

# Cardinia Creek South, Part 2 - Precinct Structure Plan

This report provides a Transport Network Assessment for Part 2 of the Cardinia Creek South Precinct Structure Plan (PSP), to confirm the ability of the proposed transport network to support its development.

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City of Casey

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## Acknowledgment of Country

Stantec would like to acknowledge the Traditional Owners of the lands on which this report was prepared, the Wurundjeri people of the Kulin Nation. We pay our respect to their Elders past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples.



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## Cardinia Creek South, Part 2 - Precinct Structure Plan

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## Executive Summary

Cardinia Creek South, Part 2 - Precinct Structure Plan (PSP) is an area of the Cardinia Creek South PSP that was excluded from Amendment C221 pending a decision on the inclusion of it as a regional park. Part 2 is expected to integrate with and form an extension of Part 1 of the Cardinia Creek South PSP, with a mix of residential, open space and drainage uses.

This report provides a transport assessment of Part 2 precinct and builds on the 2015 strategic transport modelling completed for Part 1 of the PSP. It confirms the suitability of the 2015 modeling, having regard for 2025 conditions and the latest available version of the State-wide Victorian Integrated Transport Model (S-VITM). A first-principles approach to traffic generation was undertaken in conjunction with the network assignment based distribution flows extracted from S-VITM.

Part 2 will deliver two development parcels (95 and 125 McCormacks Road) totaling 1,320 dwellings (1,153 standard density and 167 medium density). The yield is expected to generate approximately 10,400 vehicles per day (vpd) to the network (50% inbound, 50% outbound) that would be distributed through the internal network and via Alexander Boulevard, Hardys Road, McCormacks Road (West) and McCormacks Road (East).

A number of critical links were identified and considered against their theoretical capacities to confirm their ability to accommodate the generated traffic and are summarised as follows:

- **Part 2 Connector:** Anticipated to accommodate 7,753 vpd at its northern end and 2,640 vpd at its southern end. Given the level of conservatism with all dwellings associated with Part 2 assumed to gain access via the internal connector and not use the various other local streets connecting with Part 1, it is expected to operate in a satisfactory manner.
- **Alexander Boulevard:** Anticipated to accommodate 20,612 vpd at its northern end, which is consistent with its classification as an arterial road and the provision of four through traffic lanes.
- **Hardys Road (West):** Anticipated to accommodate 10,741 vpd as it approaches Smith Lane, which exceeds the theoretical capacity of 7,000 vpd for a connector street.
- **Hardys Road (East):** Anticipated to accommodate 12,950 vpd on approach to Alexander Boulevard adjacent to the proposed local town centre, which exceeds the theoretical capacity of 7,000 vpd for a connector street.
- **McCormacks Road:** Anticipated to accommodate up to 6,249 vpd, which is less than its theoretical capacity of 7,000 vpd, so it is expected to operate in a satisfactory manner.

Based on the assessment, the following risks and mitigation measures have been identified:

- **Part 2 Connector:** Monitor volumes; support local street permeability with Part 1 to avoid exceeding connector thresholds.
- **Staging:** The upgrade of McCormacks Road and its connection to the southern end of the connector street in Part 2 is not required until 66% of lots are delivered.



- **Active Transport and VPA Targets:**

- » Ensure that the Part 2 Connector Street is bus capable.
- » Provide footpath connections along the eastern edge of Part 2 to maximise the proportion of its residents within 800m of the proposed education and community facilities in Part 1.

The proposed transport network is suitable and will be able to accommodate the anticipated traffic demand from Part 2 with the minor targeted interventions outlined.



# **1 Introduction**

## **1.1 Background**

The Cardinia Creek South (formerly McPherson) PSP was approved by the Minister for Planning in December 2018 and gazetted in January 2019 under [Amendment C221](#) to the Casey Planning Scheme. An area of the Cardinia Creek South PSP was excluded from Amendment C221 pending a decision on the inclusion of it as a regional park. Now that an alternative site for the regional park has been confirmed, City of Casey and the Department of Transport and Planning (DTP) are working together to identify any required updates to the existing PSP and Amendment C221, informing the development of the excluded area.

The excluded area is referred to as Part 2, with the area covered by Amendment C221 is referred to as Part 1 of the Cardinia Creek South PSP. Part 2 is expected to integrate with and form an extension of Part 1 of the Cardinia Creek South PSP, with a mix of residential, open space and drainage uses.

Stantec has now been engaged by the City of Casey to complete an assessment of the proposed transport network for the Cardinia Creek South PSP given the additional development associated with Part 2 that was not included as part of Part 1.

