end</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – Narrow width, shares car park with Wustemenn Place</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing area</li> <li>• Dead end</li> <li>• Could be connected to Wustemenn Place</li> </ul>	
<p><b>22: Peluso Place (from Bridge Road to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.1m-4.85m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at southern end</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing area</li> <li>• Dead end</li> </ul>	

Appendix C

ROW Existing Conditions



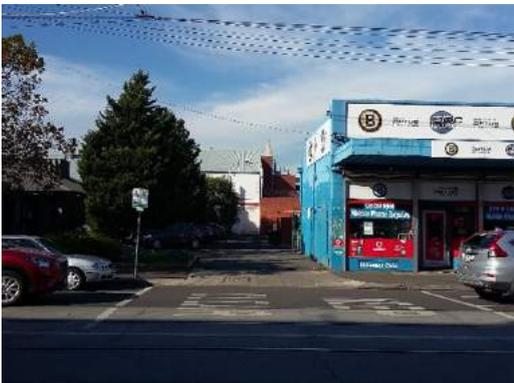
Street Name	Description	Photo
<p><b>23: Leggo Place (from Bosisto Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 7.6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Large Car park at western end</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout Features – Has a kink at the end, and connects to a large car park</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Sufficient width for two-way traffic</li> </ul>	
<p><b>24: ROW (from Bosisto Street to Hull Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m-4.3m</li> <li>• Traffic management – Two-way</li> <li>• Parking –No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Already ‘built out’ to a large degree</li> </ul> <p><b>Constraints: Unconstrained Laneway</b></p> <ul style="list-style-type: none"> <li>• Properties already developed</li> </ul>	
<p><b>25: Sheridan Place (from Waltham Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.55m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul>	
<p><b>26: ROW (from Berry Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.05m-3.3mm</li> <li>• Traffic management – Two-way, Berry Street is one-way (westbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout Features – has a T-intersection at the northern end, with splays on both corners.</li> </ul> <p><b>Constraints: Highly constrained</b></p> <ul style="list-style-type: none"> <li>• Length</li> <li>• T-shape</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>27: Alban Street (from Eucalyptus Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.8m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking along the north side of Alban Street</li> <li>• Footpath – No Footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Wide enough for two-way traffic</li> <li>• Parking arrangements make two-way traffic flow unachievable</li> </ul>	
<p><b>28: ROW (from Bridge Road to END, opposite Eucalyptus Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.65m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	
<p><b>29: Henry Street (from Cameron Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.9m</li> <li>• Traffic management – Two-way, speed humps</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul>	

Street Name	Description	Photo
<p><b>30: ROW (from Berry Street to Hodgson Terrace)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.15m</li> <li>• Traffic management – Two-way, Berry Street is one-way (westbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – Berry Street is a narrow street (3.5m road), and a splay is provided on the southeast corner of the intersection with the ROW to assist movement.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	
<p><b>31: ROW (from Church Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <p>Short</p>	
<p><b>32: ROW (from Church Street to Church Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4m-4.7m</li> <li>• Traffic management – ROW is entry only for the northern section, however, an exit lane is provided via adjacent McDonalds car park, so is considered two-way for all practical purposes.</li> <li>• Parking –No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There are two 90 degree turns which loop the ROW back to Church Street. Splays are provided at each bend, and the ROW has enough width to allow for unimpeded turning.</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Narrow</li> <li>• U-shaped</li> <li>• Lack of passing without ‘McDonalds’ site, however surrounding McDonalds site means that access issues could be easily resolved with re-development</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>33: Tullo Place (from Bridge Road to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.95m-4.55m</li> <li>• Road reserve – 6.2m-6.8m</li> <li>• Traffic management – Two-way, no right turn at Bridge Road</li> <li>• Parking – No Parking</li> <li>• Footpath – Footpath on west side</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW on the east side of the road, with no splays provided</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing area</li> <li>• Could be converted shared zone for two-way traffic (footpath removed)</li> </ul>	
<p><b>34: ROW (from Tullo Place to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Connected to Tullo Place, with no splays provided</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	
<p><b>35: Waterloo Place (from Bridge Road to Church Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.4m</li> <li>• Road reserve – 6.2m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – Narrow footpaths on both sides</li> <li>• Material – Asphalt</li> <li>• Layout features – Waterloo Place has a 90 degree bend connecting it from Bridge Road to Church Street. A splay is provided at the bend on the northwest corner. There are also two ROWs connected to Waterloo Place</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of two-way passing opportunities</li> <li>• Length</li> <li>• Could be made one-way</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>36: ROW (from Waterloo Place to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m (with additional property boundary setback of 2.55m)</li> <li>• Traffic management – Two-way</li> <li>• Parking – Private parking on south side within property setback</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – A property boundary setback allows for turning into ROW from Waterloo Place</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul>	
<p><b>37: ROW (from Waterloo Place to Lyndhurst Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2m</li> <li>• Traffic management – Two-way, Lyndhurst Street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – A splay on the southeast corner of Waterloo Place and the ROW is provided to assist turning.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Continuous</li> </ul>	
<p><b>38: ROW (from Gleadell Street to Griffiths Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	

Street Name	Description	Photo
<p><b>39: Spencer Place (from Hosie Street to Abinger Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.45m-3.8m</li> <li>• Traffic management – Two-way, Hosie Street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt and bluestone</li> <li>• Layout features – There is a 90 degree bend in Spencer Place, with a splay provided on the southeast corner. There is another connecting ROW, which connects back to Hosie Street, with a splay also provided.</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Long</li> <li>• Lack passing opportunities</li> </ul>	
<p><b>40: Pandoleon Lane (from Mary Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.65m</li> <li>• Traffic management – Two-way, Mary street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	
<p><b>41: ROW (from Mary Street to Coppin Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2m</li> <li>• Traffic management – Two-way, Mary Street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Straight, limited splays on intersecting ROWs.</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Length</li> <li>• No passing area</li> <li>• Continuous, could be one-way</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>42: ROW (from Griffiths Street to Coppin Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.1m</li> <li>• Traffic management – Two-way, must enter and exit via left on Coppin Street</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW to the north, with splays provided on both corners of the intersection.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	
<p><b>43: Foster Place (from Coppin Street to END)</b></p>	<p>Existing Conditions:</p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m-3.45m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW of 4m width to the south, with no splays provided.</li> </ul> <p>Constraints: Partially Constrained</p> <ul style="list-style-type: none"> <li>• Lack of passing area on east-west link</li> <li>• T intersection</li> </ul>	
<p><b>44: ROW (from Coppin Street to Palmer Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.7m-5.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW to the north, with no splays provided at the intersection, however, properties on the south are set back.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Short</li> </ul>	

Appendix C

ROW Existing Conditions

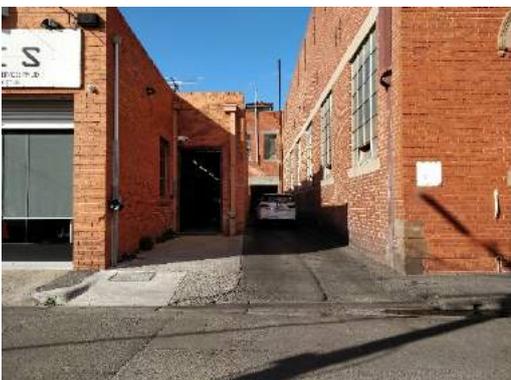


Street Name	Description	Photo
<p><b>45: ROW (from Lord Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.55m, widened by adjacent development</li> <li>• Traffic management – Two-way, Lord Street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Provides two-way traffic</li> </ul>	
<p><b>46: ROW (from Hunter Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	
<p><b>47: ROW (from Hunter Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.4m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p>Layout features – appears to have been consumed as private property</p> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	
<p><b>48: ROW (from Neptune Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	

Appendix C

ROW Existing Conditions



Street Name	Description	Photo
<p><b>49: ROW (from Palmer Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.45m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul> <p>Low development potential</p>	
<p><b>50: Birch Square (from Murphy Street to Murphy Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 6.1m-9m</li> <li>• Traffic management – One-way in an anticlockwise direction</li> <li>• Parking – Parking on north side of east-west section</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <p>Already one-way to minimise vehicle conflict</p>	
<p><b>51: ROW (from Neptune Street to Burnley Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way, must exit/enter left at Burnley</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	
<p><b>52: ROW (from Neptune Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p>Layout features – ROW bends 90 to the north with no spays provided. North-south section is not trafficable and requires spays</p> <p><b>Constraints: Highly Constrained</b></p> <p>Requires spays on the corners</p>	

Appendix C

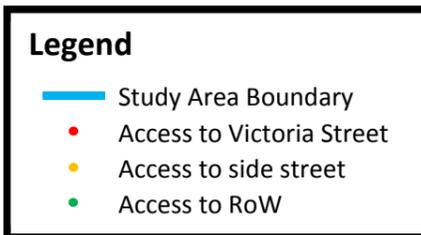
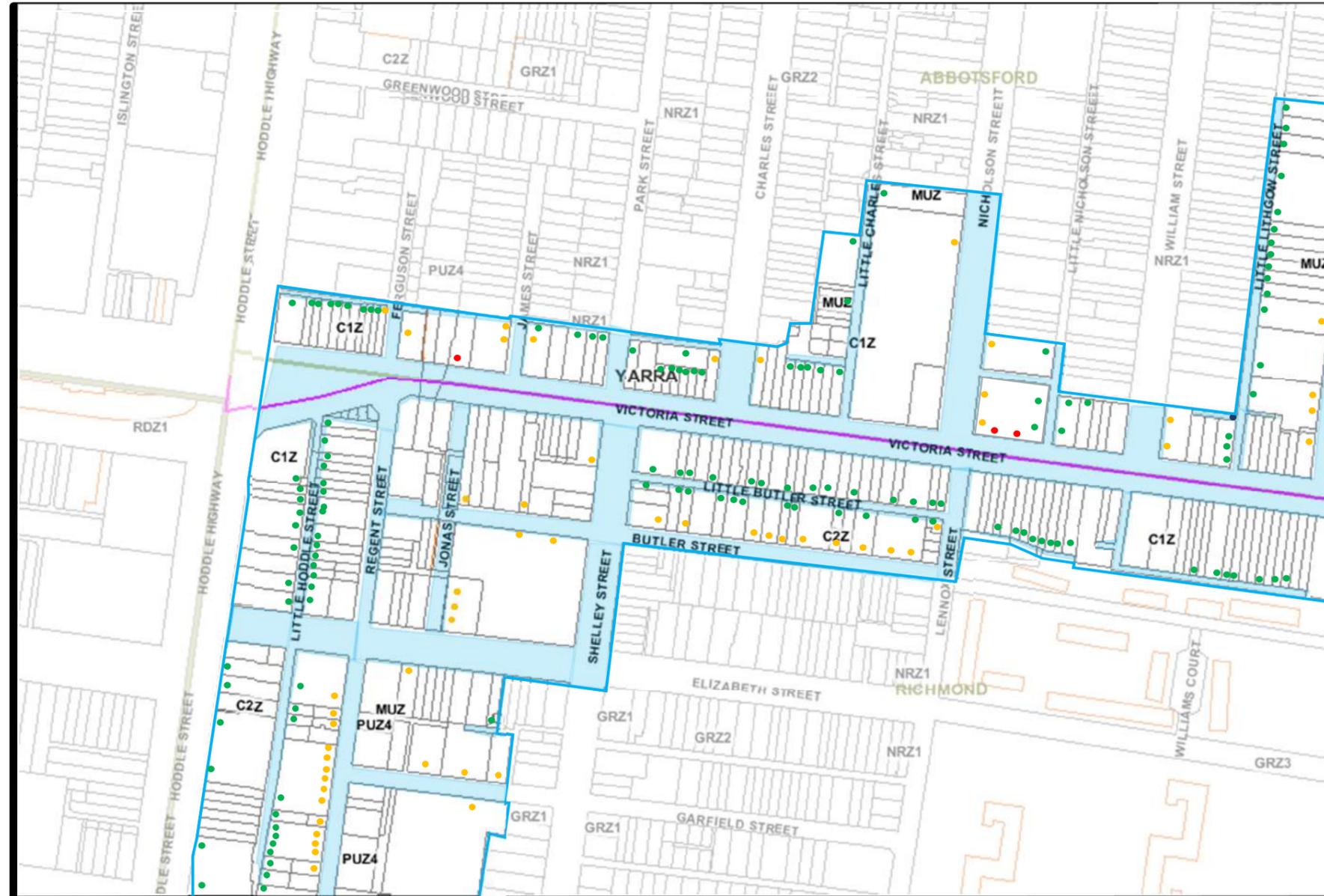
ROW Existing Conditions

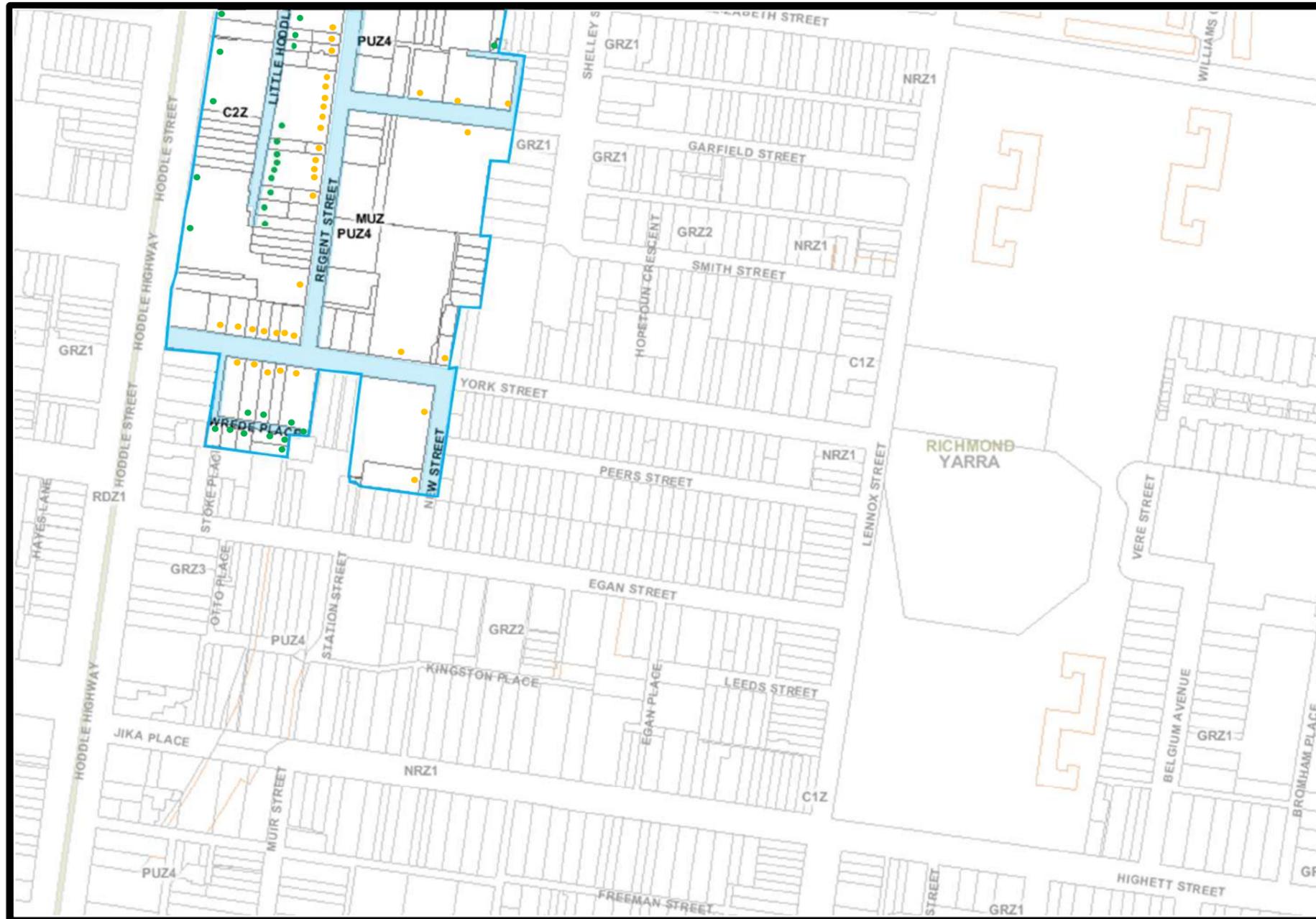


Street Name	Description	Photo
<p><b>53: ROW (from Burnley Street to Type Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.4m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW to the south, with no splays provided at the intersection.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	
<p><b>54: ROW (from Type Street END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – Footpath on south side</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	
<p><b>55: Park Avenue (east-west section abutting Bridge Road properties from Westbank Terrace to bend)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.65m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – Footpath on south side</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	

Street Name	Description	Photo
<p><b>Eucalyptus Street</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.45m-5.95m</li> <li>• Road Reserve – 5.95m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpaths – Narrow footpath on both sides</li> <li>• Material – Asphalt</li> </ul> <p>Layout features – Road provides passing area at intersection with Bridge Road, however road narrows soon after, providing no other opportunities for passing.</p>	
<p><b>Neptune Street</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 7.1m</li> <li>• Road Reserve – 9.8m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parallel parking on both sides</li> <li>• Footpaths – Narrow footpath on both sides</li> <li>• Material – Asphalt</li> </ul> <p>Layout features – Parking on each side of the road only allows for one-way traffic flow.</p>	

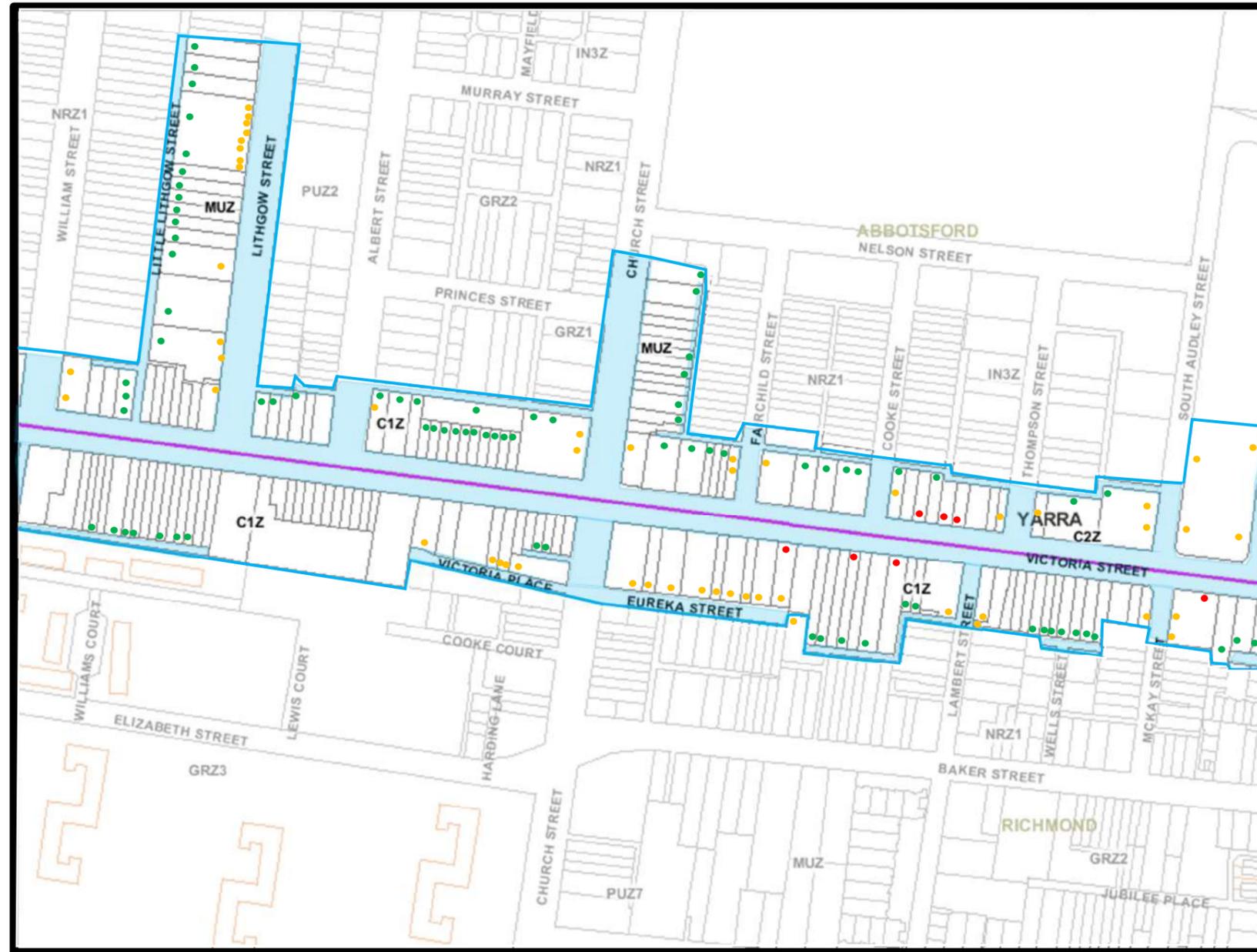
# Appendix D: Existing Vehicle Access Arrangements





