

**Prepared for**  
Precinct 15 Landowners Consortium

**Prepared by**  
Stephen Hunt

13<sup>th</sup> November 2017

**Traffic Engineering Evidence  
Statement**

Proposed Rezoning

**Amendment C88 to Hobsons Bay  
Planning Scheme**

Traffic: evidence

**ratio:**consultants  
9 Clifton Street  
Richmond VIC 3121  
ABN 93 983 380 225

**Prepared for:**  
Precinct 15 Landowners Consortium  
Our reference 14703rep01D03

**ratio:**consultants Pty Ltd

This work is copyright. Apart from any use as permitted under Copyright Act 1968, no part may be reproduced without written permission of **ratio:**consultants Pty Ltd.

Disclaimer: neither **ratio:**consultants Pty Ltd nor any member or employee of **ratio:**consultants Pty Ltd takes responsibility in anyway whatsoever to any person or organisation (other than that for which this report is being prepared) in respect of the information set out in this report, including any errors or omissions therein. **ratio:**consultants Pty Ltd is not liable for errors in plans, specifications, documentation or other advice not prepared or designed by **ratio:**consultants Pty Ltd.



Chapter / Section	Page No.
<b>1 Statement of Witness:</b>	<b>4</b>
<b>2 Introduction and Background:</b>	<b>6</b>
2.1 Instructions	6
2.2 Amendment C88 to the Hobsons Bay Planning Scheme	6
<b>3 Summary of Opinion:</b>	<b>8</b>
<b>4 Amendment C88 Review:</b>	<b>10</b>
4.1 Altona North Overview	10
4.2 Proposed Street Network	12
4.3 Appropriateness of Street Network	14
4.4 Public Transport Network	16
4.5 External Traffic Impacts	17
4.6 New Street Extension	20
4.7 Local Traffic Impacts	21
4.8 Mode Shift Considerations	23

## List of Figures:

Figure 4.1 – Future Urban Struct	11
Figure 4.2 – Street Network Plan	13
Figure 4.3 – Site Location: Melways Map	14
Figure 4.4 – VicRoads Smartroads Map: Surrounding Road Hierarchy	14
Figure 4.5 - Proposed road connections to Blackshaws Road	15
Figure 4.6 - Illustration of downstream queuing impacts reported at Blackshaws Road / The Broadway / Connector Boulevard	19
Figure 4.7 – New Street Extension	20

## List of tables:

Table 4.1: Proposed Development Yield Assumptions	10
Table 4.2 – North South Link – Modelled Daily Volumes (GTA)	20
Table 4.3: CIA model travel mode share vs ITS mode targets	23

# 1 Statement of Witness:

## Reference

- 1.1.1 Amendment C88 to Hobsons Bay Planning Scheme

## Name

- 1.1.2 Stephen John Hunt

## Position

- 1.1.3 Principal – Traffic, Ratio Consultants

## Address

- 1.1.4 9 Clifton Street, Richmond, VIC 3121

## Qualifications

- Bachelor of Engineering (Civil), 1975, Swinburne University of Technology.
- Graduate Diploma of Highway and Traffic Engineering, 1981, Chisholm Institute of Technology.

## Experience

- 2017 – Present: Principal – Traffic, Ratio Consultants.
- 2010 – 2016 : Group Manager – Cardno Victoria
- 2007 – 2010: Consultant, Cardno Grogan Richards.
- 1988 – 2006: Director, Grogan Richards.
- 1975 – 1988: Traffic Engineer with Cities of Doncaster and Templestowe, Caulfield and Prahran.

## Professional Expertise

- 1.1.5 I have worked in the area of Traffic and Transportation Engineering throughout my career. My area of expertise includes traffic advice and assessment of a wide range of land use and development proposals for planning authorities, government agencies, corporations and developers.
- 1.1.6 My training, qualifications and experience including involvement with a wide variety of developments over a number of years, qualifies me to comment on the traffic implications of this proposal.

## Instructions which define the scope of this report

- 1.1.7 I have been requested by Norton Rose Fulbright on behalf of the Precinct 15 Landowners Consortium to review:
- Amendment C88 to the Hobsons Bay Planning Scheme.
- 1.1.8 My instructions are to prepare a traffic expert evidence statement detailing my opinions on the proposed amendment to assist the Planning Panel convened to consider the Amendment.

## Facts, Matters and Assumptions Relied Upon

- 1.1.9 In the course of preparing this report, the facts, matters and assumptions I have relied upon are as follows:
- Site visits during September 2017.
  - Hobsons Bay Planning Scheme Amendment C88 exhibited documents.

- *Precinct 15 Blackshaws Road Altona North Transport Assessment – GTA Consultants March 2015 for Precinct 15 Landowner's Group*
- *Transport Modelling and Analysis – GHD July 2016 for Hobsons Bay Council*
- *Altona North, Precinct 15 ITS – Potential North- South Link Feasibility – GTA Consultants October 2016 for Victorian Planning Authority*
- *Precinct 15 Altona North Integrated Transport Study – GTA Consultants December 2016 for Victorian Planning Authority.*

#### **Identity of Persons Undertaking the Work**

- 1.1.10 Stephen Hunt of Ratio Consultants, assisted by Brett Young also of Ratio Consultants.

#### **Declaration**

- 1.1.11 I confirm that I have read and that I understand the Planning Panels Victoria's 'Guide to Expert Evidence' and that I comply with the provisions of that guide.
- 1.1.12 I have no relationship with the client other than a business engagement to comment on this matter.
- 1.1.13 My involvement in this project commenced in August 2017 and I was not involved directly in any earlier processes.
- 1.1.14 I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.