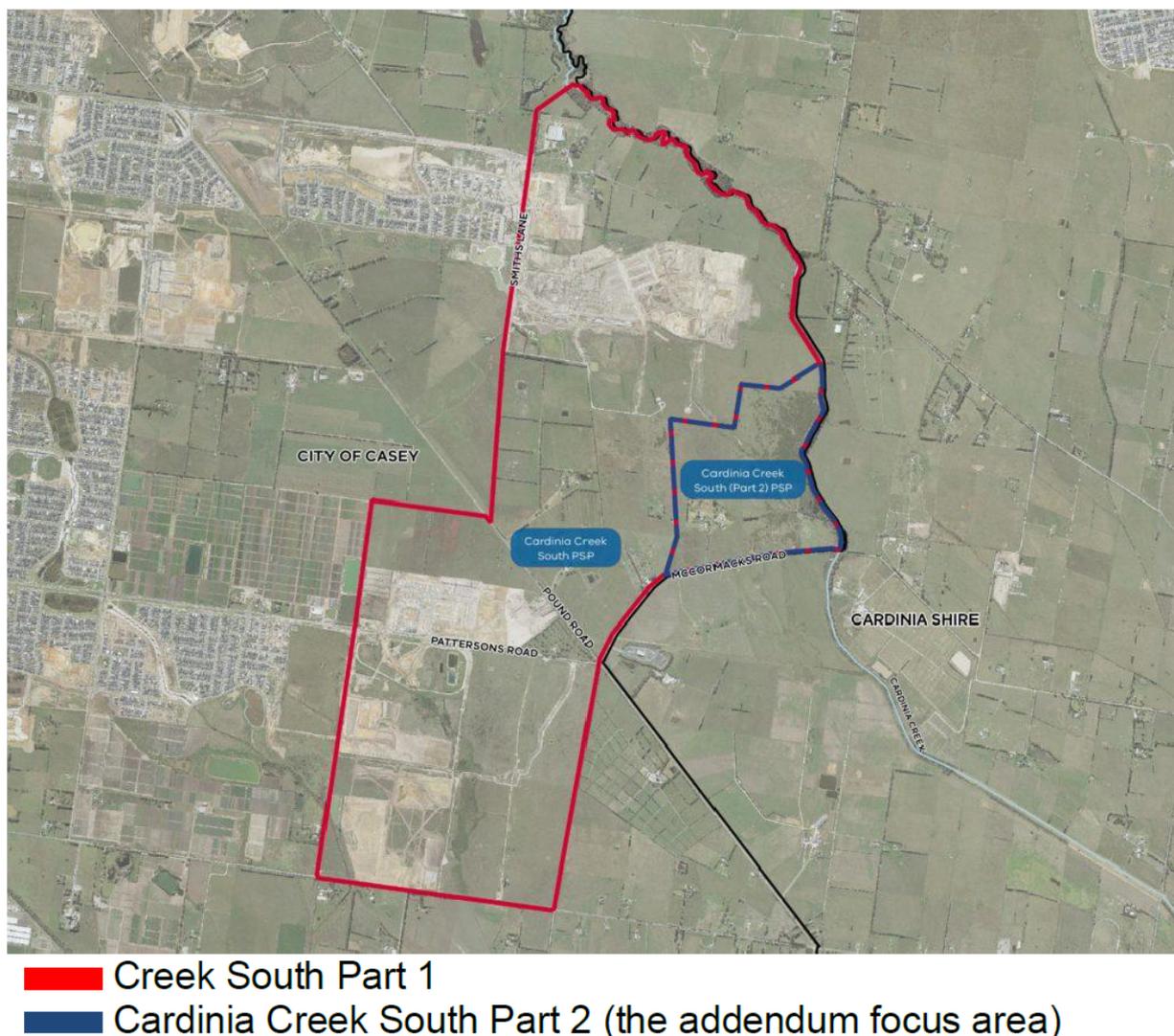
## **1.2 Study Area**

The Cardinia Creek South PSP is located on the southeast boundary of Melbourne's urban growth boundary and approximately 8km east of Cranbourne.

As shown in Figure 1-1, Part 2 covers 104 hectares and is located on the eastern side of Part 1 of the Cardinia Creek South PSP, with McCormacks Road along its southern side and Cardinia Creek along its eastern side. Part 1 covers 848 hectares with 600 hectares of Net Developable Area (NDA) and is generally bounded by Cardinia Creek to the north, Ballarto Road to the south, Smiths Lane and the future Bells Road to the west, and Muddy Gates Lane, McCormacks Road and Cardinia Creek to the east.



Figure 1-1 Part 1 & 2 of the Cardinia Creek South PSP



### 1.3 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of Part 2 of the Cardinia Creek South PSP, including consideration of the following:

- Current planning context informing how the area is expected to develop
- Set out the proposed development and network arrangements associated with Part 2
- Review the Part 1 transport modelling assessment and ability to utilise it to assess Part 2
- Determine the likely impact and ability for the proposed transport network to support the Part 2
- Identification of any transport network implications and recommendations to the PSP.

Engagement with each level of government and the developers of Part 2 has occurred through the development of this report, ensuring that all inputs are considered to and information are the most relevant at the time of preparing it.