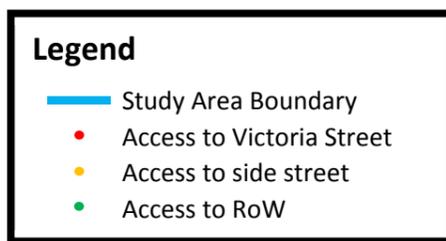
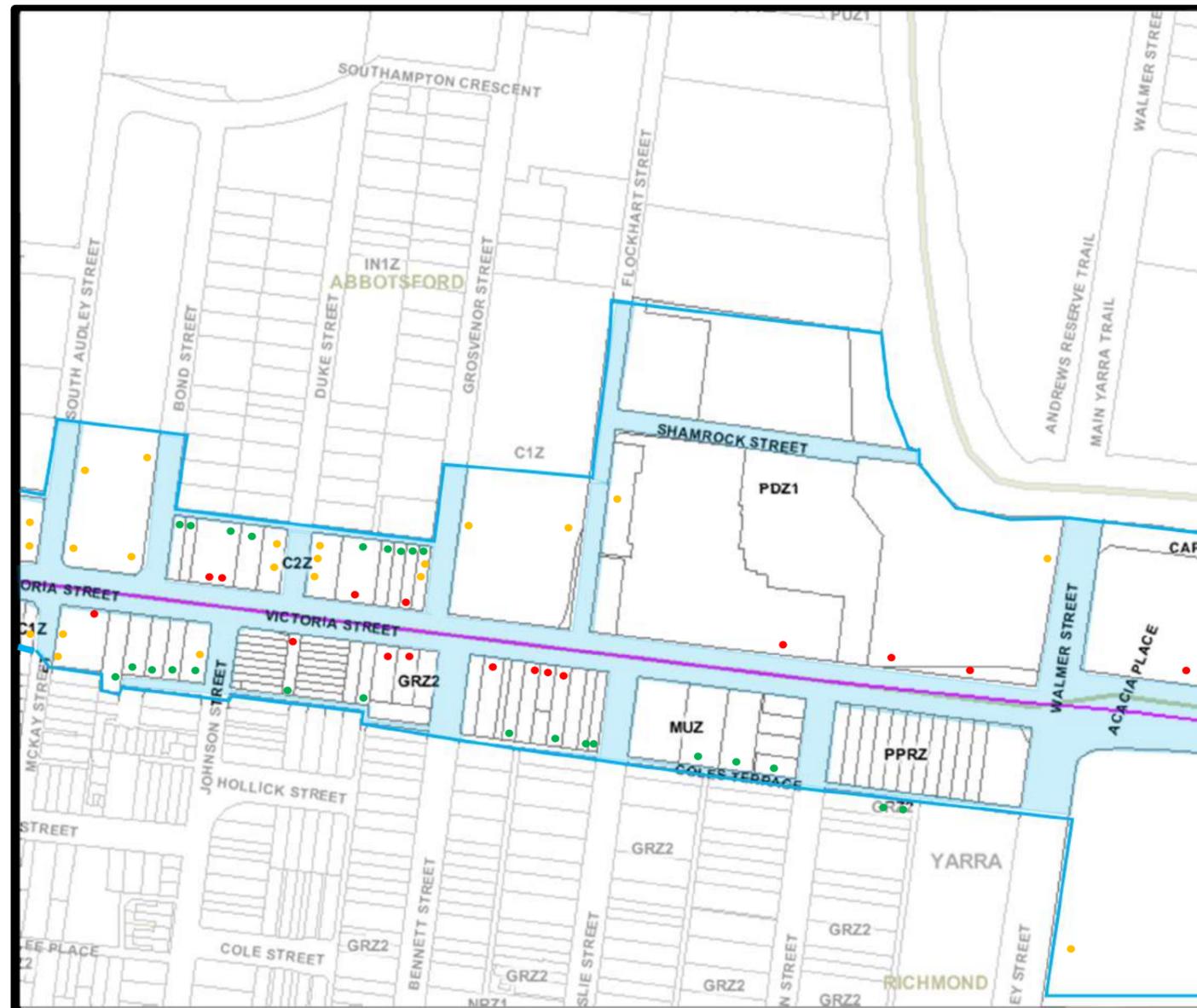
**Legend**

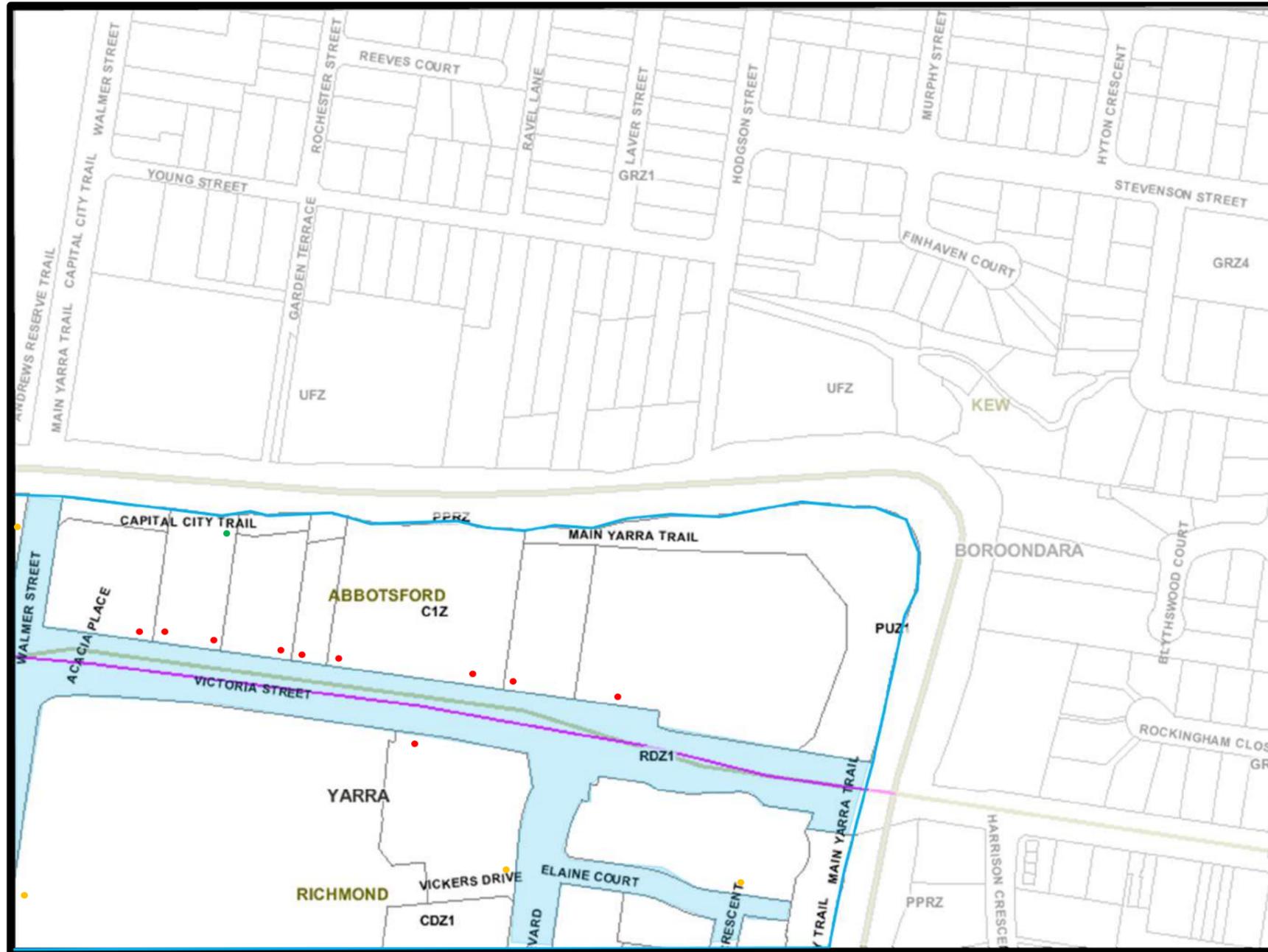
- Study Area Boundary
- Access to Victoria Street
- Access to side street
- Access to RoW



**Legend**

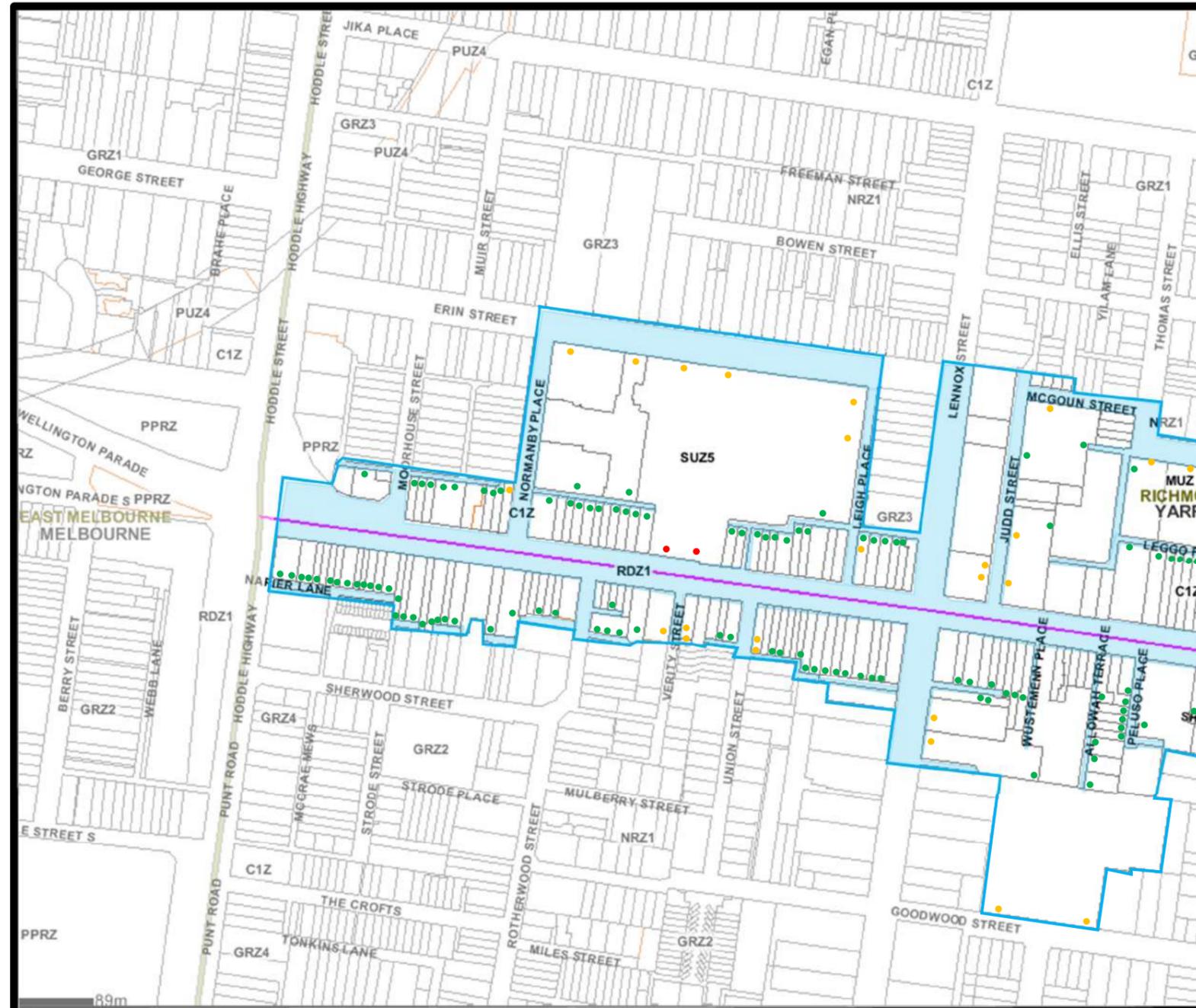
- Study Area Boundary
- Access to Victoria Street
- Access to side street
- Access to RoW





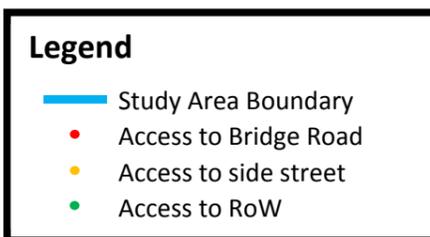
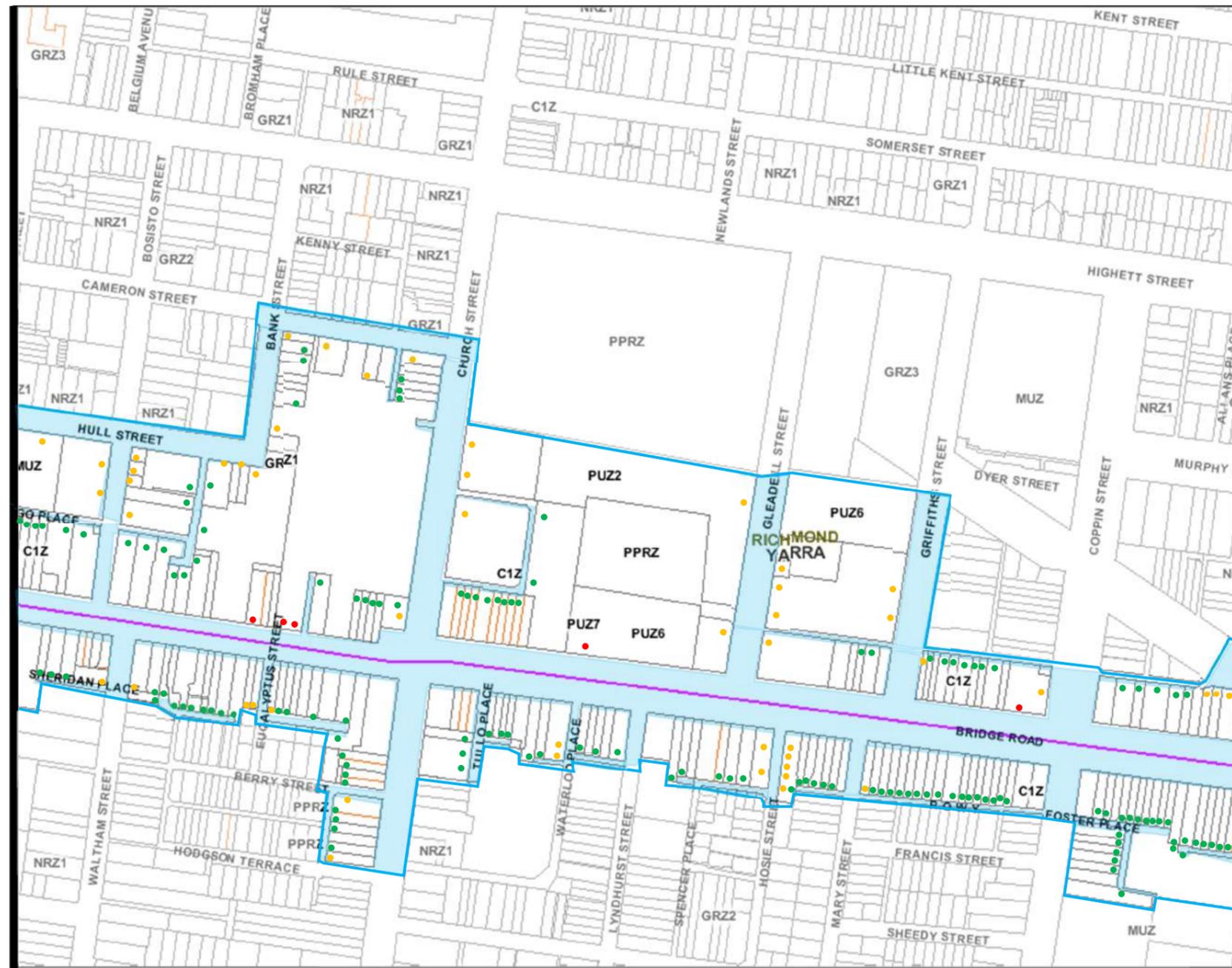
**Legend**

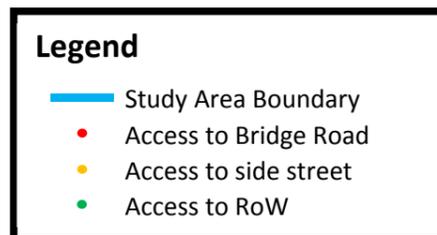
- Study Area Boundary
- Access to Victoria Street
- Access to side street
- Access to RoW