**Stephen Hunt**  
**Principal - Traffic**  
**Ratio Consultants**

### 2.1 Instructions

- 2.1.1 I have been requested by Norton Rose Fulbright Lawyers on behalf of Precinct 15 Landowners Consortium, to undertake a review of the traffic engineering implications of the proposed Altona North Comprehensive Development Plan and prepare an expert evidence statement for submission and consideration by Planning Panels Victoria, in association with Amendment C88 to the Hobsons Bay Planning Scheme.
- 2.1.2 I have been requested to, in particular:
1. Review the background materials to the Amendment;
  2. Undertake a critical review of the conclusions reached by GTA Consultants regarding traffic issues associated with the Amendment.
- 2.1.3 This report has been prepared in accordance with the Planning Panels Victoria's 'Guide to Expert Evidence'. In the course of preparing this assessment, I have inspected the subject site and surrounding road network, reviewed the Comprehensive Development Plan and referred to the background documentation including the traffic engineering assessments prepared by GTA.
- 2.1.4 I have had no involvement in the preparation of the supporting documentation of proposed Amendment C88.
- 2.1.5 My opinions with respect to the traffic engineering issues related to the proposed Amendment are set out in the following report.

### 2.2 Amendment C88 to the Hobsons Bay Planning Scheme

- 2.2.1 In 2008 the Minister for Planning approved Amendment C33 to the Hobsons Bay Planning Scheme to include the Industrial Land Management Strategy 2008 (ILMS) as part of the Hobsons Bay Planning Scheme. The ILMS identified the land generally bounded by Blackshaws Road, Kyle Road, New Street and West Gate Freeway in Altona North and South Kingsville as 'Precinct 15' with the potential for most of the site to change from industrial uses to non-industrial uses including residential.
- 2.2.2 Since 2010 Council has been working with a number of the land owners to prepare a planning scheme amendment to rezone the Precinct 15 site. A formal application was lodged in March 2015 – this request became what is known as Amendment C88.
- 2.2.3 Since June 2016 the Victorian Planning Authority (VPA) has been taking a facilitation role on this project and assisting both the proponents and the Council with the rezoning process. The VPA has taken a lead role in assisting Council to create a new plan for the Altona North area by preparing background studies such as the Traffic Impact Assessment Reports with the help of expert consultants including GTA Consultants.
- 2.2.4 Amendment C88 proposes to:
- rezone the land in Precinct 15 from the current industrial zones to the Comprehensive Development Zone with an associated Comprehensive Development Plan.
  - apply the Development Contributions Plan Overlay with an associated Development Contributions Plan.
  - apply an Environmental Audit Overlay.

- remove an existing Heritage Overlay from part of the site.

2.2.5 The purpose of the Comprehensive Development Plan is to provide for a range of uses on the site including:

- Residential development / housing
- Commercial areas
- Town Centre (that is expected to include shops)
- Parks
- Community facilities

### 3 Summary of Opinion:

3.1.1 I have addressed the key questions below in forming my view on the proposed amendment as set out below.

1. <i>Is the proposed internal road network and hierarchy appropriate for the proposal?</i>
---

3.1.2 The proposed road network and hierarchy is supported for the following reasons:

- Blackshaws Road is currently designated as a Secondary Arterial Road and hence should be the focus of primary access to the site as proposed.
- The proposed signalised intersection of Blackshaws Road/ The Broadway is appropriately spaced at 400 metres east of the existing signals at Kyle Road / Mills Street and is located to provide the main access to the site, including the Town Centre.
- The eastern signalised intersection to Blackshaws Road is approximately 220 metres east of The Broadway located at the eastern end of the proposed Town Centre. The location has been selected to provide an alternate internal north-south connector to New Street, and to provide a second signalised access to the Town Centre.
- While the spacing is less than ideal, functional plans prepared by Trafficworks indicate that functionality can be achieved. SIDRA analysis undertaken in the 2016 GTA report shows that queuing between intersections may be an issue and this needs to be further assessed.
- The proposed connections to the local streets to the east and west are appropriate to ensure integration with existing residential neighbourhoods. While increases in traffic movements will occur, the permeable road network proposed is considered appropriate.
- The connector intersection to Kyle Road has been located to the south of the Marigold Street intersection, with a T junction roundabout proposed between Marigold and Cyclamen. This appears to be designed to direct traffic towards Blackshaws Road and away from Marigold Avenue. In my opinion, this would have only a marginal impact on traffic distribution and that movement of the east-west connector 50 metres to the north to form a roundabout at Marigold Street is preferable in traffic and public transport connectivity terms. If there are reasons they cannot be aligned easily, I am comfortable that the alignment as currently shown will function to an acceptable level.
- The proposed connector street intersection to New Street, forming a roundabout at Brunel Street is considered appropriate for the same reason.
- The internal road hierarchy and cross-sections for each road type is broadly supported.



*2. Are the road network upgrades identified in the DCP appropriate in mitigating the traffic impacts of the proposal?*

- 3.1.3 Upgrades to the Millers Road / Blackshaws Road intersection to cater for increased turning movements generated are necessary and are supported.

*3. Is it appropriate to maintain the potential for a north-south link road?*

- 3.1.4 In transport planning terms, the retention of the option for the future provision of a north south link is appropriate, providing the opportunity to establish a north south route and reduce traffic pressure on Millers Road and Melbourne Road.

- 3.1.5 The route, if established, would benefit north south movements within the broader region but the establishment of the route should not be a prerequisite for the proposed development of Precinct 15.

*4. What impact will the proposal have on local streets in the area?*

- 3.1.6 Marigold Avenue will experience an increase in traffic, largely outside the morning peak during which there is limited capacity. Some consideration should be given to balance parking with a need for two-way passing opportunities as a result of the increase in traffic.