## **1.4 References**

In preparing this report, reference has been made to the following:

- Casey Planning Scheme
- Amendment C221 and supporting documentation (refer to VPA [site](#))
- Plans for the proposed development parcels for Part 2 of the PSP
- S-VITM (version: VITM25\_V1\_03), as provided by the DTP
- An inspection of the site and its surrounds
- Other documents as nominated



## 2 Policy & Planning Context

There are a number of key State and Local Government documents applicable to Part 2 of the Cardinia Creek South PSP, which provide guidance on how the area is expected to develop over the coming decades. Those that are most relevant to this transport network assessment of Part 2 are as follows (which are focused on Part 1):

- Cardinia Creek South PSP
- Cardinia Creek South Infrastructure Contributions Plan (ICP)
- Strategic Transport Modelling Assessment

These are discussed and summarised below, along with other relevant documents in Table 2-2.

### 2.1 Cardinia Creek South PSP

The Cardinia Creek South [PSP](#) – Part 1 was prepared in March 2018 by the Victorian Planning Authority (VPA). It sets out the vision for how the non-urban land should be developed into a quality urban environment. It does this by illustrating the future urban structure and describes the associated outcomes to be achieved, through a set of objectives, requirements and guidelines for land use, development and subdivision.

In terms of the vision for the Part 1 of the Cardinia Creek South PSP, it is stated as being the following:

*“Cardinia Creek South PSP will deliver a discrete, walkable neighbourhood within a sustainable riverine environment. The strong open space trail network, bookended by Cardinia and Clyde Creeks, will create a distinct, cohesive, urban character. Benefitting from the adjacent Thompsons Road business investment and state significant industrial precinct in Cardinia, the future community will have broad ecological, social and economic regional connections.*

*The precinct will ultimately support a residential community of approximately 10,030 dwellings and a population of around 28,100 people, and deliver around 1,600 local jobs.*

*The future urban structure for Cardinia Creek South reflects the residential nature of the precinct, and provides for the protection of biodiversity and heritage values in the area. The prominent landform of the region, Cardinia Creek, forms the pivotal riparian, recreational and environmental corridor in this future urban area.*

*The significant biodiversity that exists within Cardinia Creek has been recognised through the conservation and enhancement of the Growling Grass Frog (GGF) habitat area. Planning for the PSP has integrated stormwater drainage design, open space and trail networks with opportunities for GGF breeding ponds and foraging areas. The GGF conservation areas along Cardinia Creek and Clyde Creek will also provide sub-regional locations for the preservation of Aboriginal cultural heritage sites.”*

To help realise the above vision and guide the land use and development, a series of objectives, requirements and guidelines have been set for the following elements:

- Image, character, heritage and housing
- Town centres and employment
- Open space, community facilities and education
- Biodiversity, threatened species and bushfire management
- Transport and movement (discussed further below)



- Integrated water management and utilities
- Precinct infrastructure plan and staging.

Under the transport and movement element the following objectives have been set, with the associated requirements and guidelines summarised thereafter.

**Transport & Movement Objectives:**

- O16 - Establish an integrated and permeable transport network that encourages public transport use, walking and cycling, reduced car dependency and maximises safety and connectivity for all road users.
- O17 - Encourage a high-amenity street network by integrating natural and heritage features in street alignments and design.
- O18 - Create a range of off-street pedestrian, cycle and equestrian links that promote the use of existing utility easements and waterways as green transport links.
- O19 - Provide strong external connections to the surrounding transport network to foster accessibility of the precinct.
- O20 - Ensure that development adjoining Thompsons Road does not affect its function within the Principle Freight Network and is appropriately designed to protect urban amenity.

**Transport & Movement Requirements:**

- Streets – regarding cross-sectional elements and variations to them, property access management approaches, and interfaces with sensitive lanes uses and biodiversity.
- Public Transport – indicating the design requirements for the streets to be bus capable, as well as the integration of stops with activity centres and their accessibility to residential catchments.
- Walking and Cycling – outlining the general design requirements of the walking and cycling facilities, including the types of facilities within given environments and priorities at intersections.