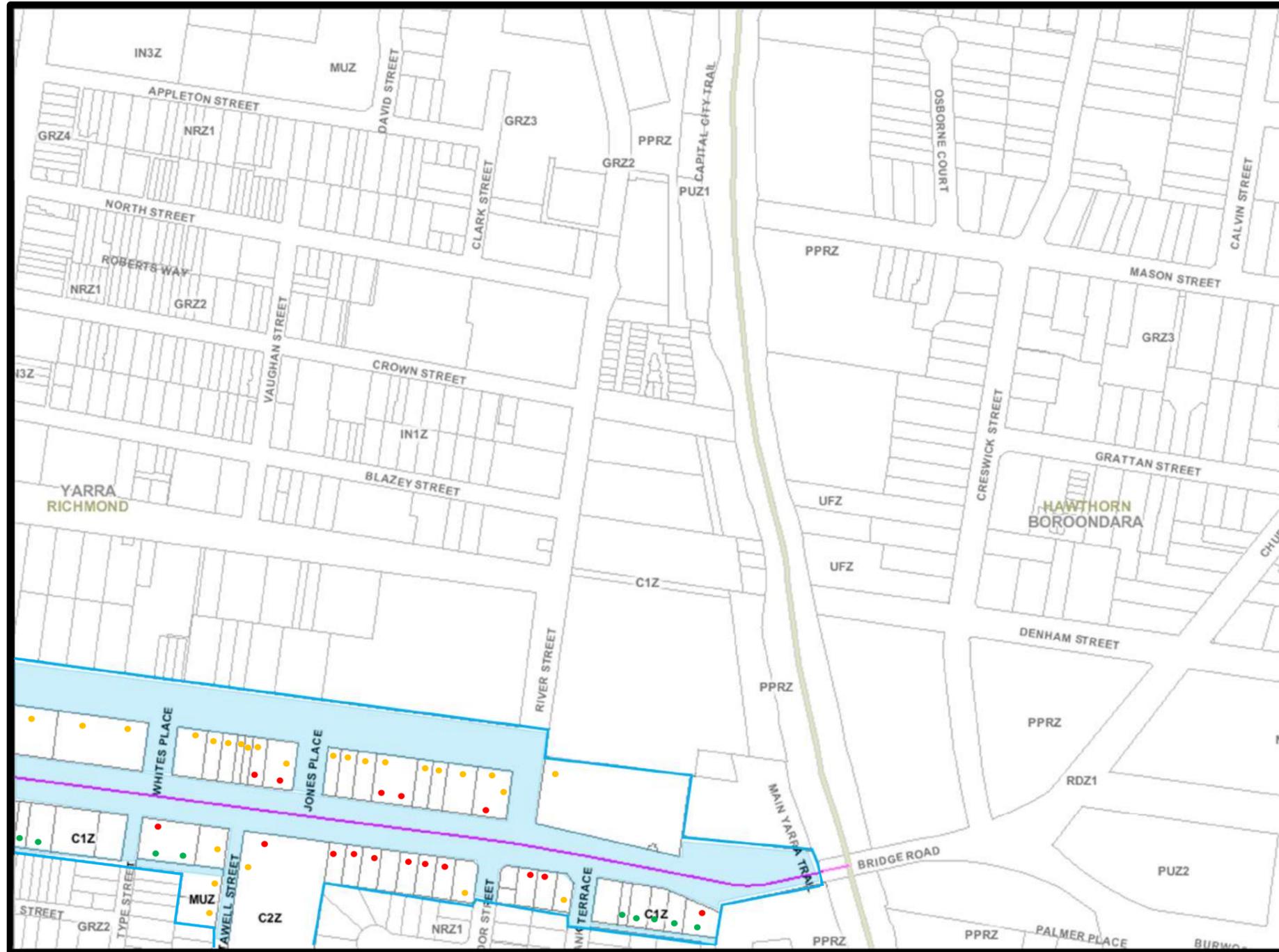


**Legend**

- Study Area Boundary
- Access to Bridge Road
- Access to side street
- Access to RoW

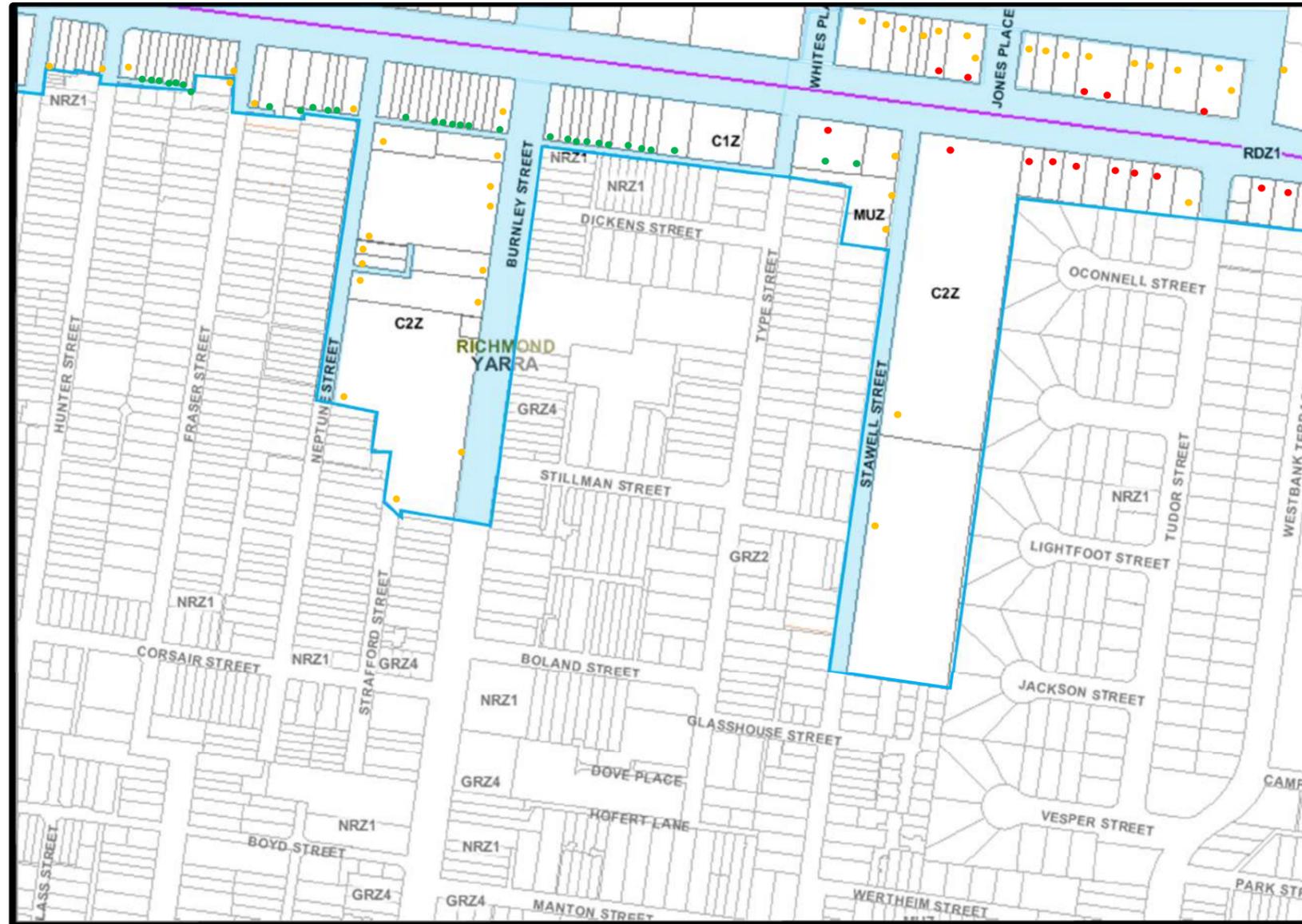






**Legend**

- Study Area Boundary
- Access to Bridge Road
- Access to side street
- Access to RoW



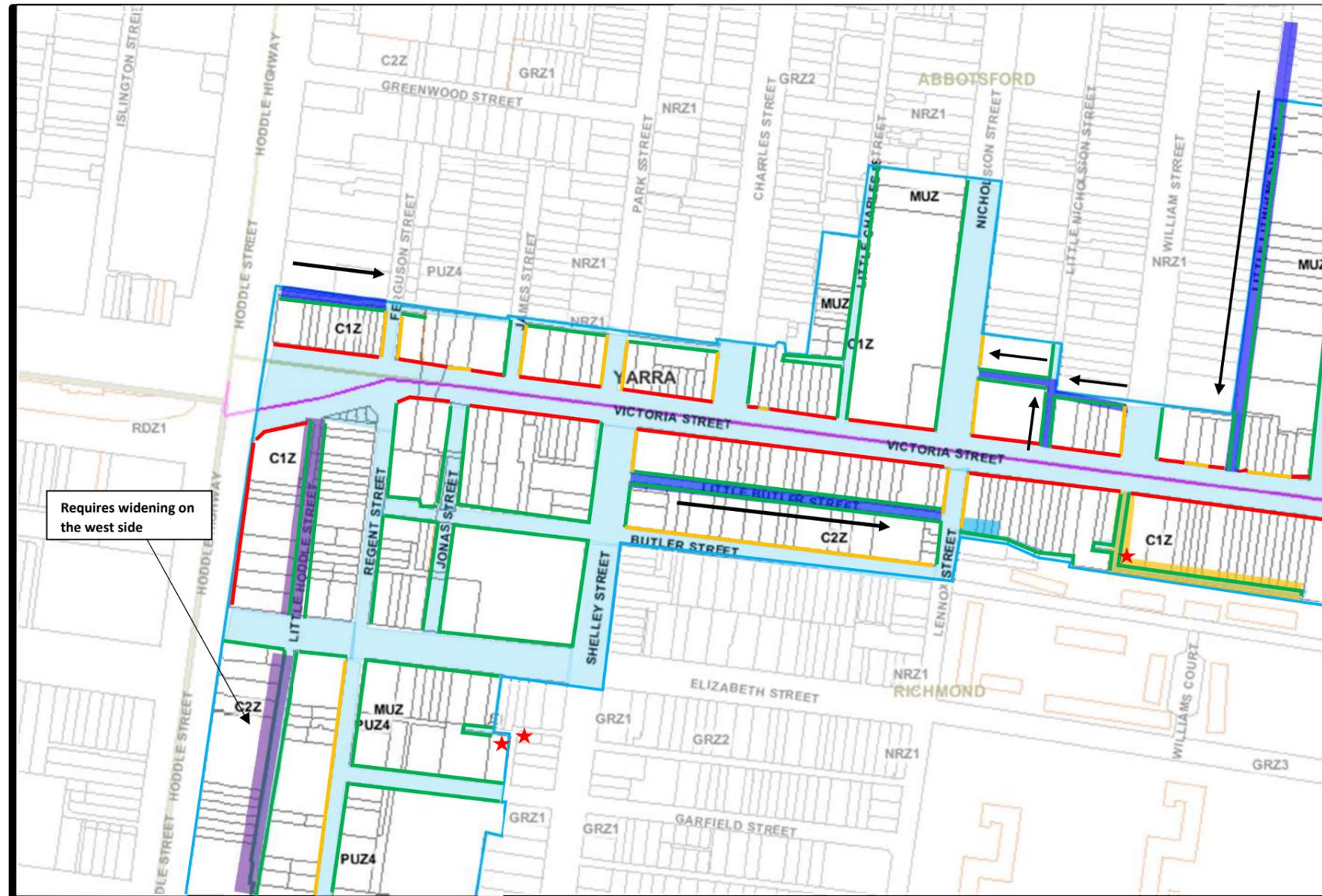
**Legend**

- Study Area Boundary
- Access to Bridge Road
- Access to side street
- Access to RoW

**Traffic Engineering Assessment**

Victoria Street and Bridge Road Activity Centres, Richmond

# Appendix E: Access Management Plans



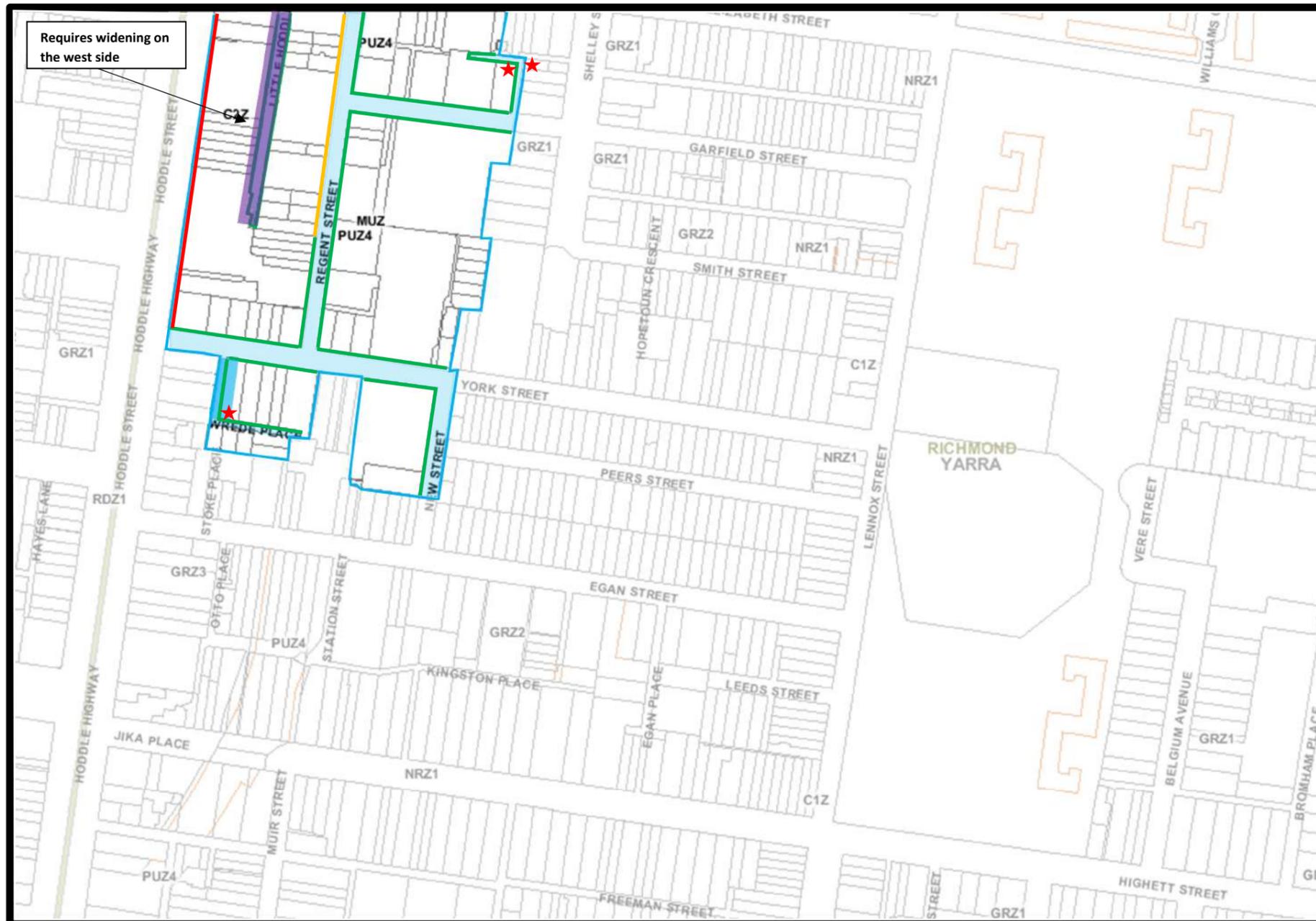
Requires widening on the west side

**Legend – Recommended Access Controls**

- Study Area Boundary
- Access Prohibited
- Access Not Preferred
- Access Preferred

**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay

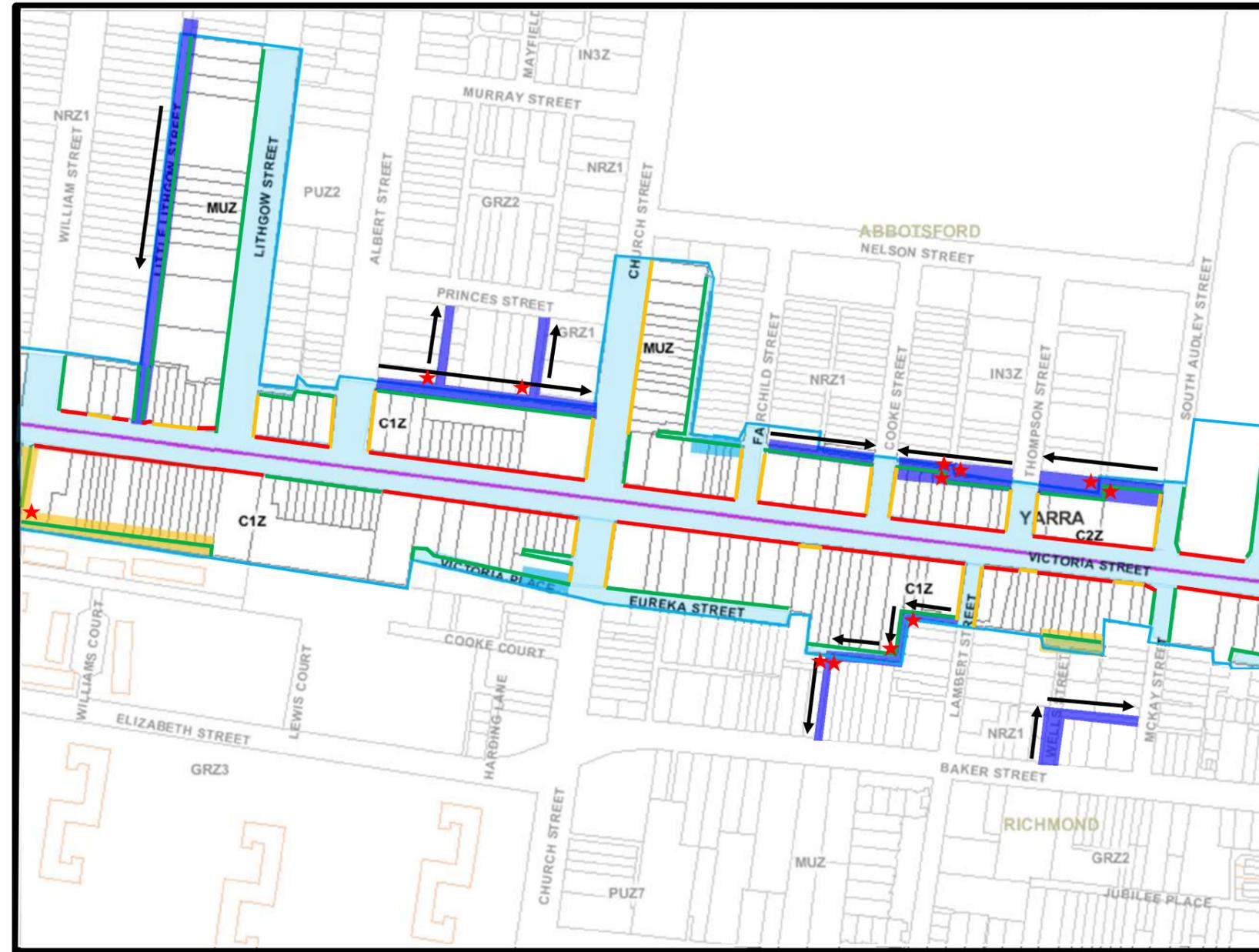


**Legend – Recommended Access Controls**

	Study Area Boundary
	Access Prohibited
	Access Not Preferred
	Access Preferred

**Legend – Recommended Changes**

	One-way (with indicative arrow)
	6m wide shared zone
	6m wide road
	Passing area
	Splay