- 3.1.7 The route to Melbourne Road via the local streets of Brunel Street, Kernot Street and The Avenue are likely to experience an increase in traffic due to the ramps to the West Gate Freeway on Melbourne Road remaining an attractive route for traffic generated on the site.

*5. Have future public transport opportunities been appropriately planned for?*

- 3.1.8 The internal connector streets have been designed to accommodate future bus services which is supported.

*6. Are the integrated transport initiatives appropriate?*

- 3.1.9 A number of works are identified that are aimed at reducing the proportion of vehicle drivers and increasing the proportion of travel by public and active transport.

- 3.1.10 If the traffic reduction targets are achieved, the traffic impacts of the proposal on the surrounding road network will be reduced. The works identified will assist in achieving the targets and are therefore supported.

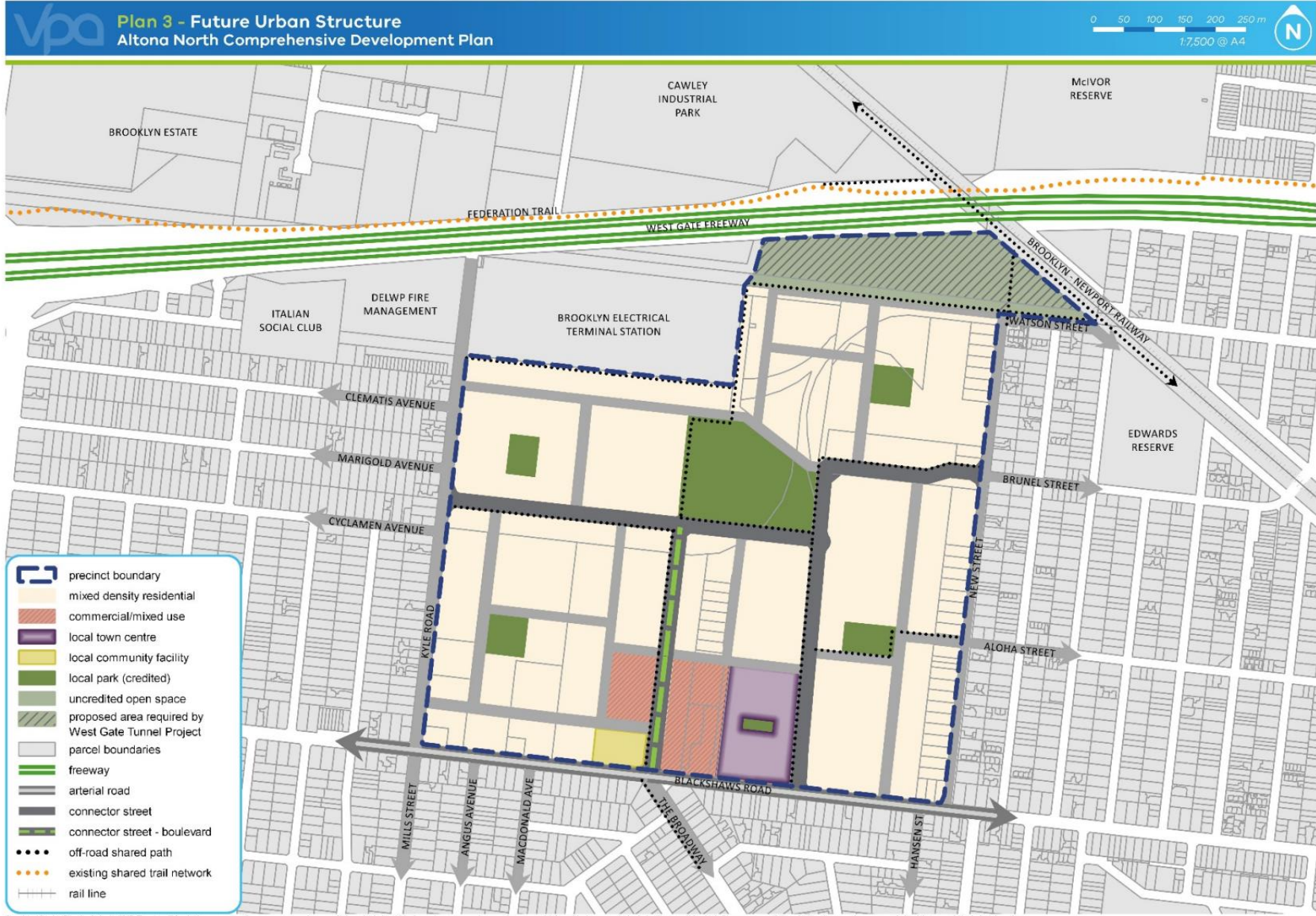
4.1 Altona North Overview

- 4.1.1 The Altona North Comprehensive Development Plan, as exhibited, contemplates development of the land for up to 3,000 residential dwellings, together with a mixed zone within a Town Centre abutting Blackshaw’s Road potentially containing up to 5,500 sqm of retail space and 33,000sqm of office space as set out in Figure 1 below.