**Transport & Movement Guidelines:**

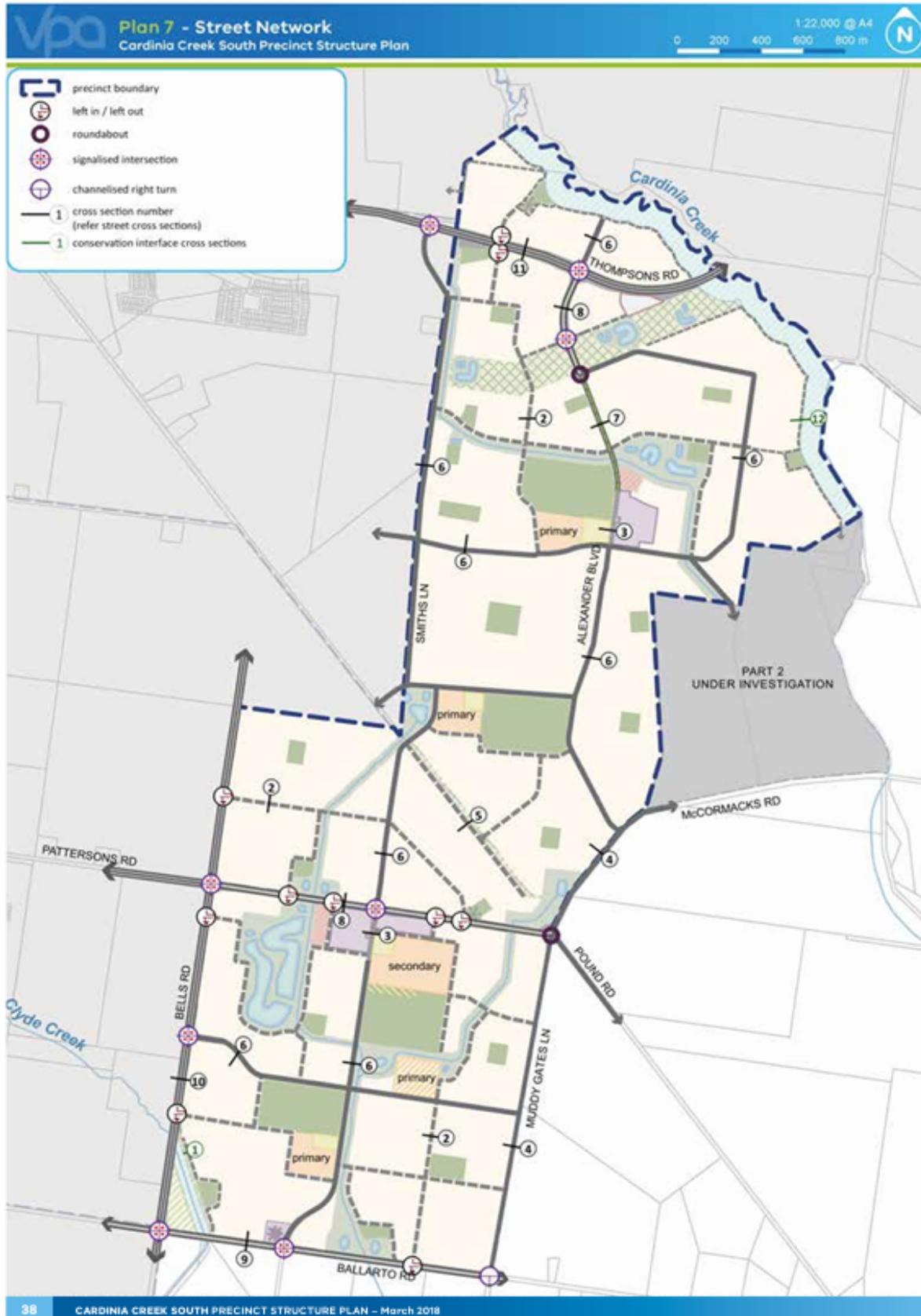
- Streets – regarding desired levels of network accessibility, permeability and safety, as well as design approaches for some specific treatments and interfaces.
- Walking and Cycling – providing guidance around lighting, desired cyclist speeds and crossing intervals of waterways.

The general proposed arrangements for the street network are set out in Figure 2-1, and the public transport and path network set out in Figure 2-2, as taken from the PSP.