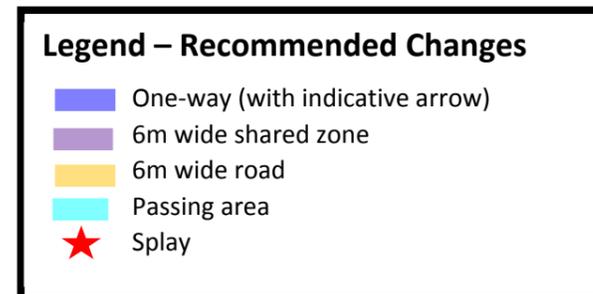
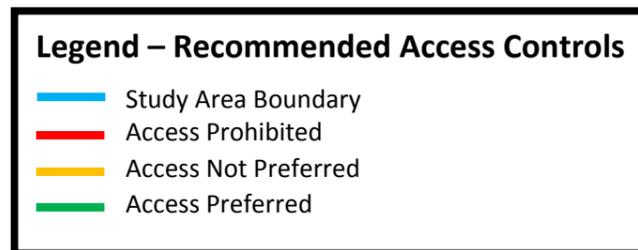
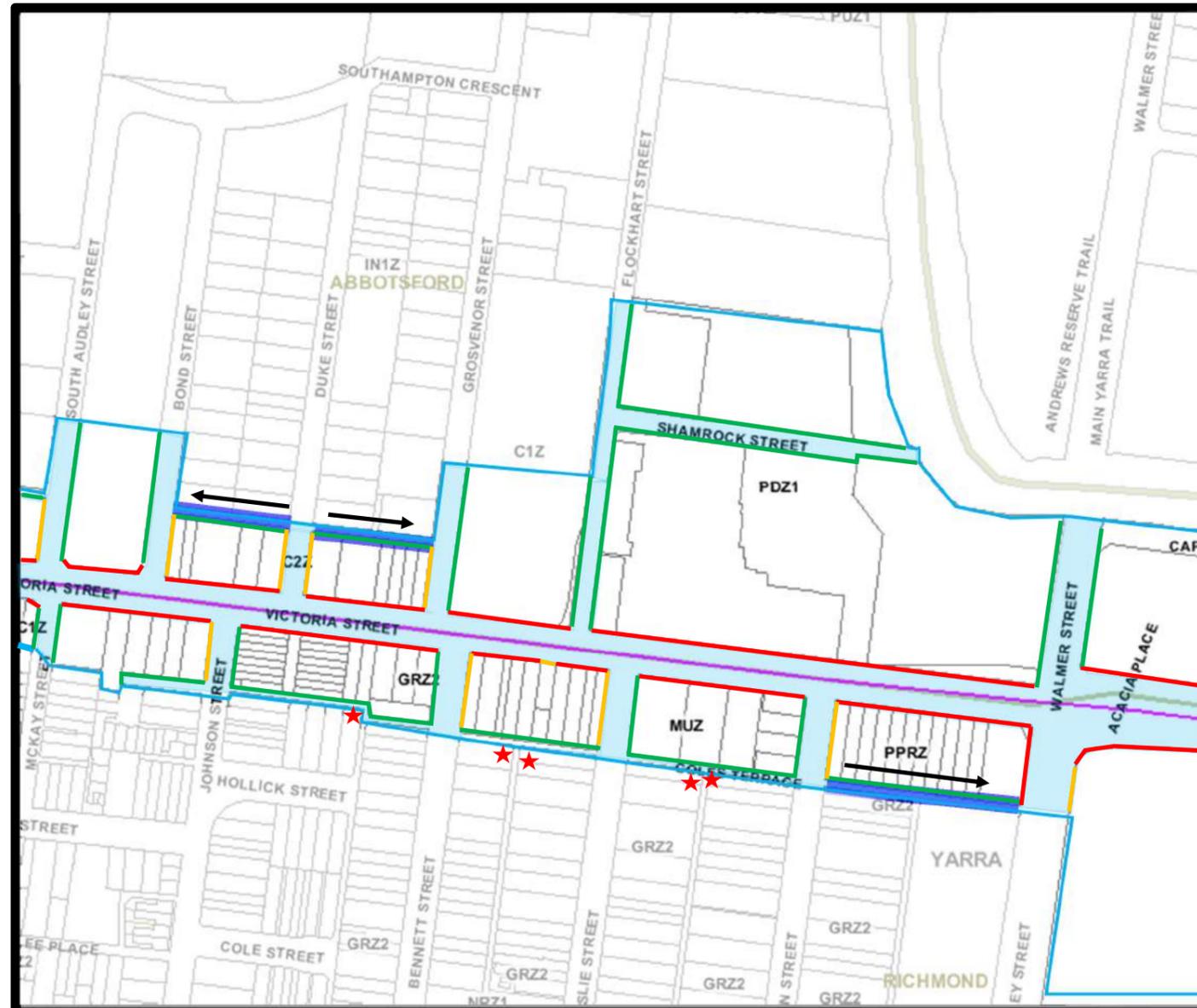


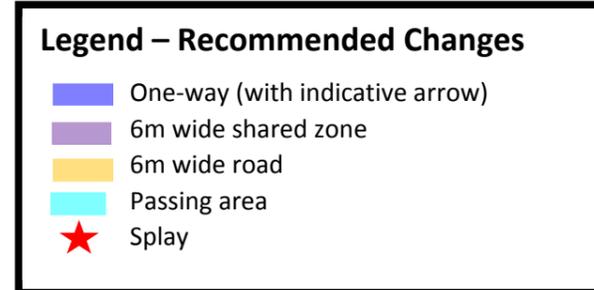
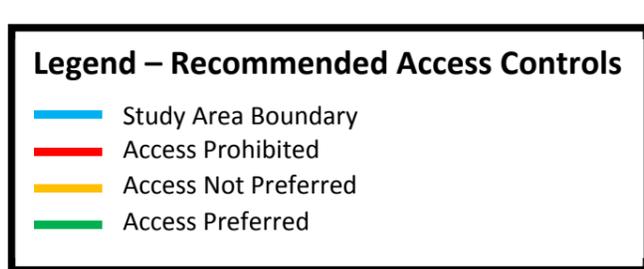
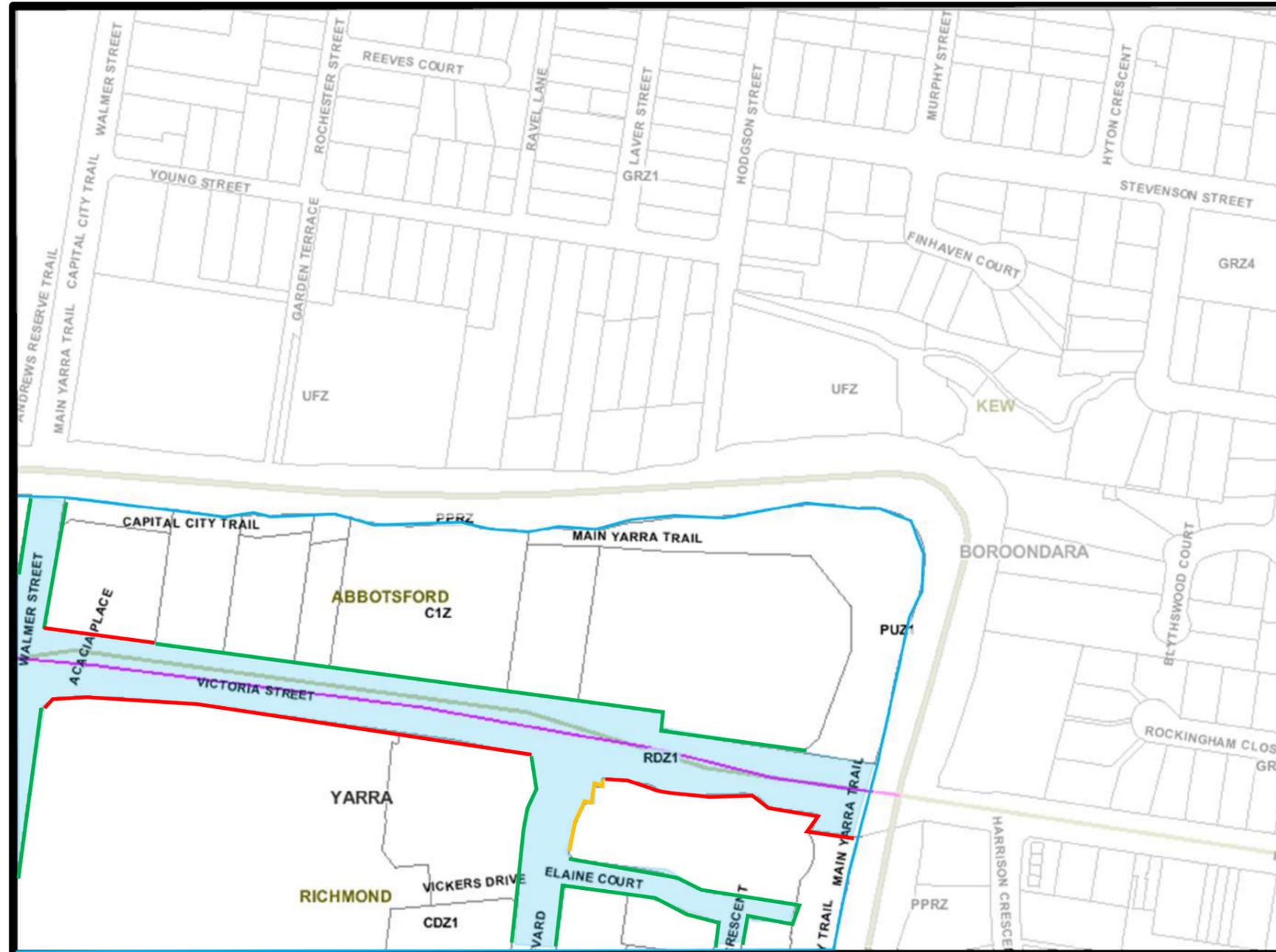
**Legend – Recommended Access Controls**

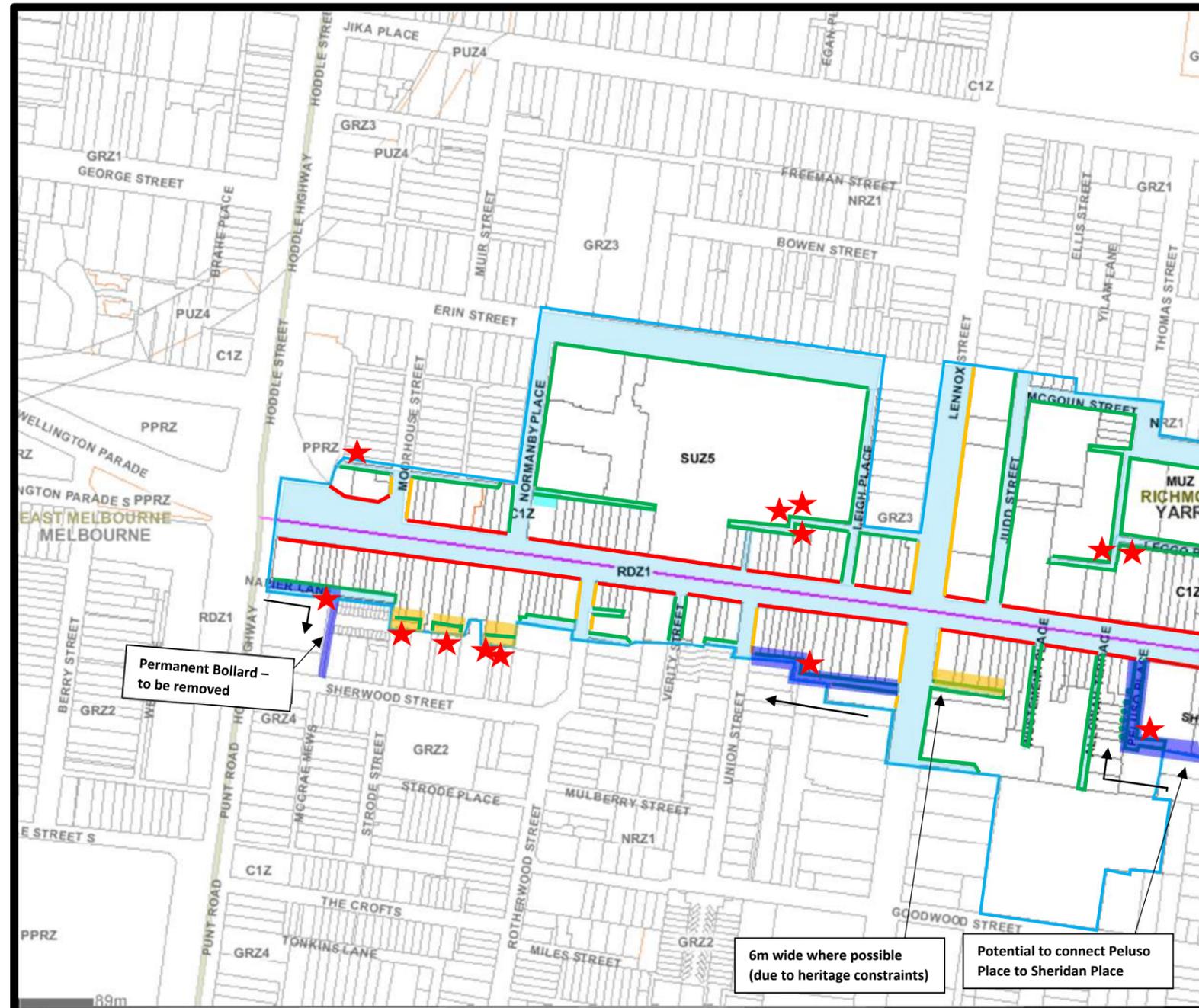
- Study Area Boundary
- Access Prohibited
- Access Not Preferred
- Access Preferred

**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay





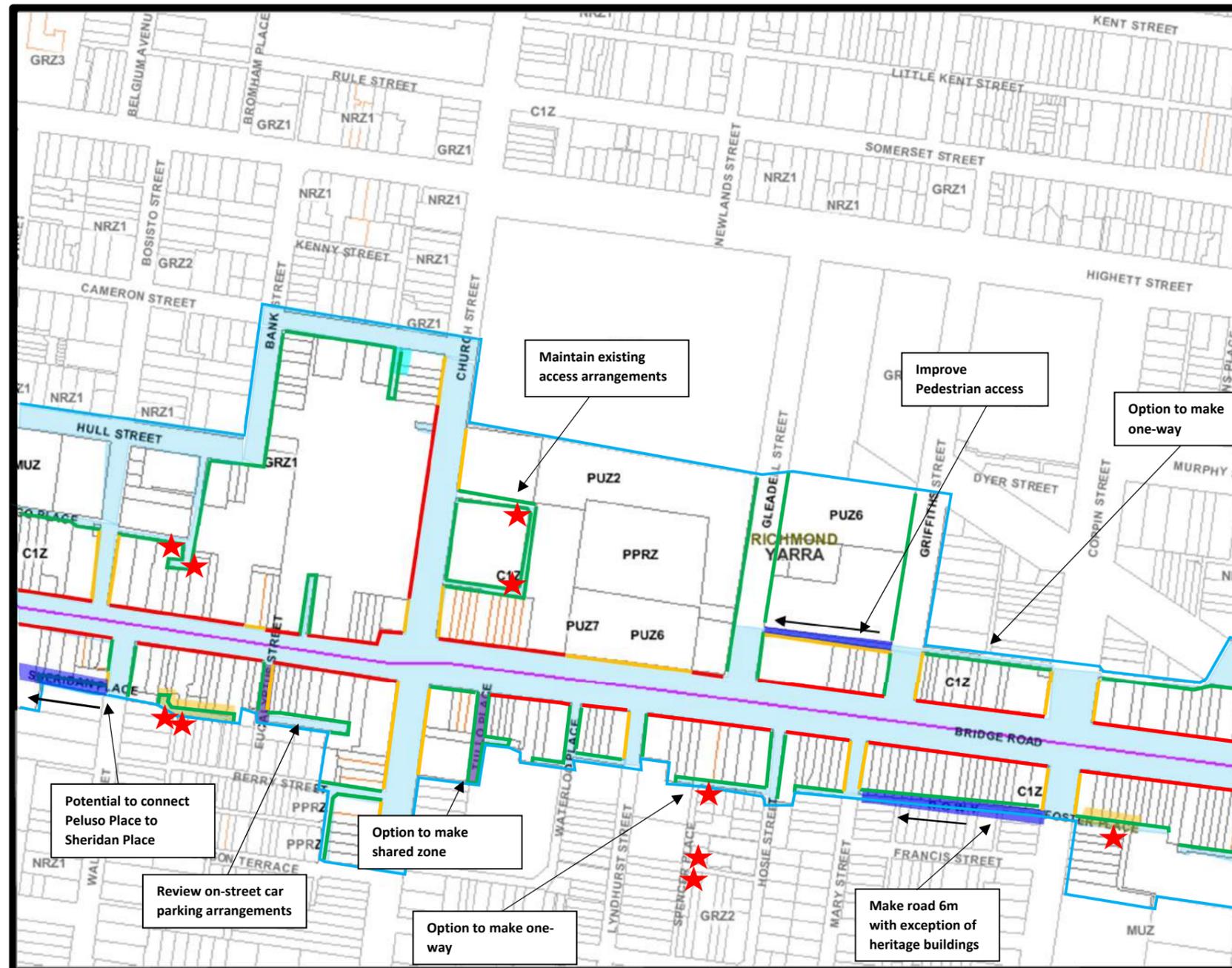


**Legend- Recommended Access Controls**

- Study Area Boundary
- Access Prohibited
- Access Not Preferred
- Access Preferred

**Legend – Proposed Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay



Legend - Recommended Access Controls	Legend – Recommended Changes
<span style="color: blue;">—</span> Study Area Boundary	<span style="color: blue;">→</span> One-way (with indicative arrow)
<span style="color: red;">—</span> Access Prohibited	<span style="color: purple;">—</span> 6m wide shared zone
<span style="color: yellow;">—</span> Access Not Preferred	<span style="color: yellow;">—</span> 6m wide road
<span style="color: green;">—</span> Access Preferred	<span style="color: cyan;">—</span> Passing area
	<span style="color: red;">★</span> Splay



**Legend – Recommended Access Controls**

- Study Area Boundary
- Access Prohibited
- Access Not Preferred
- Access Preferred

**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay

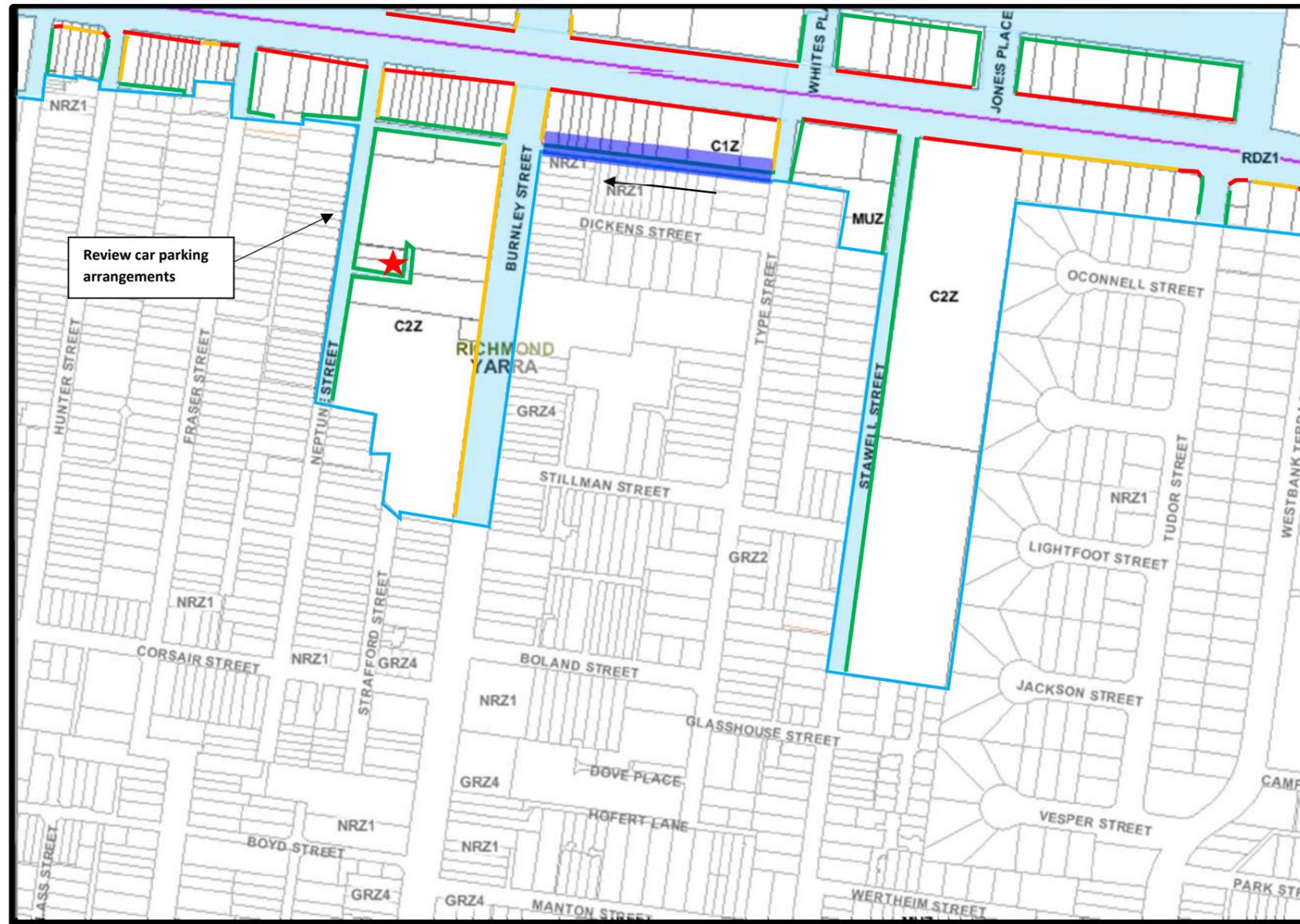


**Legend – Recommended Access Controls**

- Study Area Boundary
- Access Prohibited
- Access Not Preferred
- Access Preferred