Table 4.1: Proposed Development Yield Assumptions

Use	Number	Units
Dwellings	3,000	Dwelling Units
Retail Floorspace (Total)	5,500	m2 gross floorspace
Commercial Floorspace (New)*	33,000	m2 gross floorspace

Figure 4.1 – Future Urban Struct

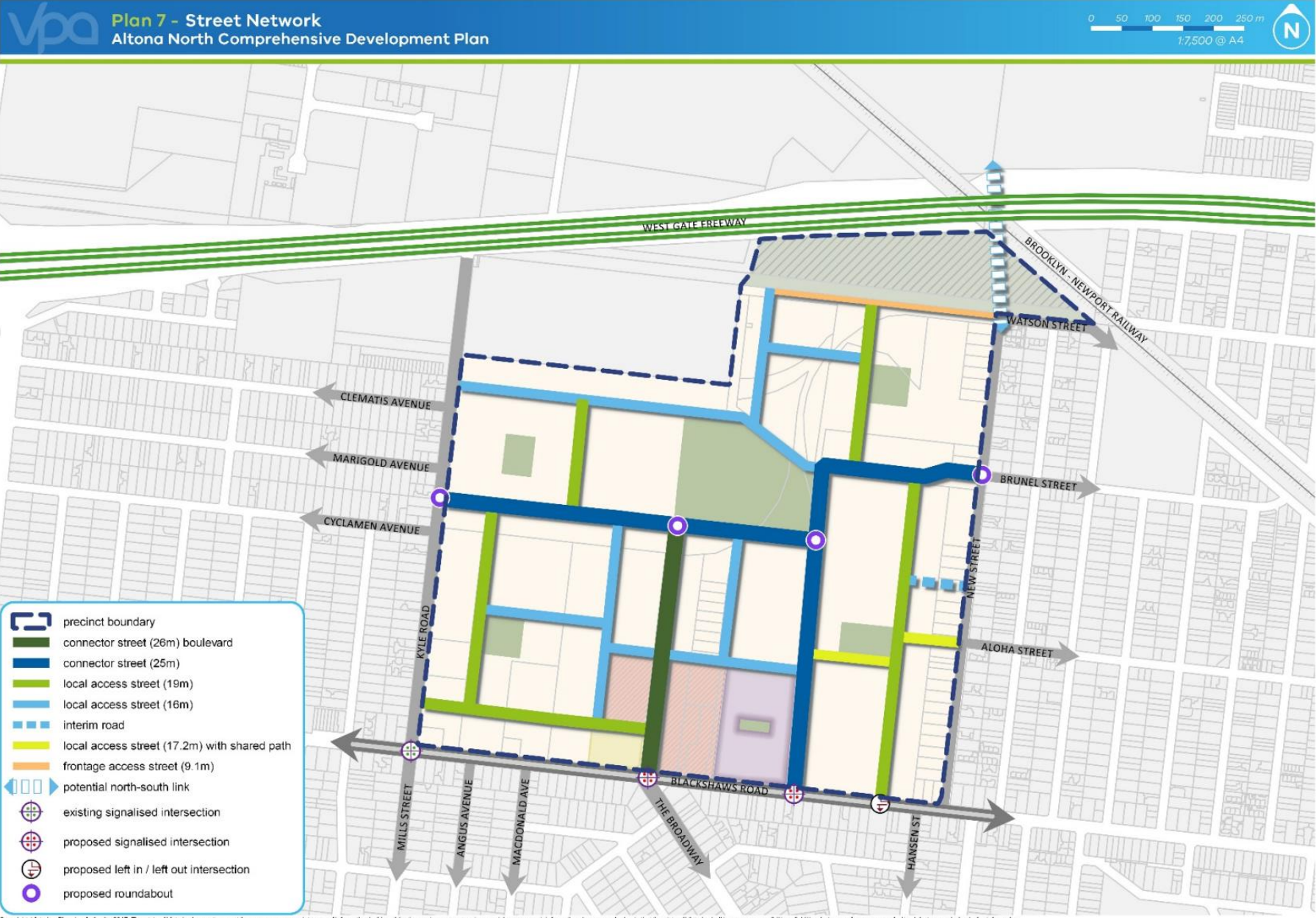


## 4.2 Proposed Street Network

- 4.2.1 The street network seeks to provide connections to the existing network as follows:
- 3 connections to Blackshaws Road, including two connector streets forming signalised intersections and one left in / left out access street.
  - 3 connections to Kyle Road, including an east west connector forming a roundabout intersection south of Marigold Avenue.
  - 3 connections to New Street, including a roundabout connector intersection at Brunel Street and local street cross junctions at Watson Street and Aloha Street.
- 4.2.2 The design of the street network and access control seeks to direct access predominantly to Blackshaws Road, while facilitating local permeability to the east and west.
- 4.2.3 The connector road network provides for bus routes through the site, potentially allowing for diversion of Route 432 between Marigold Avenue and Brunel Street through the site via the Town Centre.
- 4.2.4 The Street Network Plan as shown in Figure 2.