**Cardinia Creek South, Part 2 - Precinct Structure Plan**  
 2 Policy & Planning Context

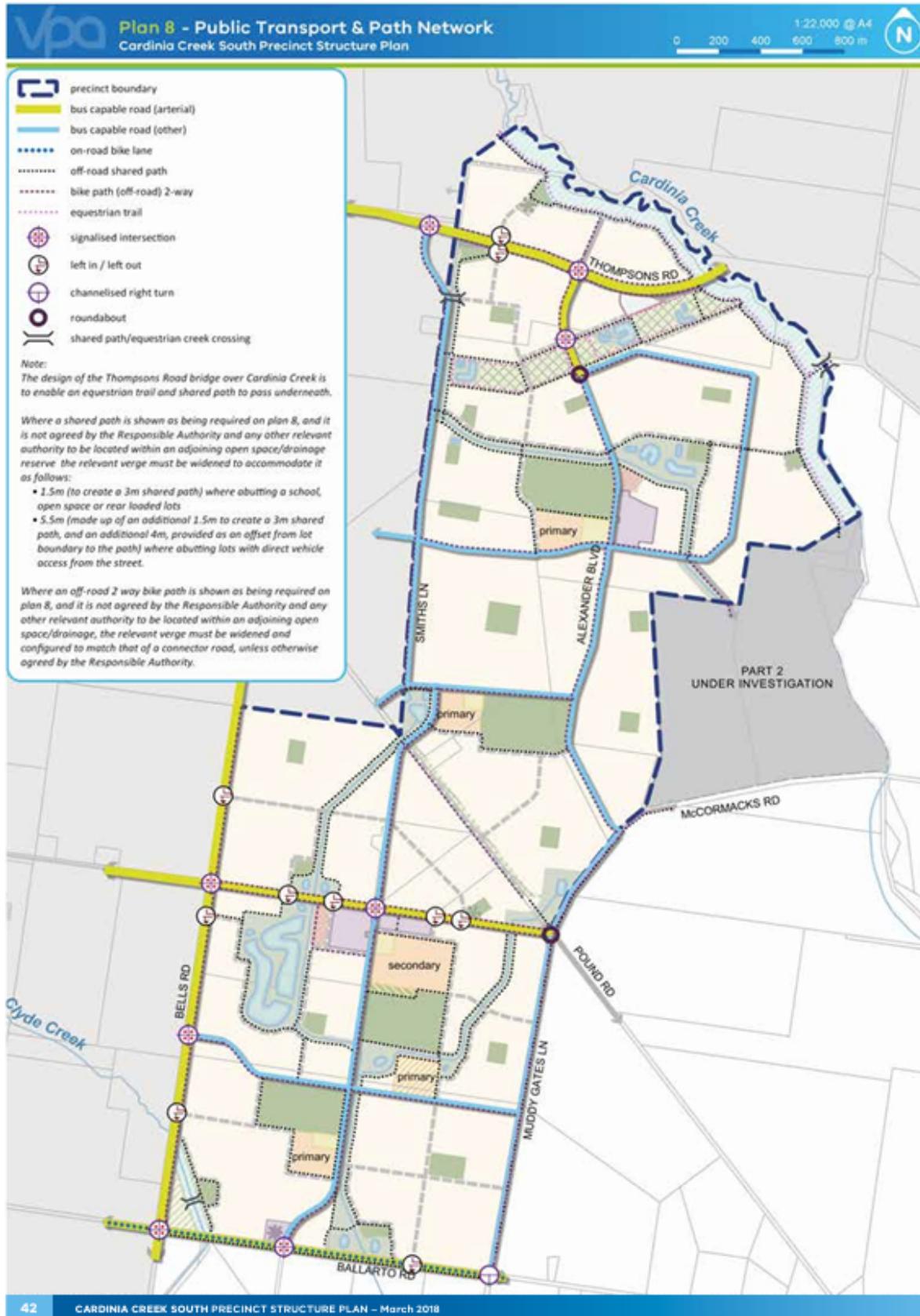
Figure 2-1 Cardinia Creek South PSP – Street Network



# Cardinia Creek South, Part 2 - Precinct Structure Plan

## 2 Policy & Planning Context

Figure 2-2 Cardinia Creek South PSP – Public Transport & Path Network



## 2.2 Cardinia Creek South ICP

The Cardinia Creek South [ICP](#) was prepared in March 2019 by the Victorian Planning Authority (VPA). It is a statutory mechanism to impose infrastructure contributions on development proponents of the Cardinia Creek South PSP. These are in the form of monetary contributions for infrastructure projects and the provision of land for public purposes, as identified through the Cardinia Creek South PSP.

These infrastructure projects and provision of land tend to relate to those of a more shared nature with their need or use generally being by more than those associated with the land being developed by a given proponent. This can even include the need or use by those external to the PSP, which is reflected in the apportionment with some external allocation.

From a transport perspective, the associated infrastructure projects and provision of land relate to all the roads, intersections and bridges required to service the new community associated with the Cardinia Creek South PSP. However, the majority of these are common to and provided as part of each developable proportion of the PSP.