**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay



**Legend – Recommended Access Controls**

- Study Area Boundary
- Access Prohibited
- Access Not Preferred
- Access Preferred

**Legend**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay

**Traffic Engineering Assessment**

Victoria Street and Bridge Road Activity Centres, Richmond

# Appendix F: Proposed Traffic Management Plans

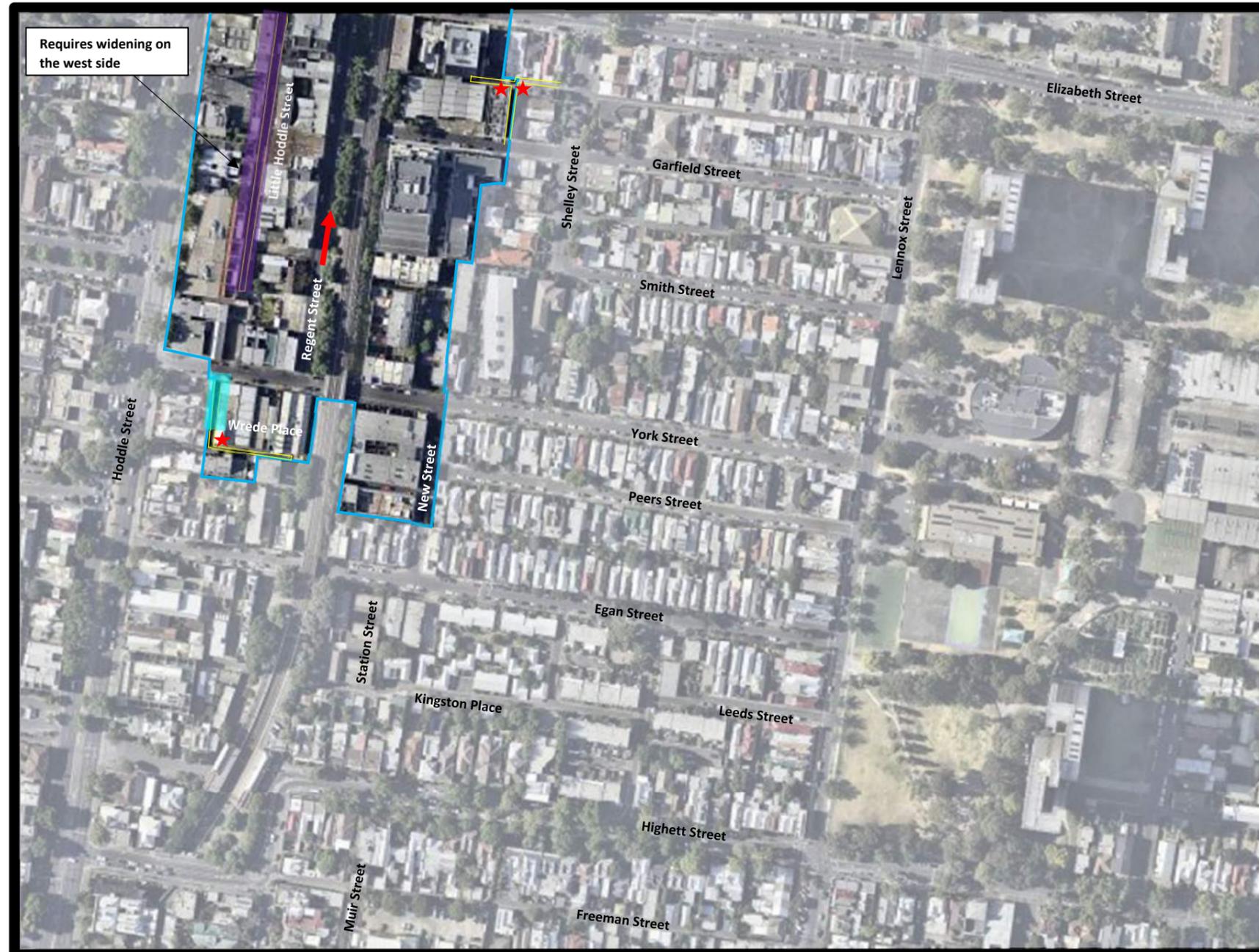


**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay

**Legend – Existing Conditions**

- Study Area Boundary
- Traffic Signals
- Pedestrian Signals
- Threshold Treatment
- No Entry (Exit Only)
- Right Turn Ban
- Left-turn Only
- One-way
- No Through Road Blockade

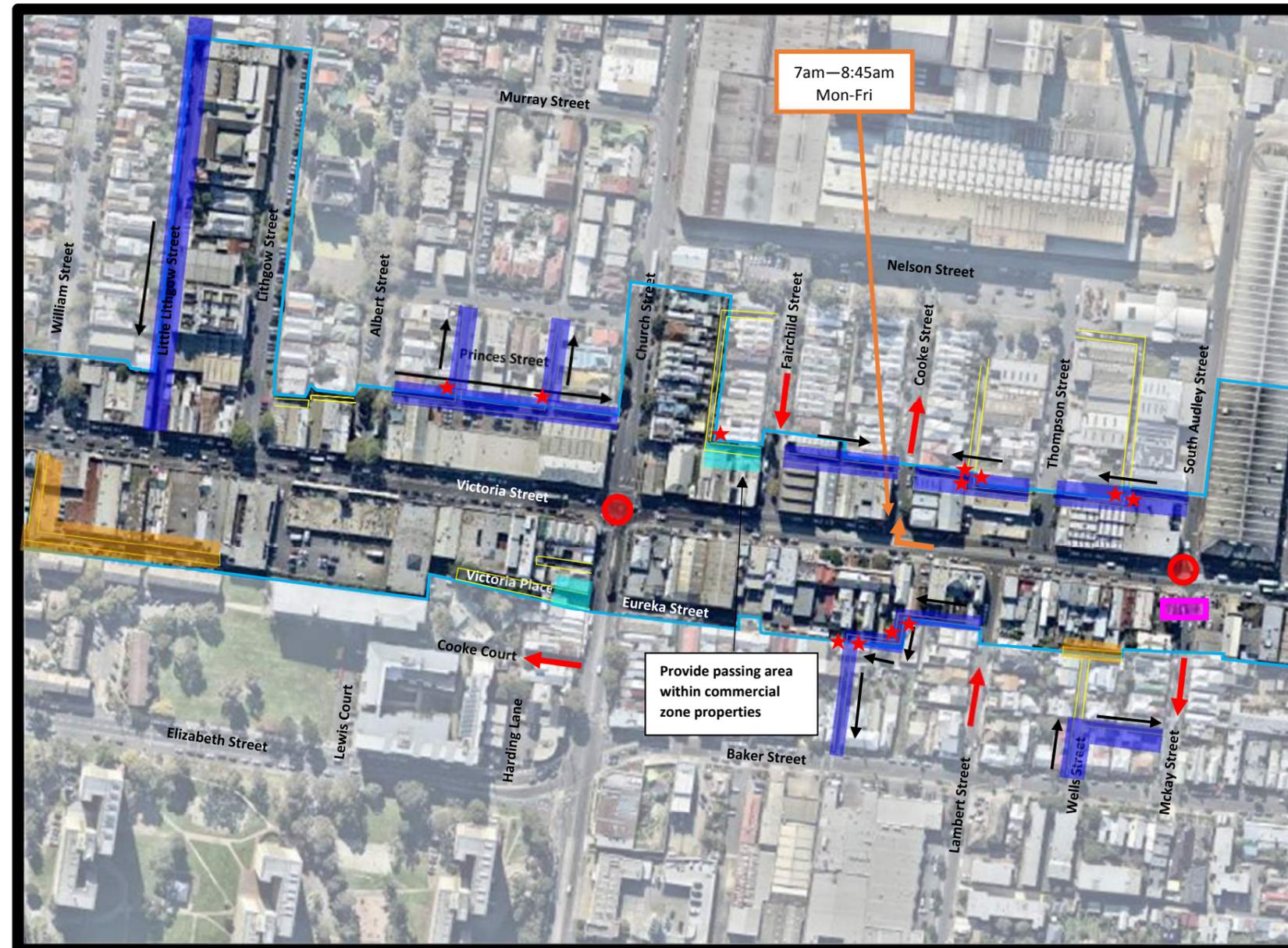


**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay

**Legend – Existing Conditions**

- Study Area Boundary
- Traffic Signals
- Pedestrian Signals
- Threshold Treatment
- No Entry (Exit Only)
- ↗ Right Turn Ban
- ↙ Left-turn Only
- ➔ One-way
- No Through Road Blockade



**Legend – Recommended Changes**

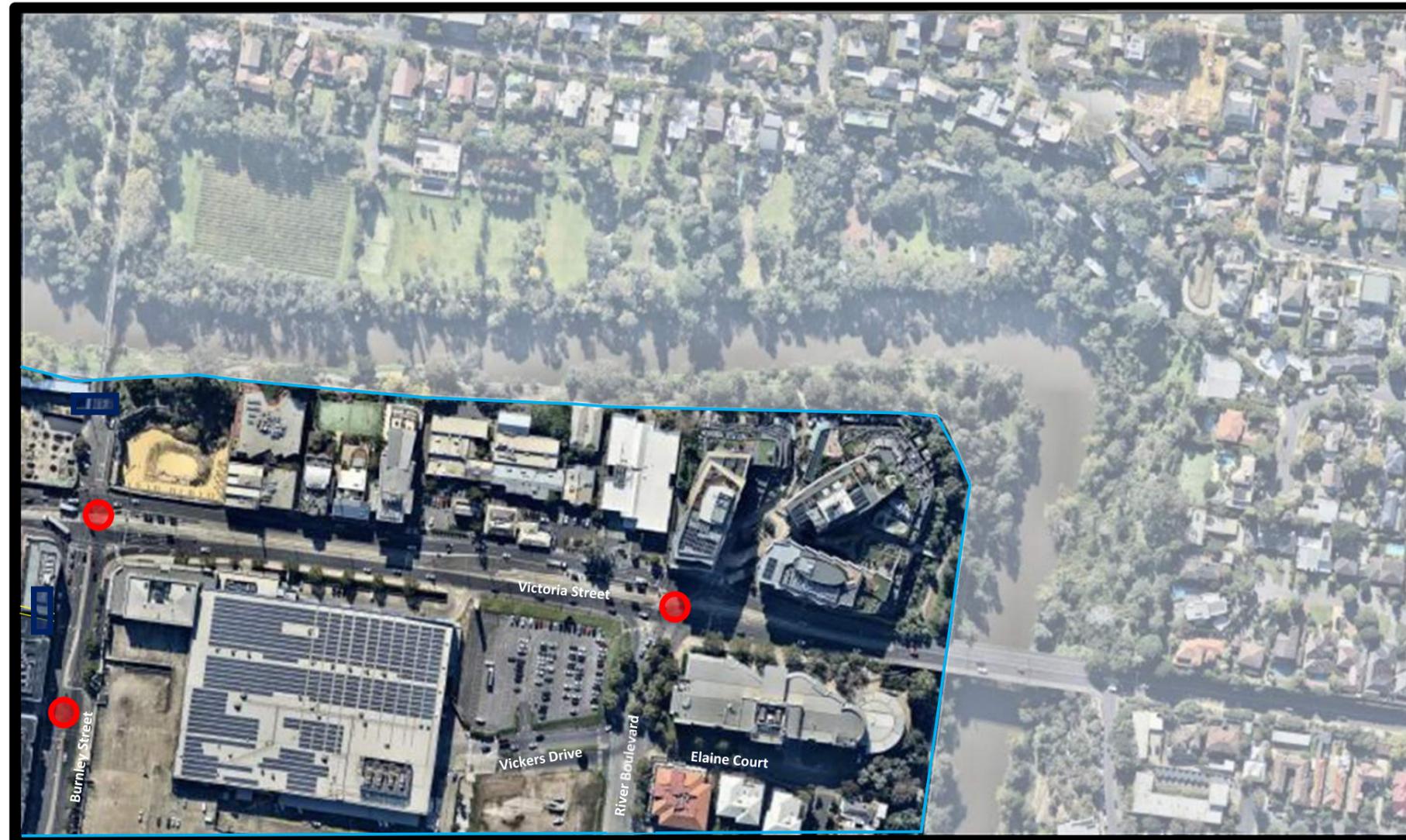
	One-way (with indicative arrow)
	6m wide shared zone
	6m wide road
	Passing area
	Splay

**Legend – Existing Conditions**

	Study Area Boundary		Right Turn Ban
	Traffic Signals		Left-turn Only
	Pedestrian Signals		One-way
	Threshold Treatment		No Through Road Blockade
	No Entry (Exit Only)		



Legend – Recommended Changes		Legend – Existing Conditions	
	One-way (with indicative arrow)		Study Area Boundary
	6m wide shared zone		Traffic Signals
	6m wide road		Pedestrian Signals
	Passing area		Threshold Treatment
	Splay		No Entry (Exit Only)
			Right Turn Ban
			Left-turn Only
			One-way
			No Through Road Blockade

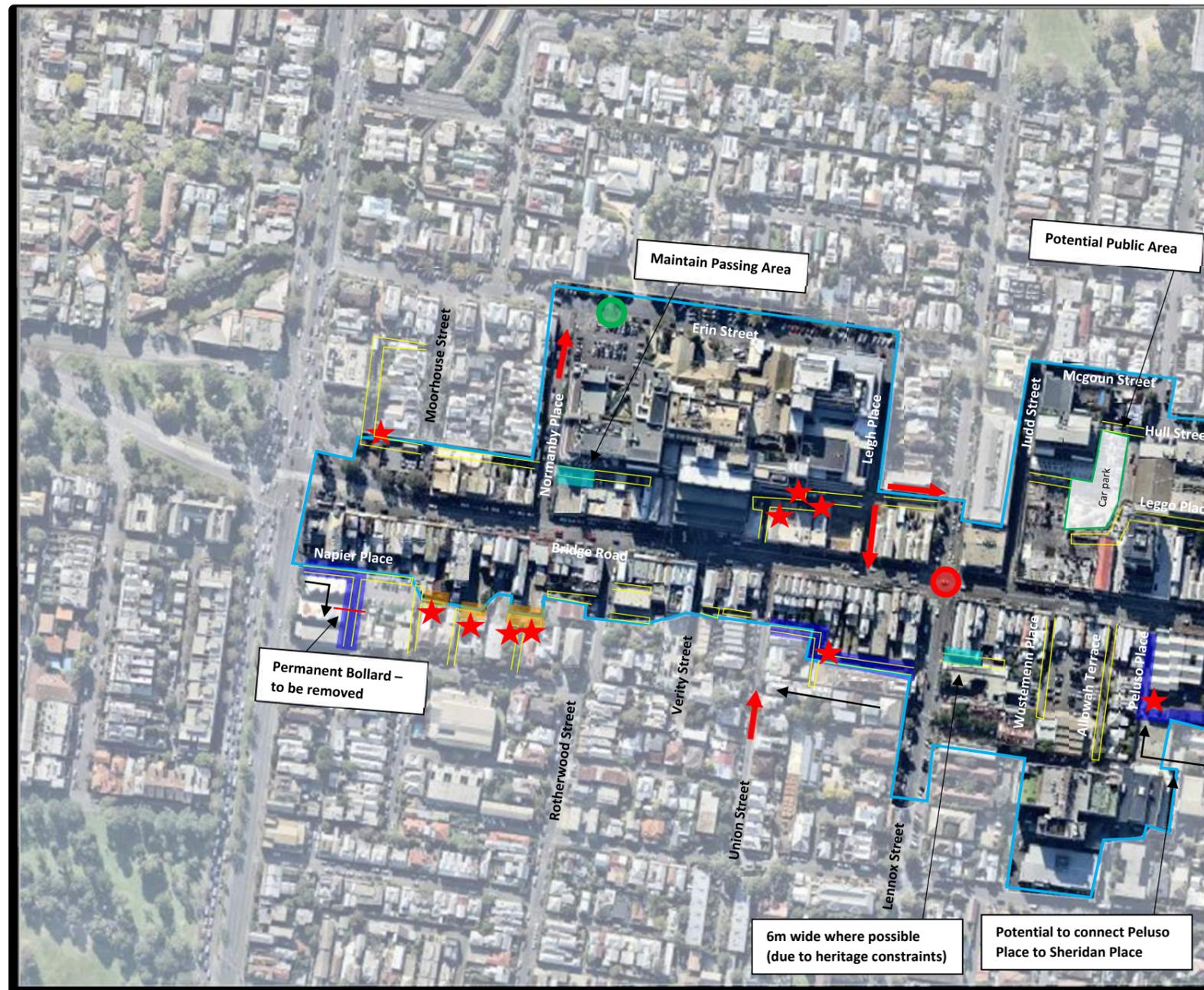


**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- Splay

**Legend – Existing Conditions**

- Study Area Boundary
- Traffic Signals
- Pedestrian Signals
- Threshold Treatment
- No Entry (Exit Only)
- Right Turn Ban
- Left-turn Only
- One-way
- No Through Road Blockade