Figure 4.2 – Street Network Plan

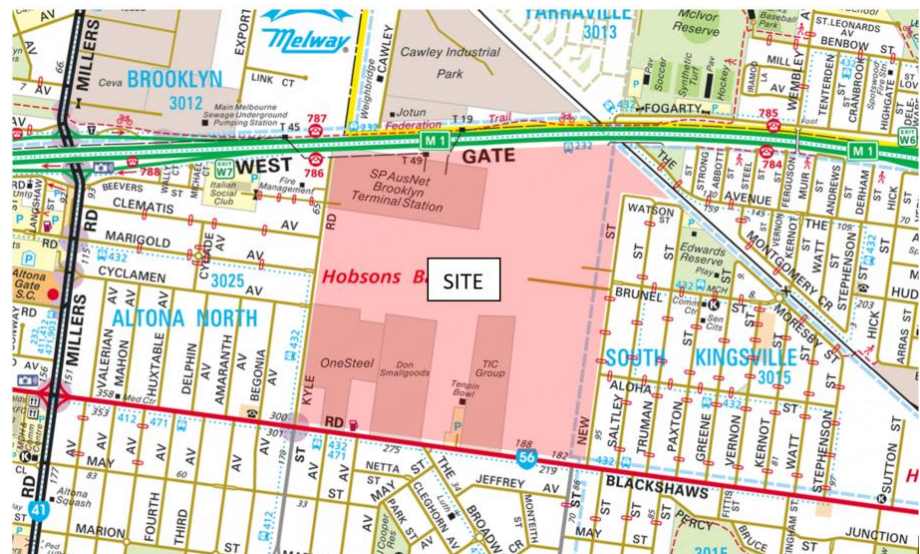


## 4.3 Appropriateness of Street Network

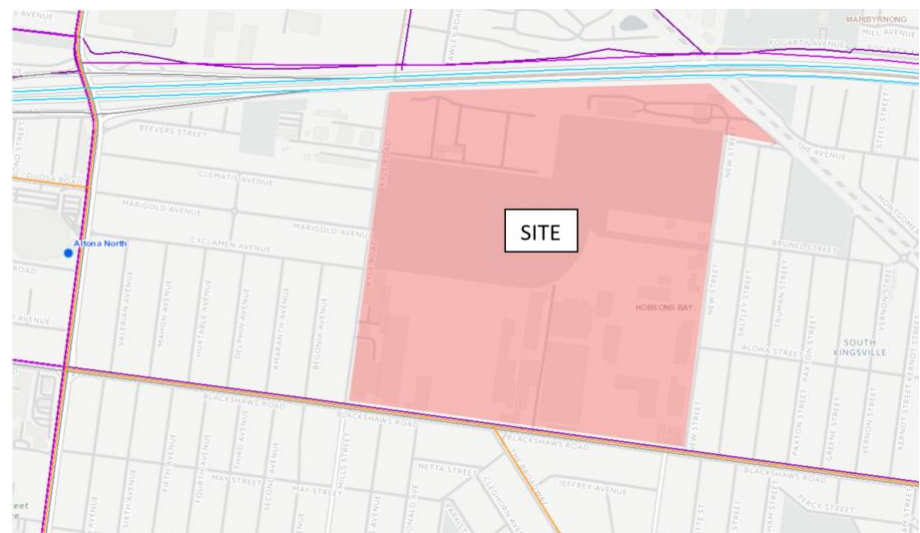
### Surrounding Road Network

- 4.3.1 The site is bound by the West Gate Freeway to the north but does not have direct access to it. Local streets (New Street and Kyle Street) border the eastern and western edges of the precinct, both of which terminate at their northern end to the south of the West Gate Freeway.
- 4.3.2 Blackshaws Road borders the southern boundary of the precinct which is a Secondary State Arterial Road as shown below in the Melways Map (Figure 3 below). It is also classified as a Traffic Route, a Bicycle Priority Route and a Bus Priority Route in the VicRoads SmartRoads Road Use Hierarchy (Figure 4 below).

**Figure 4.3 – Site Location: Melways Map**



**Figure 4.4 – VicRoads Smartroads Map: Surrounding Road Hierarchy**



### Primary Access

- 4.3.3 Based on the surrounding road network, the street network should be designed with primary access via Blackshaws Road, this being the highest order road available in the vicinity of the site, and the road most capable of catering for an increase in traffic. The proposed street network appropriately seeks to encourage access via Blackshaws Road, with both the Town Centre and Business Park being located closest to Blackshaws Road.
- 4.3.4 Furthermore a boulevard connector and a connector street are proposed to operate north-south through the site with signalised access to Blackshaws Road. These connect to the proposed single east-west connector street running through the precinct between Kyle Road and New Street. This layout will predominantly direct traffic accessing the site to and from Blackshaws Road and is supported.
- 4.3.5 Three direct access points to Blackshaws Road are proposed as described below, from west to east:

**Figure 4.5 - Proposed road connections to Blackshaws Road**



1. Signalised intersection at the boulevard connector street, forming a four-legged intersection with The Broadway to the south of Blackshaws Road.  
This intersection, providing access to the proposed commercial precinct, is appropriately spaced at 400 metres to the east of the signalised intersection of Kyle Road / Mills Street / Blackshaws Road.
2. Signalised T intersection at the connector street which provides a signalised access to the east of the proposed Town Centre and provides an alternative north-south connector to New Street.
3. A left-in, left-out access from the local street towards the eastern end of the site, which provides access to and from the surrounding residential land and is supported.

### Connector Network

- 4.3.6 The two north-south connector streets provide access to the key activity areas and are supported.
- 4.3.7 The single east-west connector street will enable a future bus route to travel through the site which would ensure that all residents are within close proximity to a bus route and is supported.

### East-West Connections

- 4.3.8 The proposed connections to the local streets to the east and west are appropriate to ensure integration with existing residential neighbourhoods. While increases in traffic movements will occur, the



provision of a permeable road network as proposed is considered appropriate.

- 4.3.9 The proposed east-west streets through the precinct align with existing roads at the eastern edge of the precinct at New Street (from north to south at Watson Street, Brunel Street and Aloha Street). The provision of a roundabout at the intersection of the proposed connector street with New Street and Brunel Street will facilitate the local traffic movements as well as the movement of future bus movements through the site and is supported for these reasons.
- 4.3.10 An interim local street connection to New Street is shown between Brunel Street and Aloha Street. In my opinion, the interim location is appropriate in traffic distribution terms and could be retained a permanent link, removing the need for the local street connection to the south at Aloha Street as proposed.
- 4.3.11 The roads do not align at the western edge of the site at Kyle Road, with all three connections to Kyle Road forming staggered intersections with the existing streets in the adjoining existing residential area to the west (from north to south: Clematis Avenue, Marigold Avenue and Cyclamen Avenue).
- 4.3.12 The Background Report notes the offsetting of these intersections as having addressed concerns of potential rat-running within the precinct. In my view, the staggering of the intersections will have only a marginal effect on any rat-running that may occur. It would be preferable for transport connectivity reasons to align the east-west roads with the neighbouring roads to the west, particularly the proposed connector and Marigold Avenue. This would facilitate local traffic movements east-west as well as the movement of future bus movements through the precinct. If there are reasons they cannot be aligned easily, I am comfortable that the alignment as currently shown will function to an acceptable level.