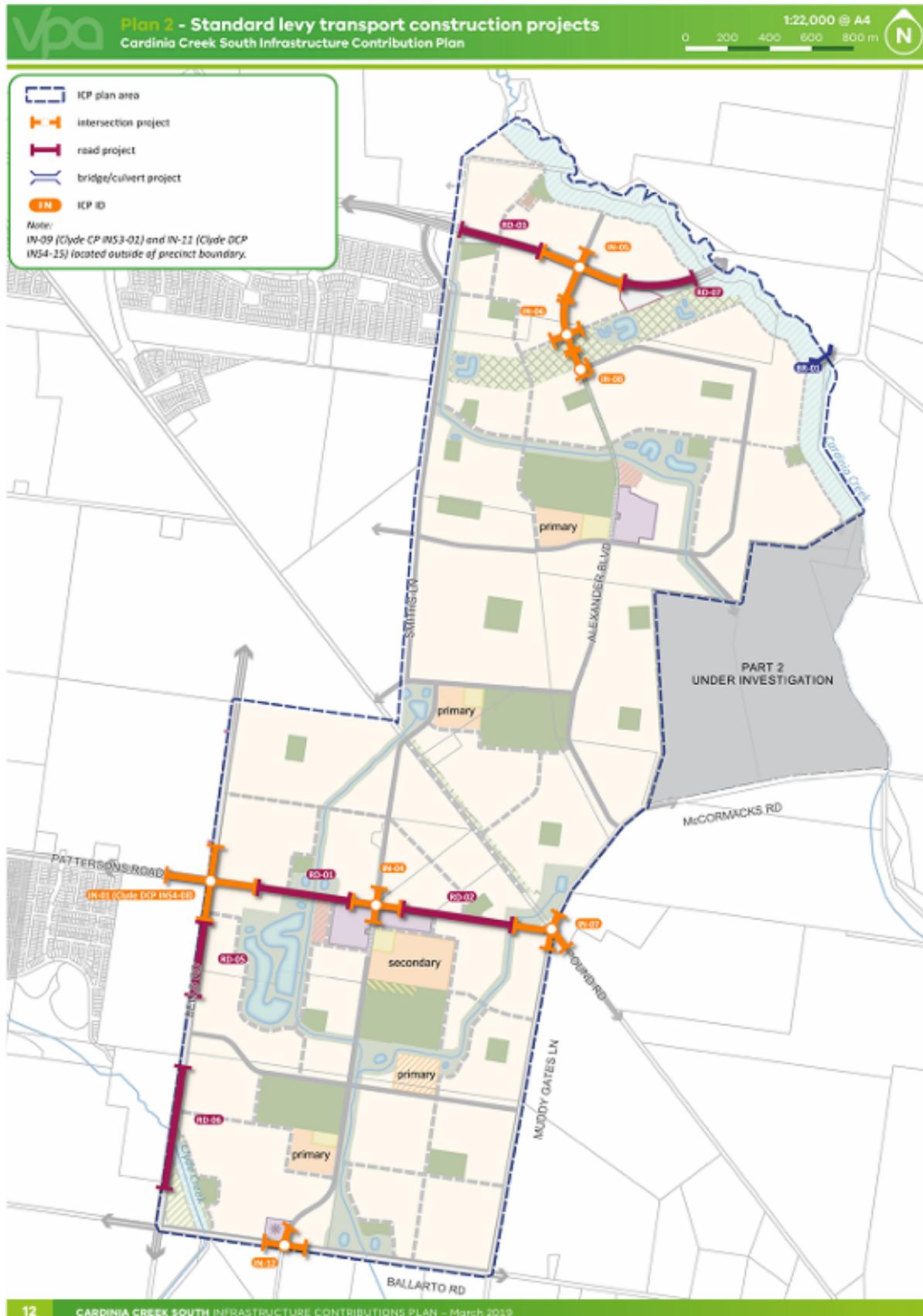
The roads, intersections and bridges that are being funded through the ICP, are listed below and shown in Figure 2-3:

- RD-01 - Pattersons Road: Bells Road to North-South Connector Road
- RD-02 - Pattersons Road: North-South Connector to Muddy Gates Lane/McCormacks Road
- RD-03 - Thompsons Road: Smiths Lane to Alexander Boulevard
- RD-05 - Bells Road: Pattersons Road to Southern Connector Road
- RD-06 - Bells Road: South Connector Road to Ballarto Road
- IN-01 - Signalised Intersection: Bells Road / Pattersons Road
- IN-04 - Signalised Intersection: Pattersons Road / North-South Connector
- IN-05 - Signalised Intersection: Thompsons Road / Alexander Boulevard
- IN-06 - Signalised Intersection: Alexander Boulevard / Key Local Access Street
- IN-07 - Roundabout: Pattersons Road / McCormacks Road / Muddy Gates Lane / Pound Road
- IN-08 - Roundabout: Alexander Boulevard / Connector
- IN-09 - Signalised Intersection: Thompsons Road / Berwick– Cranbourne Road
- IN-11 - Signalised Intersection: Berwick Cranbourne Road / Ballarto Road
- IN-12 - Signalised Intersection: Ballarto / North Connector
- BR-01 - Shared Pedestrian/ Bicycle/ Equestrian Bridge: Over Cardinia Creek and connect to Banjo Place.



**Cardinia Creek South, Part 2 - Precinct Structure Plan**  
 2 Policy & Planning Context

Figure 2-3 Cardinia Creek South ICP – Transport Construction Projects



## 2.3 Strategic Transport Modelling Assessment

A [Strategic Transport Modelling Assessment](#) of the Cardinia Creek South PSP was prepared in August 2015 by Cardno Victoria for the Metropolitan Planning Authority (MPA). It involved the use of the Victorian Integrated Transport Model (VITM) to undertake strategic transport modelling that included the following three PSPs within the South East Growth Corridor:

- McPherson (now referred to as the Cardinia Creek South – Part 1) PSP
- Croskell (employment) [PSP](#)
- Minta Farm [PSP](#)

The strategic transport modelling assessment utilised the most recent available version of the VITM at the time of the project (developed by AECOM for the Thompsons Road, Clyde Creek and Casey Fields South PSPs). It was updated based on the draft Urban Structures provided by the MPA for the three PSPs to consider their ability to support the interim (2026) and ultimate (2046) traffic volumes on the internal and connecting road network.