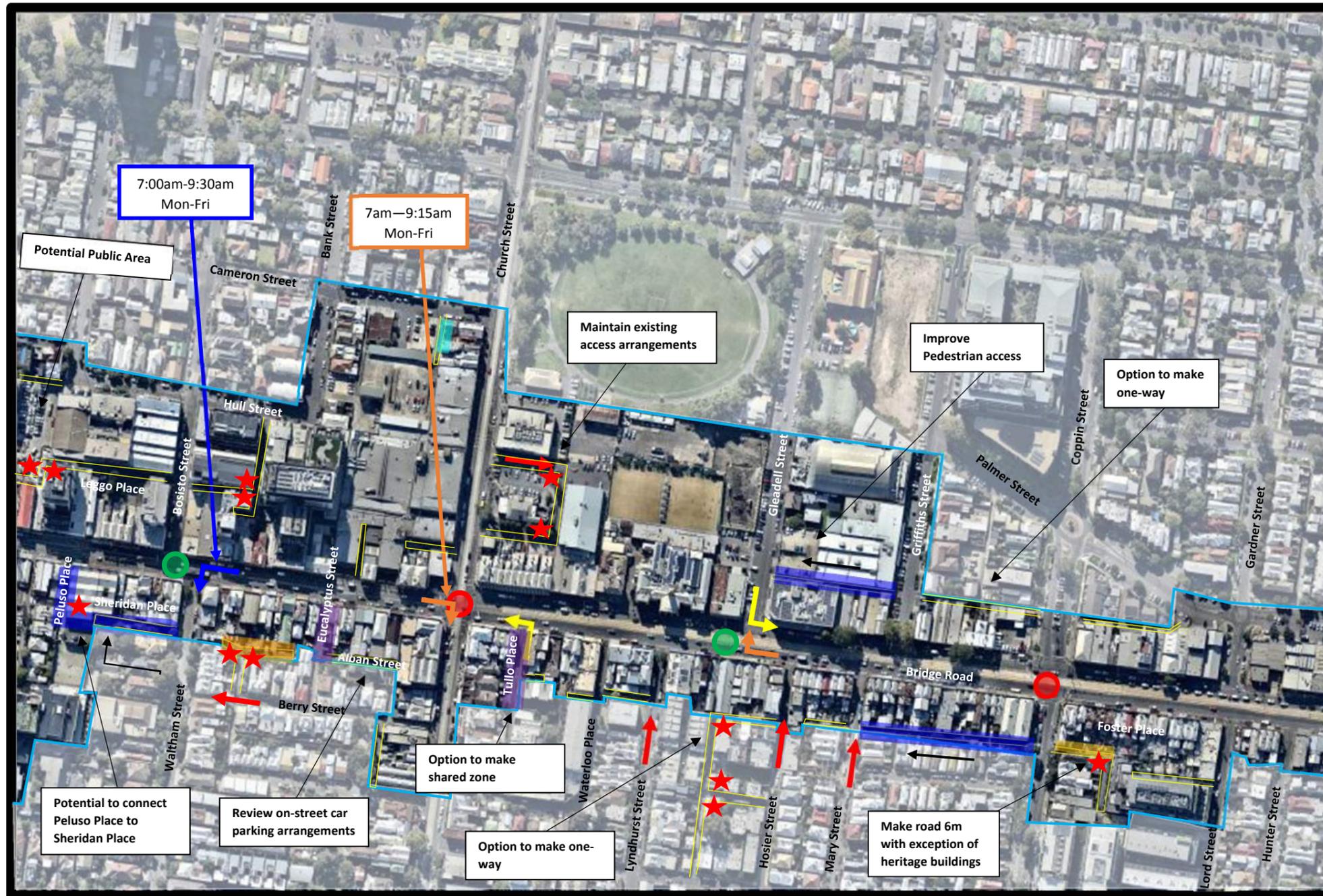


**Legend – Recommended Changes**

- ▬ One-way (with indicative arrow)
- ▬ 6m wide shared zone
- ▬ 6m wide road
- ▬ Passing area
- ★ Splay

**Legend – Existing Conditions**

- ▬ Study Area Boundary
- Traffic Signals
- Pedestrian Signals
- ▬ Threshold Treatment
- ▬ No Entry (Exit Only)
- ↗ Right Turn Ban
- ↙ Left-turn Only
- One-way
- ↙ Left Turn Ban
- ↻ U-Turn Ban

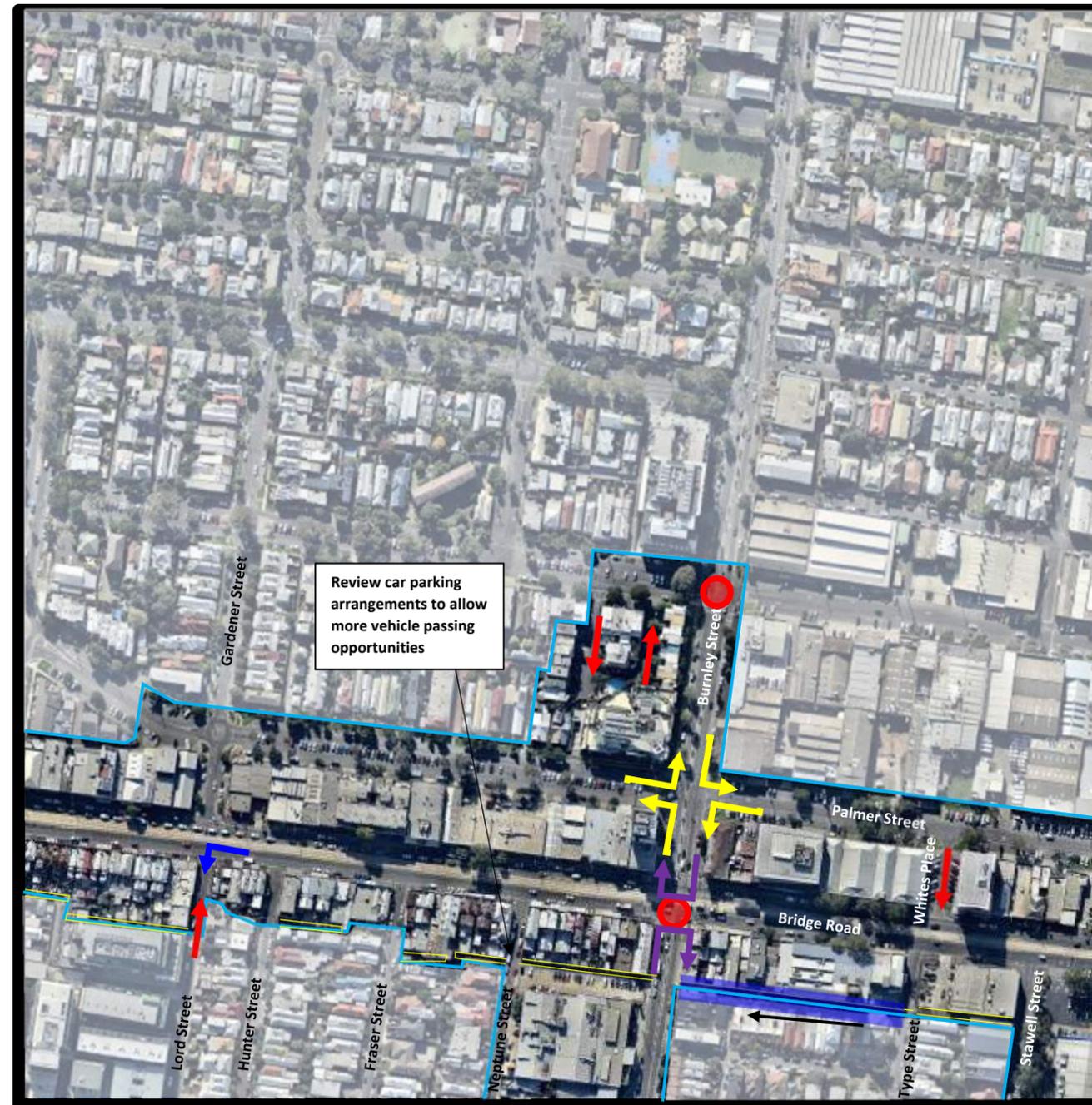


**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- ★ Splay

**Legend – Existing Conditions**

- Study Area Boundary
- Traffic Signals
- Pedestrian Signals
- Threshold Treatment
- No Entry (Exit Only)
- ↗ Right Turn Ban
- ↙ Left-turn Only
- One-way
- ↖ Left Turn Ban
- ↻ U-Turn Ban

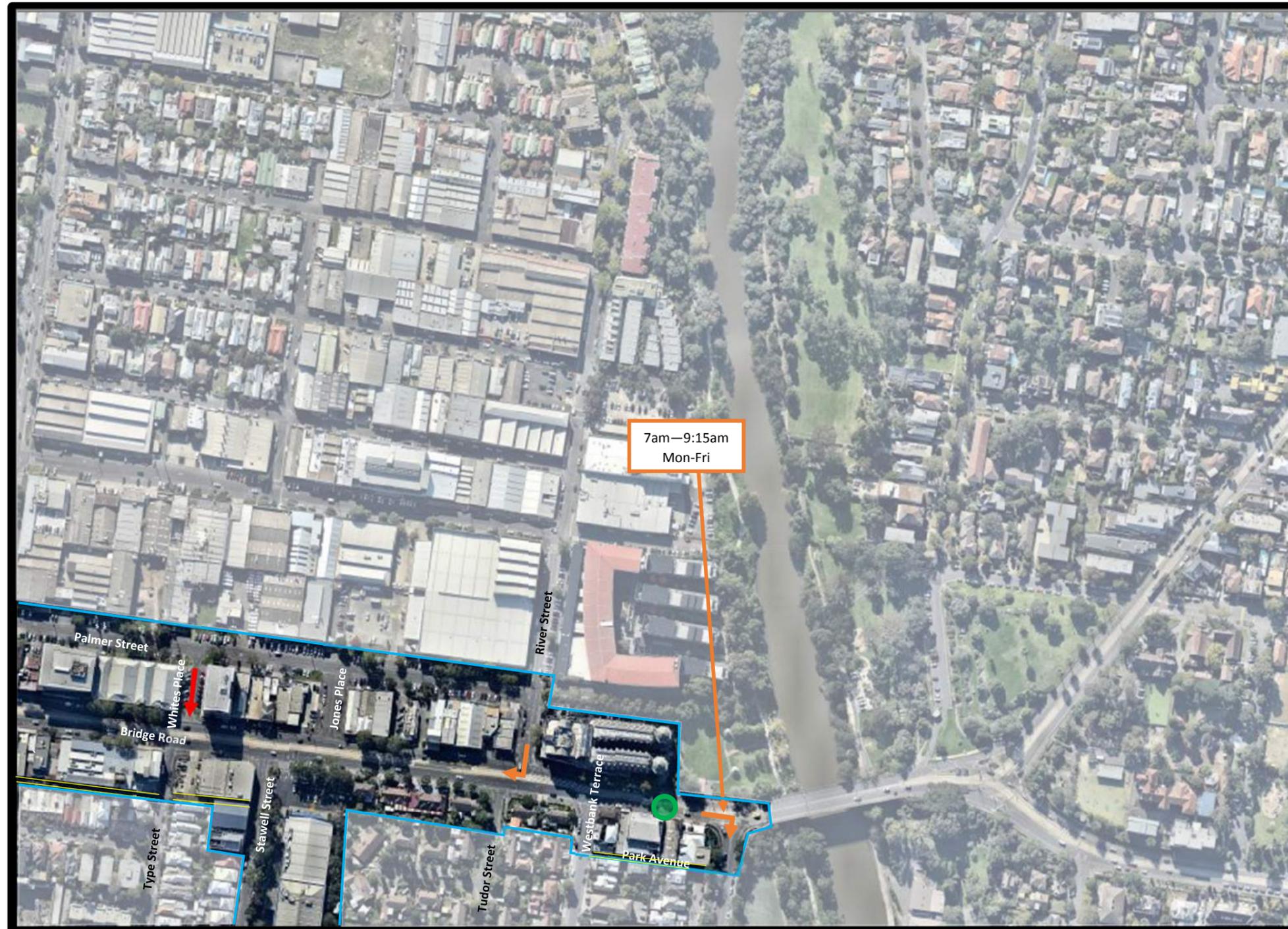


**Legend – Recommended Changes**

- ▬ One-way (with indicative arrow)
- ▬ 6m wide shared zone
- ▬ 6m wide road
- ▬ Passing area
- ★ Splay

**Legend – Existing Conditions**

- ▬ Study Area Boundary
- Traffic Signals
- Pedestrian Signals
- ▭ Threshold Treatment
- ▭ No Entry (Exit Only)
- ↗ Right Turn Ban
- ↙ Left-turn Only
- One-way
- ↙ Left Turn Ban
- ↺ U-Turn Ban

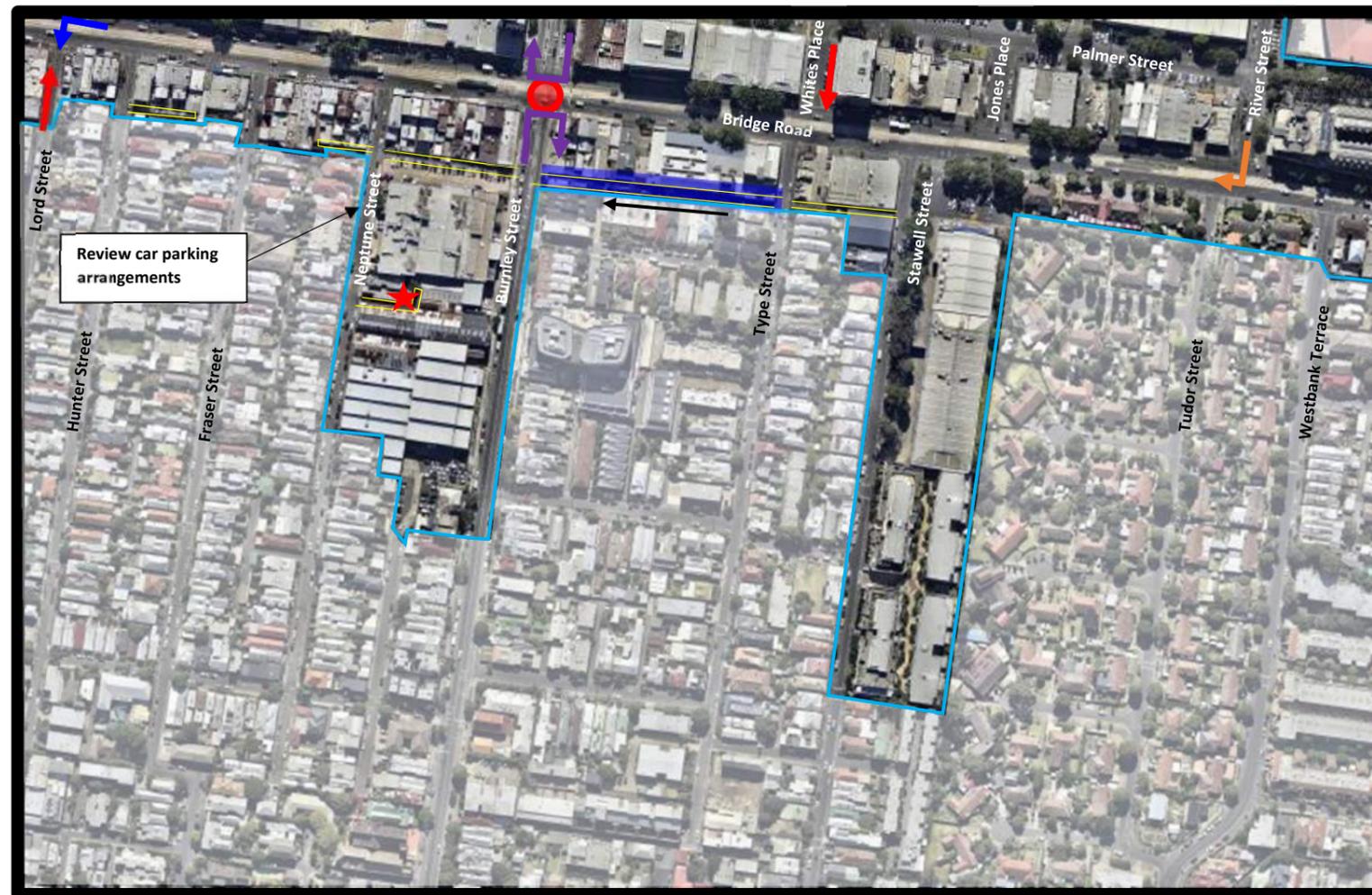


**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- Splay

**Legend – Recommended Changes**

- Study Area Boundary
- Traffic Signals
- Pedestrian Signals
- Threshold Treatment
- No Entry (Exit Only)
- Right Turn Ban
- Left-turn Only
- One-way
- Left Turn Ban
- U-Turn Ban



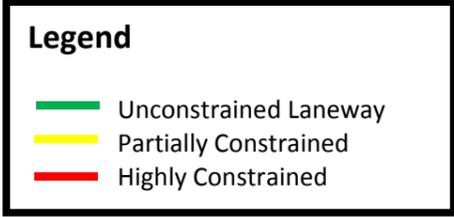
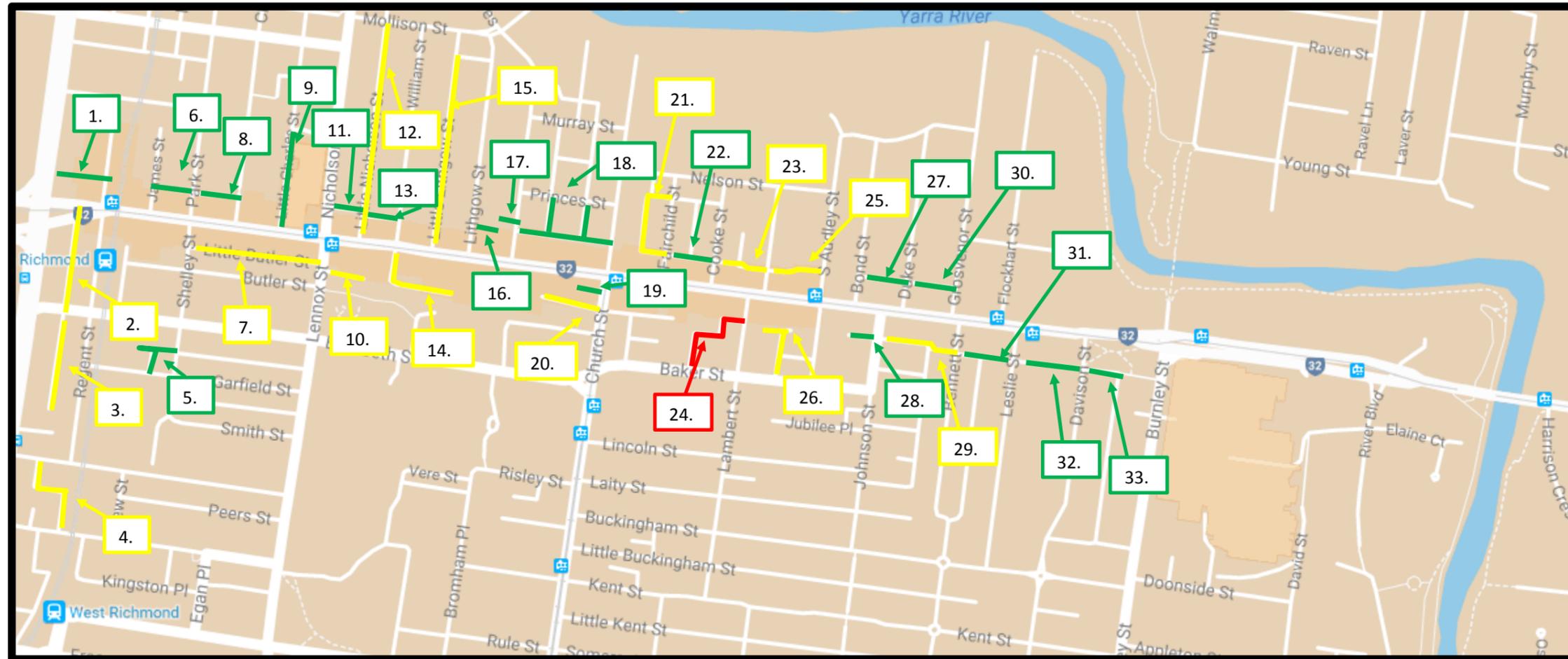
**Legend – Recommended Changes**

- One-way (with indicative arrow)
- 6m wide shared zone
- 6m wide road
- Passing area
- Splay

**Legend – Existing Conditions**

- Study Area Boundary
- Traffic Signals
- Pedestrian Signals
- Threshold Treatment
- No Entry (Exit Only)
- Right Turn Ban
- Left-turn Only
- One-way
- Left Turn Ban
- U-Turn Ban