#### **Connector Street Cross-sections**

- 4.3.13 The Altona North CDP shows proposed street cross-sections for internal streets, including the Connector Street Boulevard and Connector Streets.
- 4.3.14 The cross-sections as proposed are consistent with current practice, with the connector street boulevard, including a central median, adopted for the western north south connector route. This recognizes the likely higher traffic function of this street in providing predominant access to the commercial areas as well as forming part of the internal connector network.
- 4.3.15 In traffic terms, should the commercial area within the precinct not be included, the consequent reduction in traffic volumes would allow for the down grading of the function of the street to a bus capable connector to be considered.

#### **4.4 Public Transport Network**

- 4.4.1 An east-west local bus route is understood to be planned through the precinct, which would connect with either the Yarraville or Spotswood Stations although its exact route is not yet known.
- 4.4.2 The internal connector streets have been designed to accommodate future bus services which is supported.



## 4.5 External Traffic Impacts

- 4.5.1 In this section I have reviewed the traffic modelling undertaken and reviewed the mitigating works that were identified in the GTA report dated December 2016.

### Traffic Modelling

- 4.5.2 GTA focused the modelling on the area bound by Westgate Freeway to the north, Millers Road to the west, Blackshaws Road to the south, and Melbourne Road to the east.

- 4.5.3 The modelling also considered connective local streets including:

- Clematis Avenue, Marigold Avenue and Cyclamen Avenue to the west,
- Mills Street, The Broadway, Hansen Street and Schutt Street to the south, and
- Brunel Street, The Avenue and Hudsons Road to the east

- 4.5.4 The methodology of the modelling undertaken in the ITS was understood as follows:

1. Existing traffic data was collected at key intersections. Existing volumes were determined through a variety of sources, including SCATS data, reference to data collected in association with the 2015 GTA assessment and additional video surveys at selected intersections.
2. SIDRA models were prepared of the existing conditions at the key intersections. The AM and PM peak existing volumes are contained in Figures 6.5 and 6.6 of the GTA 2017 report.
3. The Cumulative Impact Assessment (CIA) modelling of future (2031) conditions undertaken by GHD consultants on behalf of Council and VicRoads was used to determine the percentage increases on each link to the key intersections. I note that the assumptions in the GHD model for redevelopment of Precinct 15 were considered to assume similar levels of development as contemplated in the CDP, including 3171 dwelling, 2,836 commercial employees and 7,169 commercial customers.
4. The percentage changes on each link were used to determine the future turning movement volumes at each of the key intersections. The percentage increases were not directly applied to each turning movement. Rather, this process reportedly involved a level of interpretation and iteration of the percentage increases to individual turning volumes to get future volumes that generally balance and reflect how people are expected to access the area in the future. The resultant expected future turning movement volumes are presented in Figures 6.11 and 6.12 of the 2016 ITS.
5. SIDRA models were prepared of the future traffic conditions at the key intersections. It is noted that the analysis, in assessing the 2031 future traffic conditions does not specifically consider the 2031 "No Project Case" to enable the relative impacts of the proposal to be reviewed.
6. The ITS consequently concludes that the anticipated traffic generated by the proposed rezoning and development can be accommodated by the surrounding road network subject to a package of mitigating roadworks including:
  - Capacity increases at the Millers Road / Blackshaws Road intersection, and

- Parking restriction and linemarking changes at unsignalised intersections along Blackshaws Road.

### **Millers Road / Blackshaws Road intersection upgrades**

4.5.5 The proposed DCP proposes to facilitate upgrades to the Millers Road / Blackshaws Road intersection to cater for increased turning movements generated on the eastern approach from Precinct 15 are considered necessary.

4.5.6 The identified upgrades are reported in the 2016 ITS as follows:

- At the Millers Road / Blackshaws Road signalised intersection:
  - Extend the right-turn lane on the east approach of the intersection by 240m to 300m through modification to road markings and introduction of parking restrictions that at least restricts kerbside parking during the commuter peaks.
  - Convert the through lane on the east approach of the intersection to a through and right turn lane by modifying the directional arrow markings.
  - Modify the intersection phasing to have a split phasing for the east and west approaches.

4.5.7 The upgrades do not require any additional carriageway to be constructed. Rather, they involve the removal of kerbside parking on the east approach, at least during the commuter peaks in order to provide an extended right turn lane and the provision of a shared through and right lane in the kerbside lane. When combining these works with split phasing on the east and west approaches, the ITS reports the intersection as operating with a Degree of Saturation of 0.99 on the north approach and 0.92 on the east approach. This is marginally above the ideal level of 0.95 typically sought for a signalised intersection.

4.5.8 It is not possible for me to comment on what the relative impact that Precinct 15 has on this intersection, as a 2031 (no project) model was not prepared as part of the ITS to enable this comparison to be made. The overall operation of the intersection as modelled however suggests congested but acceptable operating conditions.

4.5.9 Overall, it is considered that the proposed capacity improvements to the Blackshaws Road / Millers Road intersection provide an appropriate response to the traffic impacts of the proposal.

### **Installation of Right Turn Lanes at Schutt Street, New Street & Hansen Street**

- Install linked traffic signals at the two new site access intersections on Blackshaws Road associated with the connector streets. The approaches to these signalised intersections from within the site require two approaches lanes for 80m that are clear of intersections, property access points and kerbside parking.
- Increase the lengths of 'No Stopping' parking restrictions and install line marked right turn lanes on Blackshaws Road at the unsignalised intersections with Schutt Street, New Street and Hansen Street.