In terms of these two future design year scenarios, the following is noted:

- **Interim (2026) design year:** this related to the full development of the PSPs and +10 years of background traffic growth. This scenario was utilised to inform the intersection works included in the ICPs. The resulting traffic volumes or any associated mid-block and intersection analysis was not included in the strategic transport modelling assessment report.
- **Ultimate (2046) design year:** this related to the full development of the PSPs and +30 years of background traffic growth. This scenario was utilised to inform the ultimate road reservations requirements (including flaring requirements at intersections). The resulting traffic volumes and consideration of the mid-block capacities were included in the strategic transport modelling assessment report, but no intersection analysis was included in the strategic transport modelling assessment report.

The development yield adopted as part of the strategic transport modelling assessment for the McPherson (now referred to as the Cardinia Creek South – Part 1) is set out in Table 2-1.

Table 2-1 McPherson PSP – Modelled Development Yield

Population	Households	Enrolments	Retail Jobs	Non-Retail Jobs	Total Jobs
35,005	12,502	2,453	667	375	1,042

The modelled development yields set out in Table 2-1 are meaningfully higher than those indicated in the Cardinia Creek South PSP – Part 1, as set out in Section 2.1. The associated differences are summarised as follows:

- **Population:** PSP indicates there will be a 28,100 resident population, when the modelling adopted a 35,005 resident population, which is an additional 6,905 (+25%) residents.
- **Households:** PSP indicates there will be 10,030 dwellings (11.8 dwellings/ha or 16.7 dwellings/hectares of NDA), and the modelling adopted 12,502 dwellings (14.7 dwellings/ha or 20.8 dwellings/ hectares of NDA), which is an additional 2,472 (+25%) dwellings.



- **Jobs:** PSP indicates there will be 1,600 jobs, and the modelling adopted 1,042 jobs, which is a reduction of 558 (-35%) jobs.

The implication of the above differences in yields between the PSP and modelling is that the modelling has assumed a **higher** generation in the overall traffic volumes that will be generated by the PSP.

While this difference and other associated transport modelling matters are considered further in Section 4 and 5, the strategic transport modelling assessment concluded that the majority of the ultimate traffic volumes within the PSP are able to be suitably managed by the proposed internal street network. There were a few isolated locations associated with the connector level streets that exceeded their targeted maximum volume of 7,000 vehicles per day (vpd), at the following locations:

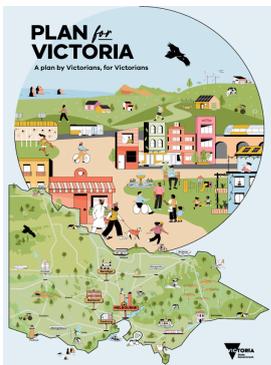
- Hardys Road on the approach to Smiths Lane. The report indicated that this would need additional capacity at the intersection, which is expected to be considered as part of the future development of the intersection layout.
- The Alexander Boulevard on the south approach to Thompsons Road. The report indicated that this would require additional mid-block capacity or measures to increase the use of Smiths Lane. This section of Alexander Boulevard is indicated as a four-lane arterial road in the PSP between Thompsons Road and the southern extent of the utility’s easement, which is consistent with the section that has now been constructed.

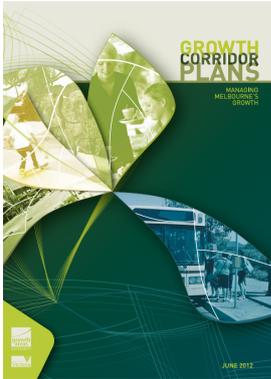
No explanation is provided in the publicly available documentation on why there are the above differences in the development yields. While it is common for the development yields to change through the preparation of the PSP, and that modelling is an input to the development of the PSP.

## 2.4 Other Planning Documents

There are a range of other planning documents that inform the development of the Cardinia Creek South PSP. Table 2-2 provides a summary review of the documents most relevant to its development.

Table 2-2 Other Planning Documents Summary Review

Document	Description	Implications
<b>State Planning Documents</b>		
<p><b>Plan for Victoria</b></p> 	<p><b>Plan for Victoria</b> was formally released in February 2025 and replaces Plan Melbourne 2017-2050. The document presents an updated, long term and statewide strategic planning framework that outlines how Victoria will grow and evolve. It is designed to guide and integrate development and decision-making across the state, including metropolitan Melbourne, regional cities, and rural communities. The plan is based on the vision below and structured around the five supporting pillars: <b>Vision:</b> By 2050, Victoria will be a vibrant, accessible and connected community, valued for its diverse</p>	<p>Plan for Victoria provides strong strategic support for the Cardinia Creek South PSP, along with the rest of Melbourne’s growth areas, based on the ‘Housing for all Victorians’ pillar. This is on the back of the ambitious housing targets that have been set across Victoria, including 58,500 new dwellings in greenfield areas of the 87,000 new dwellings to be accommodated within the City of Casey. This legislative requirement means an expectation of slightly higher density than previously forecast, which will generate an increased demand and impact on the transport network.</p>