# Appendix G: ROW Recommendations



**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>1: ROW (from Hoddle Street to Ferguson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.85m-3.6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – No footpaths</li> <li>• Material – Asphalt</li> <li>• Layout Features – continuous, generally straight</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short, straight and connected at both ends.</li> </ul>	<p>One way in the eastbound direction</p> <p><b>Reason:</b></p> <p>Narrow width does not allow for passing. This may cause conflict at Hoddle Street between entering and exiting vehicles.</p> <p>The recommendation for one-way eastbound flow directs traffic away from Hoddle Street and eliminates vehicle conflict.</p> <p>Widening laneway challenging given multiple narrow properties accessed via ROW.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>2: Little Hoddle Street (from Elizabeth Street to Victoria Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.6m</li> <li>• Road reservation – 5.95m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – Narrow kerbside/footpath on both sides</li> <li>• Material – Asphalt</li> <li>• Layout features – continuous, straight</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Single lane for two-way traffic</li> <li>• Long length, some development potential</li> <li>• Could be made two-way by creating a shared zone and removing the footpaths</li> </ul>	<p>Create shared zone for two-way flow using the whole carriageway width.</p> <p><b>Reason:</b></p> <p>Currently the carriageway too narrow for two-way traffic. Road reserve is wide enough to accommodate two-way traffic flow by removing the footpath to create a shared zone provides for vehicles and pedestrians.</p> <p>The current footpaths are inadequate for pedestrians and a shared zone would better serve all road users while supporting higher traffic volumes.</p>	

Street Name	Description	Recommended changes	Photo
<p><b>3: Little Hoddle Street (from Elizabeth Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.7m-4.8m</li> <li>• Road Reserve – 4.85m-6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking along sections of the east side of the laneway</li> <li>• Footpaths – Narrow kerbing/path</li> <li>• Material – Asphalt</li> <li>• Layout features – dead end, straight, narrows down towards the south</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Long</li> <li>• Narrower than 6m without road reserve</li> <li>• Parking Arrangements limit two-way flow</li> </ul>	<p>Provide shared area by setting back properties on west side of Little Hoddle Street.</p> <p><b>Reason:</b></p> <p>The Built Form Framework indicates that the properties on either side of the laneway have high development potential. Council has indicated a desire to limit vehicle access to Regent Street to improve the public realm.</p> <p>Widening the ROW to 6m is necessary to accommodate the additional development potential given the dead-end nature of the ROW. This laneway should be widened by setbacks of developments on the west side of the lane.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>4: Wrede Place (from York Street to Egan Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.4m-3.85m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – No footpaths</li> <li>• Material – Bluestone in sections and asphalt in sections</li> <li>• Layout features – continuous, s-shaped, no splays</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of splays makes navigating corners difficult</li> </ul>	<p>Provide passing area at intersection with York Street at #2 York Street. Provide splays on south-west corner of #2 York Street and north-east corner of #30A Wrede Place.</p> <p><b>Reason:</b></p> <p>Providing a passing area will minimise conflicts within the lane. Fully 6m carriageway not considered necessary given development potential of abutting land.</p> <p>Splays required to will increase manoeuvrability around corners.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>5: ROW (from Shelley Street to Garfield Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2m-3.95m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – No footpaths</li> <li>• Material – Asphalt</li> <li>• Layout features – continuous with a 90 degree bend and extending dead end section to the west, splays on south-east corner</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <p>Short and connected at both ends.</p>	<p>No changes required. Largely built out.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>6: ROW (from James Street to Park Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way, must turn right at Park Street</li> <li>• Parking – Shared off-street car park on south side of ROW</li> <li>• Footpaths – No footpaths</li> <li>• Material – Asphalt with bluestone kerbing</li> <li>• Layout features – continuous, straight</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <p>Short, straight and connected at both ends.</p>	<p>No changes required.</p> <p>Relatively short length means that vehicle conflicts are likely to be minimal and easily managed by drivers.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>7: Little Butler Street (from Shelly Street to Lennox Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.7m-3m</li> <li>• Road reservation – 3.95m-4.75m</li> <li>• Traffic management – Two-way</li> <li>• Parking – kerbside parallel both sides</li> <li>• Footpaths – No footpaths</li> <li>• Materials – Asphalt</li> <li>• Layout features – continuous, straight</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Long length</li> <li>• Inability to easily widen for 2-way traffic flow</li> <li>• Could be made one-way</li> </ul>	<p>One way in the eastbound direction</p> <p><b>Reason:</b></p> <p>Narrow width does not allow for vehicle passing. Relatively long length and high number of abutting properties increases likelihood of vehicle conflict.</p> <p>One-way arrangement recommended over increasing width due to number of abutting properties.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>8: ROW (from Park to Charles)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.1m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Shared off-street car park on south side and west end of ROW</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> <li>• Layout features – continuous, straight</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	<p>No changes required.</p> <p>Relatively short length means that vehicle conflicts are likely to be minimal and easily managed by drivers.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>9: Little Charles Street (from Victoria Street to Little Charles Close)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m</li> <li>• Road reservation – 5.15m</li> <li>• Traffic management – One-way (southbound)</li> <li>• Parking – No parking</li> <li>• Footpath – Narrow path on east side, with traversal onto road required at power poles</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to one-way nature</li> </ul>	<p>No changes required.</p> <p>Existing one-way arrangement.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>10: ROW (from Lennox Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Car Park at east end</li> <li>• Footpath – No footpaths</li> <li>• Material – Concrete</li> <li>• Layout features – slight bend to the south</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Constrained due to dead end</li> </ul>	<p>Provide passing area at entrance, with setback to #136 Victoria Street.</p> <p><b>Reason:</b></p> <p>To minimise conflict within laneway.</p>	
<p><b>11: ROW (from Nicholson Street to Little Nicholson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.55m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	<p>Make one-way in the westbound direction</p> <p><b>Reason:</b></p> <p>By making the ROW one-way in the westbound direction, and Little Nicholson one-way in the northbound direction, a loop is created, which will minimise vehicle conflict.</p> <p>Relatively high development potential of abutting land.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>12: Little Nicholson Street (from Victoria Street to Mollison Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.9m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> <li>• Layout Features – loading activity occurs frequently, blocking traversal of ROW</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Long length</li> <li>• Insufficient for 2-way flow</li> <li>• Could be made one-way</li> </ul>	<p>Provide a one-way section between Victoria Street and ROW #11 and #13 in the northbound direction.</p> <p><b>Reason:</b> Little Nicholson Street is not wide enough to accommodate two-way vehicle flow. In order to minimise conflict one-way traffic flow should be provided northbound, where vehicles can either continue along Little Nicholson Street, or turn left onto ROW #11 to exit.</p>	

Street Name	Description	Recommended changes	Photo
<p><b>13: ROW (from Little Nicholson Street to William Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.95m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – narrow</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	<p>Make one-way in the westbound direction</p> <p><b>Reason:</b> Carriageway is not wide enough for two-way traffic flow. A one-way in the westbound direction will allow vehicles to continue along ROW #11.</p>	

Street Name	Description	Recommended changes	Photo
<p><b>14: ROW (from Victoria Street to END, opposite William Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.75m for north-south section and 3m for east-west section</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> <li>• Layout Features – Splay provided at bend, over land of 176 Victoria Street</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Single Lane</li> <li>• Length</li> <li>• 90 degree bend</li> <li>• Some development potential</li> <li>• Would require widening for two-way traffic, particularly north-south leg</li> </ul>	<p>Provide 6m two-way road for full length, with setback to all properties on the north and east side of the ROW.</p> <p>Review need for separate pedestrian path on north-south leg.</p> <p><b>Reason:</b></p> <p>Development potential of the laneway is high and vehicles cannot currently pass one another without relying on private lane. Blind corner also creates conflict.</p> <p>This laneway is also a pedestrian route. This may require further width or implementation of a shared zone on the north-south leg.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>15: Little Lithgow Street (from Victoria Street to Mollison Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.1m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Slightly too narrow for two-way traffic flow</li> </ul>	<p>One-way in the southbound direction.</p> <p><b>Reason:</b></p> <p>Little Lithgow is slightly too narrow to allow two-way traffic flow. The long length of the lane creates a problem with conflict.</p>	
<p><b>16: ROW (from Lithgow Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.4m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Sufficient width for two-way traffic flow</li> </ul>	<p>No changes required.</p> <p>Short length and width means vehicle conflict would be minimal.</p>	

Appendix G

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>17: ROW (from Albert Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"><li>• Carriageway width – 3.2m</li><li>• Traffic management – Two-way</li><li>• Parking – No parking</li><li>• Footpath – No footpath</li><li>• Material – concrete</li></ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"><li>• Unconstrained due to short length</li></ul>	<p>No changes required.</p> <p>Short length and width means vehicle conflict would be minimal.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>18: ROW (from Albert Street to Church Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.4m</li> <li>• Traffic management – Two-way, right turn only at Fairchild Street</li> <li>• Parking – Car park at midpoint of ROW</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> <li>• Layout features – there is are two connecting north-south ROWs extending northerly</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to being continuous, could be one-way</li> </ul>	<p>One-way eastbound from Albert Street to Church Street. North-south sections to be one-way northbound.</p> <p><b>Reason:</b></p> <p>High development potential. One-way arrangement addresses vehicle conflict issues.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>19: ROW (from Church Street to End)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.05m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	<p>No changes required due to short length.</p>	
<p><b>20: Victoria Place (from Church Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.75m, 5.7m aisle for western car park</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at western end</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: (Partially constrained)</b></p> <ul style="list-style-type: none"> <li>• Dead end</li> <li>• Some development potential</li> </ul>	<p>Provide passing area at entrance with setback to #6 Church Street.</p> <p><b>Reason:</b></p> <p>Connects directly to Church Street (arterial road) and a passing area eliminates vehicle conflict at this critical location.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>21: ROW (from Fairchild Street to Fairchild Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way, must enter via right turn from Fairchild, exit via left turn to Fairchild</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – connects to ROW extending north-south that loops back to Fairchild Street</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• No splay</li> <li>• Low development potential</li> <li>• Single lane</li> <li>• Length</li> <li>• Bends</li> </ul>	<p>Provide passing area at southern connection to Fairchild Street with setback to #463 and #465 Victoria Street.</p> <p><b>Reason:</b></p> <p>A passing area to accommodate the development potential of the properties adjacent to Victoria Street.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>22: ROW (from Fairchild to Cooke Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.9m</li> <li>• Traffic management – Two-way, must travel south on Fairchild Street, and north on Cooke Street</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – there is a ROW that extends northerly, where there are no splays, making it difficult to traverse due to the narrow width</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	<p>One way in the eastbound direction.</p> <p><b>Reason:</b></p> <p>The road is only wide enough for one-way flow, and due to the one-way restrictions already in place on Fairchild Street and Cooke Street, the eastbound direction is most appropriate.</p>	

Street Name	Description	Recommended changes	Photo
<p><b>23: ROW (from Cooke Street to Thompson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.1m-3.8m</li> <li>• Road Reservation – 3.1m-4.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout Features – there is a kink in the ROW at the midpoint, which is also where a northerly ROW also connects, the 4.2m width of the connecting ROW provides space to navigate this kink</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• An improved splay would assist with the kink in the ROW, especially for service vehicles</li> </ul>	<p>One way in the westbound direction.</p> <p>Splays on #1 &amp; #6 Cooke Street and #493 Victoria Street.</p> <p><b>Reason:</b></p> <p>The road is only wide enough for one-way flow, and due to the one-way restrictions already in place on Cooke Street and Thompson Street, the westbound direction is most appropriate.</p> <p>Splays required to improve vehicle access at corners.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>24: ROW (from Lambert Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.8m-4m</li> <li>• Traffic management – Two-way</li> <li>• Parking –No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt and bluestone</li> <li>• Layout features – There are a number of bends in the ROW. Splays are provided in the narrower sections, but not for bends connecting to the 4m width section. The ROW also connects to Baker Street in the south</li> </ul> <p><b>Constraints: Highly constrained</b></p> <ul style="list-style-type: none"> <li>• Length, number of properties</li> <li>• Narrow</li> <li>• Bends with without splays</li> <li>• Properties at corners are outside of the study boundary</li> </ul>	<p>One-way from Lambert Street to Baker Street</p> <p>Splays required at corners of #2 Lambert Street, #332 Victoria Street, #31 Baker Street and #24 Eureka Street.</p> <p><b>Reason:</b></p> <p>The lane is narrow and has significant potential for conflict due to having a number of 90° corners. Splays will need to be provided to make the lane fully trafficable.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>25: ROW (from Thompson Street to South Audley Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.6m-3.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Car park on the north side of the ROW, behind 2 Thompson Street</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a kink in the middle of the ROW, where there is another northerly connected ROW. Potentially challenging to navigate the kink</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Kink</li> <li>• Lack of Splays</li> </ul>	<p>One way in the westbound direction</p> <p>Provide splay at #523 Victoria Street.</p> <p>Property setback for #2 Thompson Street will need to be maintained in order to facilitate movement.</p> <p><b>Reason:</b></p> <p>The road is only wide enough for one-way flow. One-way westbound encourages drivers to enter local road network at South Audley Street traffic signals.</p> <p>Splays will need to be provided in order to facilitate movement.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>26: ROW (East-west ROW connected to Wells Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.7m-4.85m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout Features – connects to the northern end of Wells Street. No splays are provided at the intersection</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• 90 degree bends</li> <li>• Lack of splays</li> </ul>	<p>Widen to 6m for properties abutting Victoria Street.</p> <p>Make Wells Street one-way northbound from Baker Street to the east-west ROW connecting to McKay Street.</p> <p>East-west ROW one-way eastbound.</p> <p><b>Reasons:</b></p> <p>Widening ROW to 6m for properties abutting Victoria Street facilitates vehicle access to all properties and reduces vehicle conflict.</p> <p>One-way arrangement reduces vehicle conflict within Wells Street without need to widen street.</p>	

Appendix G

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>27: ROW (from Bond Street to Duke Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.4m</li> <li>• Traffic management – Two-way, Bond Street is one-way northerly and Duke Street is one-way southerly</li> <li>• Parking – No Parking</li> <li>• Footpath – No Footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	<p>Change to one-way westbound.</p> <p><b>Reasons:</b></p> <p>The road is only wide enough for one-way flow, and due to the one-way restrictions already in place on Duke Street and Bond Street, the westbound direction is most appropriate.</p>	
<p><b>28: ROW (from Johnson Street to END, on west side of Johnson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.55m-6.35m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: (Unconstrained laneway)</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length</li> </ul>	<p>No changes required due to width and short length.</p>	

Street Name	Description	Recommended changes	Photo
<p><b>29: ROW (from Johnson Street to Bennett Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.95m-3.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No Footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a kink in the ROW, which also connects to a southerly ROW. There is a splay on the south-west side of the intersection</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Kink</li> </ul>	<p>No changes required due to low development potential.</p> <p>Splays required at bends.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>30: ROW (from Duke Street to Grosvenor Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.4m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	<p>Change to one-way eastbound.</p> <p><b>Reasons:</b></p> <p>The road is only wide enough for one-way flow, and due to the one-way restrictions already in place on Duke Street, the eastbound direction is most appropriate.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>31: Coles Terrace (from Bennett Street to Leslie Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.7m-2.9m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No parking</li> <li>• Material – Bluestone</li> <li>• Layout features – There is a connecting southerly ROW of 3.05m width with a splay on the south-west corner of the intersection</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	<p>No changes required except splays at corner due to low development potential.</p> <p>Can be made one-way in future, if necessary.</p>	

**Appendix G**

ROW Recommendations



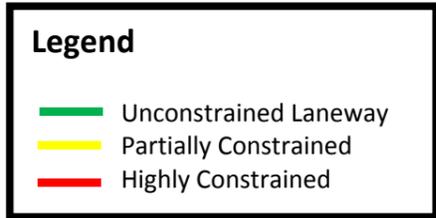
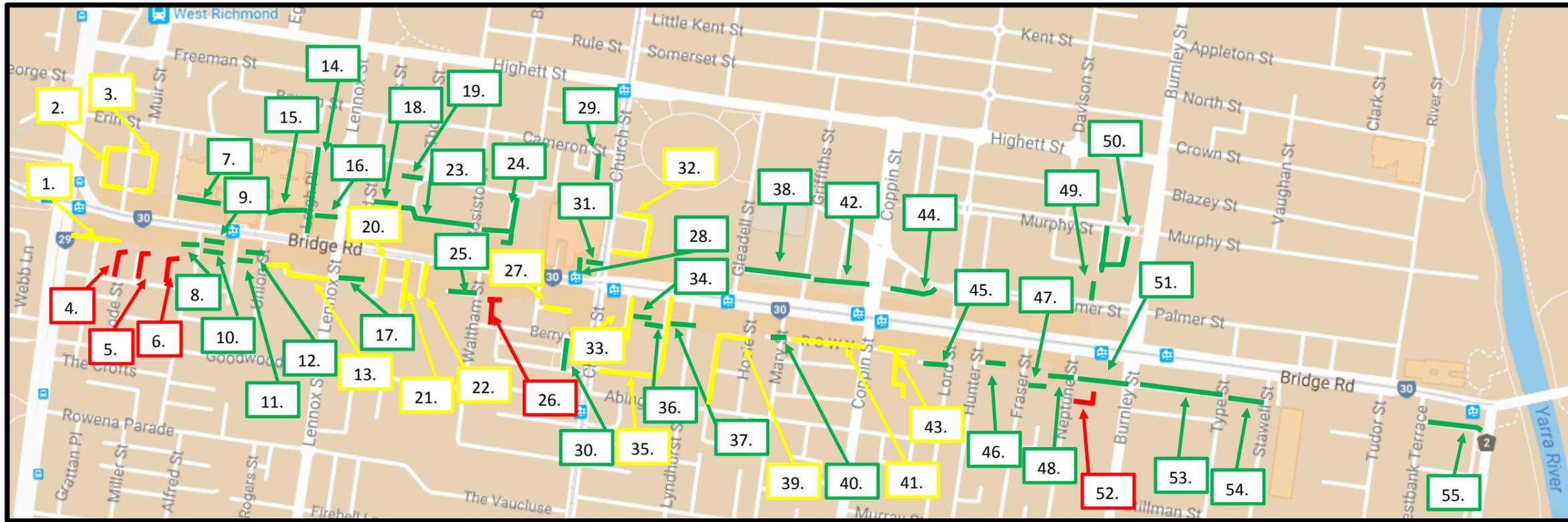
Street Name	Description	Recommended changes	Photo
<p><b>32: Coles Terrace (from Leslie Street to Davidson Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Bluestone</li> <li>• Layout features - There is a connecting southerly ROW of 2.85m width with a slight splay on each corner. Corner is still quite difficult to traverse due to narrow width, and shallow depth of splay</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Unconstrained due to short length, continuous</li> </ul>	<p>One-way in the eastbound direction.</p> <p><b>Reason:</b></p> <p>Due to development potential of laneway, change to one-way flow to minimise vehicle conflicts.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended changes	Photo
<p><b>33: Coles Terrace (from Davidson Street to Burnley Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>● Carriageway width – 3.6m-4.6m</li> <li>● Traffic management – Bollards prevent vehicles from entering/exiting ROW at Burnley Street</li> <li>● Parking – No parking</li> <li>● Footpath – No footpaths</li> <li>● Material – Asphalt</li> <li>● Layout features - There is a connecting southerly ROW of 3.05m width with no splays. Low vegetation and kerbing on the northern side of the ROW allow for the vehicle body to overhang.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <p>Unconstrained due to short length, low development potential</p>	<p>No changes required due to low development potential.</p>	