4.5.10 These treatments will improve traffic flow along Blackshaws Road which will assist northbound movements from the site seeking to gain access onto Melbourne Road and are supported.

### Connector Street Signals

- 4.5.11 The intersections of the two north-south connector streets were modelled by GTA as a SIDRA network model. The SIDRA modelling indicates that the intersections will operate with acceptable DOS values overall of between 0.897 and 0.931.
- 4.5.12 The queuing on the eastern approach to the Blackshaws Road intersection with the connector boulevard and The Broadway is reported to be 294m. As illustrated in the diagram below, this suggests that the 95<sup>th</sup> percentile queue will extend back through the downstream connector street intersection. Further assessment should be undertaken of these intersections to seek to reduce the extent of overlapping queues which could include improved co-ordination of the signals and/or adjusting signals phase timings.

**Figure 4.6 - Illustration of downstream queuing impacts reported at Blackshaws Road / The Broadway / Connector Boulevard**



## 4.6 New Street Extension

- 4.6.1 The Street Network Plan in the CDP depicts a “potential” north south link running to the north from New Street, under the Westgate Freeway as depicted in the figure below.

**Figure 4.7 – New Street Extension**



- 4.6.2 The feasibility of the provision of this link as a connector road running from New Street along the eastern boundary of the Bradmill Site, is reviewed in advice prepared by GTA for the VPA in October 2016.
- 4.6.3 Modelling of the impacts of the link was undertaken by GTA, showing the following relative daily volumes on relevant roads.

**Table 4.2 – North South Link – Modelled Daily Volumes (GTA)**

Road	Daily Volumes without Link	Daily Volume With Link	Difference
Millers Road	43,480	41,020	-2,460
Melbourne Road	33,190	32,660	-530
Blackshaws Road	11,300	12,160	+860
New St Extension	-	7,390	+7,390

- 4.6.4 It is considered that, in transport planning terms, the retention of the option for the future provision of a north south link is appropriate, providing the opportunity to establish a north south route and to reduce traffic pressure on Millers Road and Melbourne Road.
- 4.6.5 The route, if established, would benefit north south movements within the broader region but the establishment of the route should not be a prerequisite for the proposed development of Precinct 15.

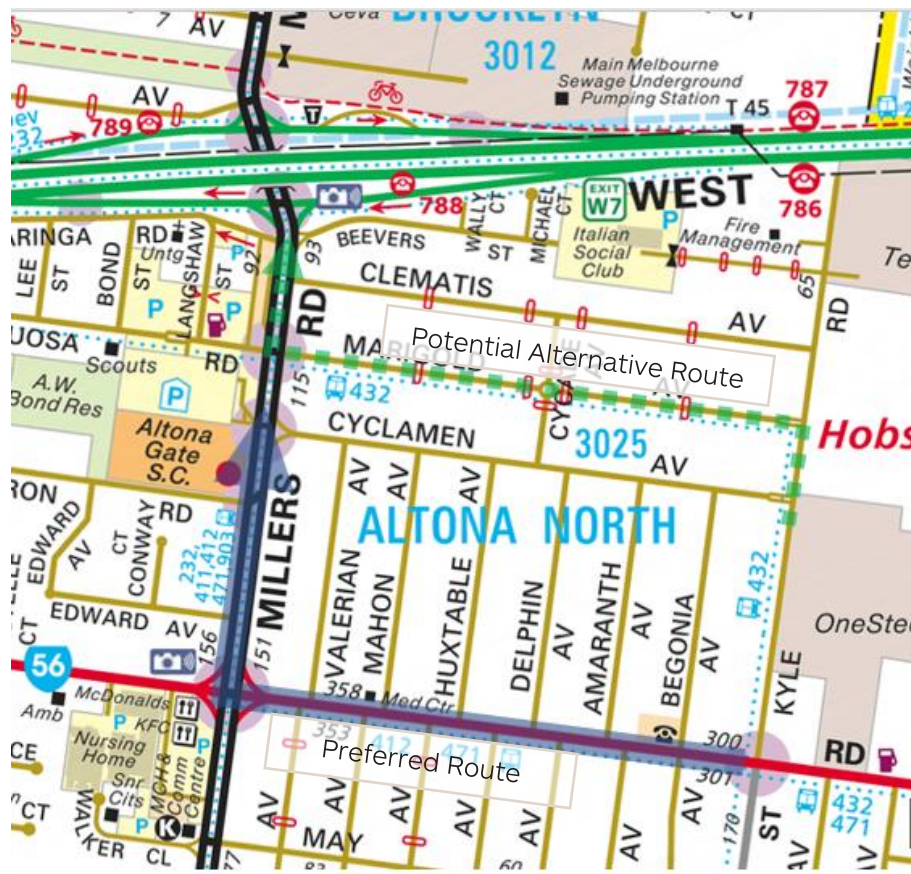


## 4.7 Local Traffic Impacts

- 4.7.1 Whilst the street network has been designed to encourage traffic to utilise the arterial road network, there is the potential for traffic to seek to use the local road network in preference to save time and/or avoid congestion.

### Marigold Avenue

**Figure 8: Potential alternative route via Marigold Street instead of Blackshaws Road**

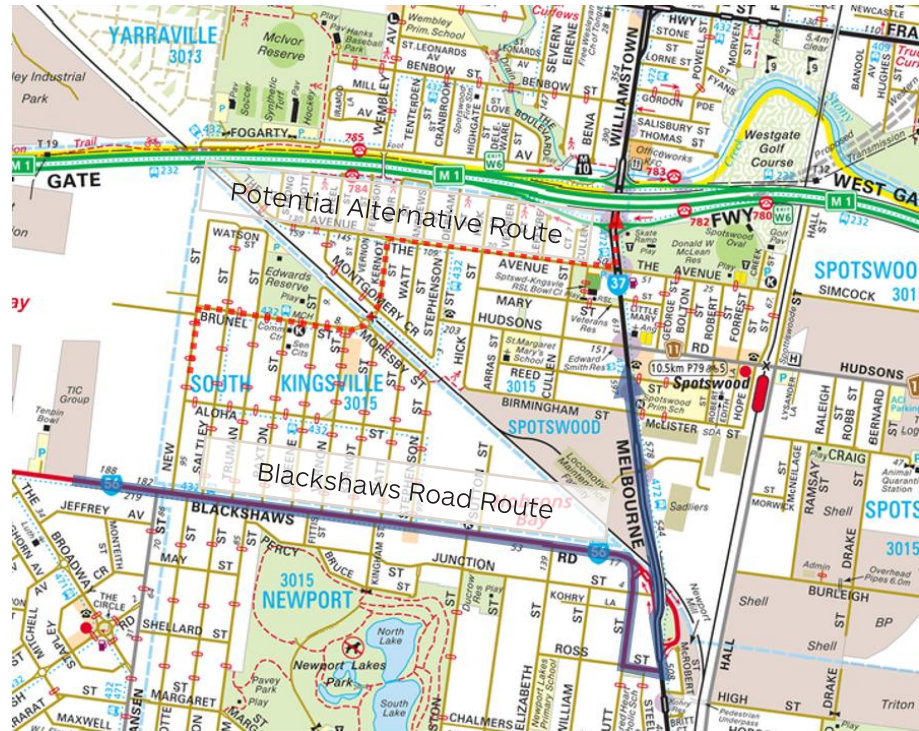


- 4.7.2 Marigold Avenue provides direct access to Millers Road through a signalised intersection catering for all movements.
- 4.7.3 During the morning peak there is limited capacity for traffic to turn right out of Marigold Avenue, as reflected by the long delays modelled by GTA (up to 7 minutes). Traffic turning right out of Blackshaws Road are estimated by GTA to experience much lesser delays of 3 minutes. On this basis, Blackshaws Road is likely to be used in preference to Marigold Avenue during the morning peak.
- 4.7.4 Outside of the morning peak period, the constraint to right turn movements is reduced. During the afternoon peak, traffic returning to the site from Millers Road will turn left into Marigold Avenue. Therefore, Marigold Avenue will be used by some traffic generated by the site. GTA have modelled Marigold Avenue to carry in the order of 4,300 vehicles per day in future, which is an increase in the order of 2,400 vehicles per day from what it currently carries. I agree this is a reasonable estimate of the likely increase in traffic along this route.
- 4.7.5 At present, Marigold Avenue has an approximate 7.0m carriageway width with unrestricted parking permitted along its length on both sides of the

road. Given the estimated increase in traffic, some consideration should be given to introducing traffic management that seeks to balance parking with a need for two-way passing opportunities.

### Brunel Street

- 4.7.6 Traffic seeking to gain access to Melbourne Road from the precinct has two options as presented in the figure below.
- 4.7.7 Blackshaws Road provides a route via Schutt Street and Ross Street. Brunel Street provides an alternative route via Kernot Street and The Avenue which provides a left turn slip lane access onto Melbourne Road.



- 4.7.8 The modelling results in the 2016 ITS suggest very minimal increases in traffic along the alternative route, with the left turn out movement from The Avenue to Melbourne Road shown to remain at current levels in the morning peak. This was reported in the 2016 ITS to be due to the left turn out movement from The Avenue having no more capacity to support additional movements. In addition, the 2016 ITS suggests that Melbourne Road will become less attractive in the future once the Western Distributor is built. Despite Melbourne Road not having access to the future West Gate Tunnel, many traffic movements are still likely to seek access to the West Gate Freeway from Melbourne Road to access areas to the east of the Yarra River, including the south-eastern suburbs.
- 4.7.9 I would therefore expect some traffic from the precinct to seek access to Melbourne Road to gain access to the West Gate Freeway. Some of this traffic may seek to use Brunel Street to access Melbourne Road via The Avenue given that it provides a more direct compared to Blackshaws / Ross Street route.

## 4.8 Mode Shift Considerations

### Works to Facilitate Mode Shift

- Pedestrian crossing facilities on most approaches to the two proposed signalised intersections along Blackshaws Road
- A shared path connection to the Federation Trail along the southwest side of the freight line from Watson Street
- Mixed traffic bicycle facilities along the length of Cyclamen Avenue, and supporting crossing treatments of Kyle Road and Millers Road
- Mixed traffic bicycle facilities along the length of Aloha Street, and supporting crossing treatments of New Street and Stephenson Street
- On-road bicycle lanes on The Broadway between Blackshaws Road and Hansen Street with mixed traffic bicycle facilities through the roundabout intersections.
- Advocate for a local bus route service through Precinct 15 that connects with Spotswood Station
- Detectors in up or down stream bus stops of the proposed signalised intersections on Blackshaws Road and as part of the re-programming of the Millers Road / Blackshaws Road intersection
- Advocate for in lane bus stops on local roads, which will also provide a local area traffic calming measure.

- 4.8.1 A number of DCP works are identified that are aimed at reducing the proportion of vehicle drivers and increasing the proportion of travel by public and active transport as set out in the table below.

**Table 4.3: CIA model travel mode share vs ITS mode targets**

Mode	CIA model	ITS target
Car / Truck Driver	58%	53% (-5%)
Car Passenger	26%	24% (-2%)
Public Transport	12%	18% (+6%)
Active Transport	4%	5% (+1%)

- 4.8.2 If the targets are achieved, the traffic impacts of the proposal on the surrounding road network will be reduced. The projects identified above will assist in achieving the targets and are therefore supported.