**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>1: Napier Lane (from Hoddle Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.85m</li> <li>• Trafficable width – 4.3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Car park attached to eastern end of lane</li> <li>• Footpaths – No footpaths</li> <li>• Material – Bluestone</li> <li>• Layout features – There is a connecting ROW to the south which connects to Sherwood Street, however bollards block access.</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Limited Carriageway</li> </ul>	<p>Remove road block in the north-south connecting ROW to allow for one-way flow from Hoddle Street to Sherwood Street.</p> <p><b>Reason:</b></p> <p>If the road block is removed, then one-way flow can be achieved and should be directed away from Hoddle Street.</p> <p>This eliminates vehicle conflict without the need for widening.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>2: ROW (from west side Moorhouse Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpaths – No footpaths</li> <li>• Material – Bluestone</li> <li>• Layout features –there is a connecting northbound ROW which loops back to Moorhouse Street, with splays at the corners</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing opportunities</li> <li>• Lack of sight distance around bends.</li> </ul>	<p>No changes required due to short length serving properties to be developed.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>3: ROW (from east end of Moorhouse Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2-3.25m</li> <li>• Traffic Management – Two-way</li> <li>• Parking – Car park at east end of ROW</li> <li>• Footpaths – No footpaths</li> <li>• Material – Bluestone</li> <li>• Layout features – connecting ROW to the north which loops back to Moorhouse Street, with splays on each corner</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing opportunities</li> <li>• Lack of sight distance around bends.</li> </ul>	<p>No changes required due to short length serving properties to be developed.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>4: ROW (East-West section of westernmost ROW from Sherwood Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.7m-3m</li> <li>• Road reservation – 3.95m-4.75m</li> <li>• Traffic management – Two-way</li> <li>• Parking – kerbside parallel both sides</li> <li>• Footpaths – No footpaths</li> <li>• Materials – Asphalt</li> <li>• Layout features – connected to ROW at the south, of width 3.6m, with no splays provided.</li> </ul> <p><b>Constraints: Highly Constrained</b></p> <ul style="list-style-type: none"> <li>• Single lane</li> <li>• No Splays at T-intersection</li> <li>• Limited potential to widen critical north-south link</li> </ul>	<p>Increase width of road to 6m for east-west section by setting back properties along Bridge Road.</p> <p><b>Reason:</b></p> <p>In order to facilitate rear vehicle access to properties fronting Bridge Road, an increased setback is necessary. This manages vehicle conflict in the laneway by providing space for vehicles to pass and facilitates vehicle turning at the bend of the ROW.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>5: ROW (East-West section of middle ROW from Sherwood Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – connected to ROW at the south, of width 3.5m, with no splays provided.</li> </ul> <p><b>Constraints: Highly Constrained</b></p> <ul style="list-style-type: none"> <li>• Single lane</li> <li>• No Splays at T-intersection</li> <li>• Limited potential to widen critical north-south link</li> </ul>	<p>Increase width of road to 6m for east-west section by setting back properties along Bridge Road.</p> <p><b>Reason:</b></p> <p>In order to facilitate rear vehicle access to properties fronting Bridge Road, an increased setback is necessary. This manages vehicle conflict in the laneway by providing space for vehicles to pass and facilitates vehicle turning at the bend of the ROW.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>6: ROW (easternmost ROW from Sherwood Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.75m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Narrow width and bend at north end. Setback property on western side.</li> </ul> <p><b>Constraints: Highly Constrained</b></p> <ul style="list-style-type: none"> <li>• Single lane</li> <li>• No Splays at T-intersection</li> <li>• Limited potential to widen critical north-south link</li> </ul>	<p>Increase width of road to 6m for east-west section by setting back properties along Bridge Road.</p> <p><b>Reason:</b></p> <p>In order to facilitate rear vehicle access to properties fronting Bridge Road, an increased setback is necessary. This manages vehicle conflict in the laneway by providing space for vehicles to pass and facilitates vehicle turning at the bend of the ROW.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>7: ROW (from Normanby Place to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.3m, widens at intersection with Normanby Place</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Asphalt</li> <li>• Layout features – Hospital uses this ROW</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Passing area at entrance to laneway</li> </ul>	<p>No Changes.</p> <p>Maintain existing passing area at entrance.</p>	
<p><b>8: ROW (from west side of Rotherwood Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpath – No footpaths</li> <li>• Material – Bluestone</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Wide enough for two-way traffic flow</li> <li>• Short length</li> </ul>	<p>No changes required due to short length.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>9: ROW (from east side of Rotherwood Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.05m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – short and narrow</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Limited development potential</li> </ul>	<p>No changes required due to short length.</p>	
<p><b>10: ROW (from east side of Rotherwood Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.8m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Car park on south side</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Limited development potential</li> </ul>	<p>No changes required due to short length.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>11: ROW (from Verity Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 6.05m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Open tandem parking for adjacent properties</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul> <p>Limited development potential</p>	<p>No changes required due to short length.</p>	
<p><b>12: ROW (West side of Union Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way, No Entry to Union Street from Bridge Road</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Limited development potential</li> </ul>	<p>No changes required due to short length.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>13: ROW (East side of Union Street to Lennox Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.7m-3.75m</li> <li>• Traffic management – Two-way, No Entry to Union Street from Bridge Road</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt and Bluestone</li> <li>• Layout features – there is a kink involving two 90 degree bends. A splay is provided on one side of the northern bend</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Non-functional kink breaks laneway into two parts</li> </ul>	<p>Make one-way from Lennox Street to Union Street.</p> <p><b>Reasons:</b></p> <p>Passing area is not possible, due to heritage buildings.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>14: Leigh Place (from Bridge Road to Erin Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.7m</li> <li>• Road reserve – 9m</li> <li>• Traffic management – Two-way for northern section, One-way for southern section connecting to Bridge Road</li> <li>• Parking – No parking</li> <li>• Footpath – Footpath on west side</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• One-way</li> </ul>	<p>No changes required.</p>	

Street Name	Description	Recommended Changes	Photo
<p>15: ROW (from Leigh Place to END)</p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.55m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Slight kink at the middle, still easily traversable</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul>	<p>No changes required.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>16: Corns Place (from Leigh Place to Lennox Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.1m</li> <li>• Traffic management – Two-way, must turn left at Leigh Place</li> <li>• Parking – Car park at midpoint of ROW</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Continuous</li> <li>• Could be made one-way</li> </ul>	<p>No changes required.</p>	
<p><b>17: ROW (from Lennox Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: (Unconstrained laneway)</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	<p>Passing area required at entrance to manage vehicle conflict onto Lennox Street by a setback of #132 Bridge Road.</p> <p>Heritage building at #132 Bridge Road a potential constraint.</p> <p><b>Reason:</b></p> <p>Avoid vehicle conflict and queuing on Lennox Street.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>18: ROW (from Judd Street to Carpark)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 6m (including mountable kerbing)</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – Mountable footpath on south side</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: (Unconstrained laneway)</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul> <p>Mountable kerbing allows for two-way passing</p>	<p>No changes required.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>19: ROW (from Hull Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at southern end</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Small number of adjacent properties</li> </ul>	<p>No changes required.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>20: Wustemenn Place (from Bridge Road to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.65m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at southern end</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout Features – Narrow width, shares car park with Allowah Terrace</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing area</li> <li>• Dead end</li> <li>• Could be connected to Allowah Terrace</li> </ul>	<p>No changes.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>21: Allowah Terrace (from Bridge Road to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 2.6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at southern end</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – Narrow width, shares car park with Wustemenn Place</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing area</li> <li>• Dead end</li> <li>• Could be connected to Wustemenn Place</li> </ul>	<p>No changes.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>22: Peluso Place (from Bridge Road to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.1m-4.85m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking provided in car park at southern end</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing area</li> <li>• Dead end</li> </ul>	<p>Connect to Sheridan Place and make one-way westbound.</p> <p><b>Reason:</b></p> <p>Heritage buildings prevent providing a passing area. A one-way arrangement will limit vehicle conflict on Bridge Road with access to Sheridan Place.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>23: Leggo Place (from Bosisto Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 7.6m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Large Car park at western end</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout Features – Has a kink at the end, and connects to a large car park</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Sufficient width for two-way traffic</li> </ul>	<p>No changes required, sufficient width for two-way operation.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>24: ROW (from Bosisto Street to Hull Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m-4.3m</li> <li>• Traffic management – Two-way</li> <li>• Parking –No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Already ‘built out’ to a large degree</li> </ul> <p><b>Constraints: Unconstrained Laneway</b></p> <ul style="list-style-type: none"> <li>• Properties already developed</li> </ul>	<p>No changes required, laneway already ‘built out’.</p>	
<p><b>25: Sheridan Place (from Waltham Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.55m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul>	<p>Connect to Peluso Place and make one-way.</p> <p><b>Reason:</b></p> <p>Heritage buildings prevent providing a passing area. A one-way arrangement will limit vehicle conflict on Bridge Road/Lennox Street.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>26: ROW (from Berry Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.05m-3.3mm</li> <li>• Traffic management – Two-way, Berry Street is one-way (westbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout Features – has a T-intersection at the northern end, with splays on both corners.</li> </ul> <p><b>Constraints: Highly constrained</b></p> <ul style="list-style-type: none"> <li>• Length</li> <li>• T-shape</li> </ul>	<p>Provide a width of 6m for the east-west section by setting back properties fronting Bridge Road.</p> <p><b>Reason:</b></p> <p>This widening allows for vehicle access to properties fronting Bridge Road, vehicle passing and vehicle access around the 'T' intersection of the ROW.</p>	

Appendix G

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>27: Alban Street (from Eucalyptus Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5.8m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parking along the north side of Alban Street</li> <li>• Footpath – No Footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Wide enough for two-way traffic</li> <li>• Parking arrangements make two-way traffic flow unachievable</li> </ul>	<p>Review on-street car parking arrangements.</p> <p><b>Reason:</b></p> <p>Review car parking as under current arrangements, two-way flow is not achievable when vehicles are parked within Alban Street.</p> <p>Changes should be made when or if required, given development potential from Alban Street is low.</p>	
<p><b>28: ROW (from Bridge Road to END, opposite Eucalyptus Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.65m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	<p>No changes required. A redevelopment of Richmond Plaza is unlikely to use this lane for vehicle access.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>29: Henry Street (from Cameron Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.9m</li> <li>• Traffic management – Two-way, speed humps</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul>	<p>Passing area required at entrance using #196-198 Church Street.</p> <p><b>Reason:</b></p> <p>Significant development potential off this laneway is likely to require a passing area.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>30: ROW (from Berry Street to Hodgson Terrace)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.15m</li> <li>• Traffic management – Two-way, Berry Street is one-way (westbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – Berry Street is a narrow street (3.5m road), and a splay is provided on the southeast corner of the intersection with the ROW to assist movement.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	<p>No changes required due to short length and low development potential.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>31: ROW (from Church Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <p>Short</p>	<p>No changes required due to short length.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>32: ROW (from Church Street to Church Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4m-4.7m</li> <li>• Traffic management – ROW is entry only for the northern section, however, an exit lane is provided via adjacent McDonalds car park, so is considered two-way for all practical purposes.</li> <li>• Parking –No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There are two 90 degree turns which loop the ROW back to Church Street. Splays are provided at each bend, and the ROW has enough width to allow for unimpeded turning.</li> </ul> <p><b>Constraints: Partially constrained</b></p> <ul style="list-style-type: none"> <li>• Narrow</li> <li>• U-shaped</li> <li>• Lack of passing without ‘McDonalds’ site, however surrounding McDonalds site means that access issues could be easily resolved with re-development</li> </ul>	<p>Maintain current layout in any future development of the MacDonalds site.</p> <p><b>Reason:</b></p> <p>Current layout which includes the land of #227-235 (Macdonalds) allows for two-way flow and prevents conflicts on Church Street.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>33: Tullo Place (from Bridge Road to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.95m-4.55m</li> <li>• Road reserve – 6.2m-6.8m</li> <li>• Traffic management – Two-way, no right turn at Bridge Road</li> <li>• Parking – No Parking</li> <li>• Footpath – Footpath on west side</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW on the east side of the road, with no splays provided</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of passing area</li> <li>• Could be converted shared zone for two-way traffic (footpath removed)</li> </ul>	<p>Option to create shared zone for vehicles and pedestrians.</p> <p><b>Reason:</b></p> <p>Footpath can be removed to allow for a carriageway width that provides for two-way traffic flow while improving the pedestrian environment. Passing area reduces vehicle conflict at Bridge Road.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>34: ROW (from Tullo Place to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Connected to Tullo Place, with no splays provided</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	<p>No changes required due to short length.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>35: Waterloo Place (from Bridge Road to Church Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.4m</li> <li>• Road reserve – 6.2m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – Narrow footpaths on both sides</li> <li>• Material – Asphalt</li> <li>• Layout features – Waterloo Place has a 90 degree bend connecting it from Bridge Road to Church Street. A splay is provided at the bend on the northwest corner. There are also two ROWs connected to Waterloo Place</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Lack of two-way passing opportunities</li> <li>• Length</li> <li>• Could be made one-way</li> </ul>	<p>No changes required.</p> <p>This laneway abuts properties largely outside of the study area. It has sufficient width for future conversion into a shared zone or to be made one-way, if required.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>36: ROW (from Waterloo Place to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.5m (with additional property boundary setback of 2.55m)</li> <li>• Traffic management – Two-way</li> <li>• Parking – Private parking on south side within property setback</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – A property boundary setback allows for turning into ROW from Waterloo Place</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul>	<p>No changes required due to short length.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>37: ROW (from Waterloo Place to Lyndhurst Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2m</li> <li>• Traffic management – Two-way, Lyndhurst Street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Bluestone</li> <li>• Layout features – A splay on the southeast corner of Waterloo Place and the ROW is provided to assist turning.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Continuous</li> </ul>	<p>No changes required due to short length.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>38: ROW (from Gleadell Street to Griffiths Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	<p>One way in the westbound direction.</p> <p><b>Reason:</b></p> <p>The road is only wide enough for one-way flow. One-way westbound provides a higher level of access compared to eastbound due to existing turn bans at Gleadell Street.</p> <p>One way reduces vehicle conflict. We understand Council expects high pedestrian volumes in the future with the new school opening soon.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>39: Spencer Place (from Hosie Street to Abinger Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.45m-3.8m</li> <li>• Traffic management – Two-way, Hosie Street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt and bluestone</li> <li>• Layout features – There is a 90 degree bend in Spencer Place, with a splay provided on the southeast corner. There is another connecting ROW, which connects back to Hosie Street, with a splay also provided.</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Long</li> <li>• Lack passing opportunities</li> </ul>	<p>No changes required.</p> <p>A future change to one-way operation is a potential option, if required.</p>	

Street Name	Description	Recommended Changes	Photo
<p>40: Pandoleon Lane (from Mary Street to END)</p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.65m</li> <li>• Traffic management – Two-way, Mary street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	<p>No changes required.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>41: ROW (from Mary Street to Coppin Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.2m</li> <li>• Traffic management – Two-way, Mary Street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – Straight, limited splays on intersecting ROWs.</li> </ul> <p><b>Constraints: Partially Constrained</b></p> <ul style="list-style-type: none"> <li>• Length</li> <li>• No passing area</li> <li>• Continuous, could be one-way</li> </ul>	<p>One-way in the westbound direction.</p> <p><b>Reason:</b></p> <p>Lane is long with no passing opportunities.</p> <p>This allows for current one-way arrangements on Mary Street to be maintained.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>42: ROW (from Griffiths Street to Coppin Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.1m</li> <li>• Traffic management – Two-way, must enter and exit via left on Coppin Street</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW to the north, with splays provided on both corners of the intersection.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	<p>No changes required due to low development potential.</p> <p>Can be made one-way in future if required.</p>	

Street Name	Description	Recommended Changes	Photo
<p><b>43: Foster Place (from Coppin Street to END)</b></p>	<p>Existing Conditions:</p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m-3.45m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW of 4m width to the south, with no splays provided.</li> </ul> <p>Constraints: Partially Constrained</p> <ul style="list-style-type: none"> <li>• Lack of passing area on east-west link</li> <li>• T intersection</li> </ul>	<p>Provide 6m passing area where possible, avoiding heritage buildings.</p> <p><b>Reason:</b></p> <p>Lane is narrow and does not allow for two-way flow. A passing area cannot be provided at the entrance due to a heritage building.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>44: ROW (from Coppin Street to Palmer Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.7m-5.7m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW to the north, with no splays provided at the intersection, however, properties on the south are set back.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Short</li> </ul>	<p>No changes required.</p> <p>Can be made one-way in future if required.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>45: ROW (from Lord Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.55m, widened by adjacent development</li> <li>• Traffic management – Two-way, Lord Street is one-way (northbound)</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Provides two-way traffic</li> </ul>	<p>No changes required due to short length and effective widening has already taken place.</p>	
<p><b>46: ROW (from Hunter Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	<p>No changes required due to short length.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>47: ROW (from Hunter Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 4.4m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> <li>• Layout features – appears to have been consumed as private property</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul> <p>Low development potential</p>	<p>No changes required due to short length.</p>	
<p><b>48: ROW (from Neptune Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> <li>• Low development potential</li> </ul>	<p>No changes required.</p> <p>Parking arrangements at Neptune Street could be reviewed to allow for more passing opportunities.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>49: ROW (from Palmer Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.45m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Concrete</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Short</li> </ul> <p>Low development potential</p>	<p>No changes required.</p>	
<p><b>50: Birch Square (from Murphy Street to Murphy Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 6.1m-9m</li> <li>• Traffic management – One-way in an anticlockwise direction</li> <li>• Parking – Parking on north side of east-west section</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <p>Already one-way to minimise vehicle conflict</p>	<p>No changes required.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>51: ROW (from Neptune Street to Burnley Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3m</li> <li>• Traffic management – Two-way, must exit/enter left at Burnley</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	<p>No changes required due to low development potential.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>52: ROW (from Neptune Street to END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.15m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – ROW bends 90 to the north with no spays provided. North-south section is not trafficable and requires splays</li> </ul> <p><b>Constraints: Highly Constrained</b></p> <p>Requires splays on the corners</p>	<p>Splays required on #23 to make trafficable.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>53: ROW (from Burnley Street to Type Street)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.4m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – No footpath</li> <li>• Material – Asphalt</li> <li>• Layout features – There is a connecting ROW to the south, with no splays provided at the intersection.</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	<p>One-way in the westbound direction.</p> <p><b>Reason:</b></p> <p>Long laneway width no passing opportunities.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>54: ROW (from Type Street END)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 5m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – Footpath on south side</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> <li>• Could be one-way</li> </ul>	<p>No changes required due to low development potential and short length. Can be made one-way in future if required.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>55: Park Avenue (east-west section abutting Bridge Road properties from Westbank Terrace to bend)</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.65m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No parking</li> <li>• Footpath – Footpath on south side</li> <li>• Material – Asphalt</li> </ul> <p><b>Constraints: Unconstrained laneway</b></p> <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Straight</li> </ul> <p>Could be one-way</p>	<p>No changes required due to low development potential. Can be made one-way in future if required.</p>	

**Appendix G**

ROW Recommendations



Street Name	Description	Recommended Changes	Photo
<p><b>Eucalyptus Street</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 3.45m-5.95m</li> <li>• Road Reserve – 5.95m</li> <li>• Traffic management – Two-way</li> <li>• Parking – No Parking</li> <li>• Footpaths – Narrow footpath on both sides</li> <li>• Material – Asphalt</li> </ul> <p>Layout features – Road provides passing area at intersection with Bridge Road, however road narrows soon after, providing no other opportunities for passing.</p>	<p>Review conversion into a true shared zone where pedestrians and vehicles share road space and allow two vehicles to pass one another, particularly at Bridge Road.</p>	
<p><b>Neptune Street</b></p>	<p><b>Existing Conditions:</b></p> <ul style="list-style-type: none"> <li>• Carriageway width – 7.1m</li> <li>• Road Reserve – 9.8m</li> <li>• Traffic management – Two-way</li> <li>• Parking – Parallel parking on both sides</li> <li>• Footpaths – Narrow footpath on both sides</li> <li>• Material – Asphalt</li> </ul> <p>Layout features – Parking on each side of the road only allows for one-way traffic flow.</p>	<p>On-street car parking arrangements to be reviewed.</p> <p><b>Reason:</b></p> <p>Carriageway currently allows parking on both sides of the road and a single lane for two-way traffic. Development potential accessing Neptune Street might necessitate removing some on-street parking to provide passing areas along Neptune Street.</p>	