Document	Description	Implications
	<p>cultures, sustainable environmental practices and respect for the First Peoples of Victoria.</p> <p>Building a state that provides choices and opportunities for current and future generations of Victorians in quality housing, transport, employment, environment and connectivity will require input from the community, government, local businesses and industry alike.</p> <p>We will create a society that caters to the unique needs of all Victorians, nurturing individual health through physical and cultural recreation.</p>	<p>Plan for Victoria also provides a series of actions, with the ones focusing on this pillar being the following:</p> <ul style="list-style-type: none"> <li>• Implement housing targets for every local government area (as indicated above)</li> <li>• Implement new planning controls to streamline planning in activity centres</li> <li>• Carefully manage the outward sprawl of regional cities and towns</li> <li>• Increase the number of social and affordable homes</li> <li>• Match car and bike parking requirements and bike facilities with demand</li> <li>• Update the Better Apartments Design Standard and the Apartment Design Guidelines for Victoria.</li> </ul>
<p><b>Growth Corridor Plans: Managing Melbourne's Growth</b></p> 	<p>The Growth Corridor Plans, developed by the VPA in 2012, provide a broad land-use framework for Melbourne's Northern, Western and South East metropolitan growth corridors. They aim to manage urban expansion while protecting areas of environmental and landscape significance.</p> <p>Key functions of these plans include:</p> <ul style="list-style-type: none"> <li>• Defining areas suitable for residential, industrial, business, and town centre development.</li> <li>• Protecting high-value landscapes, biodiversity, and waterways.</li> <li>• Planning for an integrated open-space network that supports recreation and community amenity.</li> <li>• Identifying strategic transport infrastructure to ensure residents can access jobs, services, and diverse transport options.</li> </ul>	<p>The South East Growth Corridor Plan includes the Cardinia Creek South PSP. While there is limited specific detail associated with it in the South east Corridor Plan, the following is noted in relation to it:</p> <ul style="list-style-type: none"> <li>• Cardinia Creek Regional Park was proposed to be located within Part 2 (this has now been relocated)</li> <li>• Two local neighbourhood centres were proposed to be located within the PSP, one towards Thompsons Road and the other aligned with Pattersons Road.</li> <li>• Major industrial and commercial precincts are to be located to the east of Cardinia Creek (Officer South PSP) and to the west as part of Clyde North.</li> <li>• It will be located halfway between two future metropolitan rail lines, so is expected to be supported by bus services.</li> </ul>
<p><b>South East Economic Corridor Strategic Context Report to 2060</b></p>	<p>With there being state and regionally significant employment precincts, an employment and innovation area, health and education precincts, activity centres and future PSPs in Melbourne's south east, the South East Economic Corridor Strategic Context Report to 2060 (SEEC) aims to support, guide and maintain the region as one of Australia's most</p>	<p>As the SEEC is generally focused on employment and commercial land, the Cardinia Creek South PSP and the other adjacent residential focused PSPs will provide a high proportion of the people that will work and purchase goods from them. To enable this and see the are transition from a growth area to an established economy, the SEEC indicates that strong transport</p>

**Cardinia Creek South, Part 2 - Precinct Structure Plan**  
 2 Policy & Planning Context

Document	Description	Implications
	<p>economically significant and diverse regions.</p> <p>While the SEEC does not constitute adopted Government policy, it provides and evidence base to inform policy development decisions by relevant government bodies and departments.</p>	<p>connections between residential areas, activity centres and employment, as well as between employment places is needed. A key public transport corridor in this regard will be Thompsons Road, which will connect Officer South to the residential areas to the east, including the Cardinia Creek South PSP.</p>

**City of Casey Strategic Documents**

**Vision for Remaining Growth Areas**



The City of Casey's Vision for Remaining Growth Areas is a strategic plan guiding the planning and development of its growth areas. The vision aims to:

- Create a liveable city that aligns with its Smart City Strategy.
- Encourage innovative planning approaches that respond to community needs.
- Facilitate housing diversity and affordability.

The Vision is focused on the remaining PSPs to be developed within the City of Casey. The Cardinia Creek South PSP has already been prepared, with Part 2 to be considered as an amendment. In any event, the delivery of the PSP should align with the principle's set out in the Vision, which include the following from a transport perspective:

- Improve access to local employment
- Support early delivery of public transport infrastructure and high quality, connected active transport network.

**Streets Ahead – Integrated Transport Strategy**



City of Casey prepared the Streets Ahead - Integrated Transport Strategy in 2018. It aims to create a connected city where everyone can work, live, and thrive. The strategy focuses on following four strategic objectives to achieve this vision:

- Establishing 20-minute neighbourhoods
- Enhancing sustainable modes of transport.
- Promoting and creating an efficient transport network
- Adopting a smart city approach

The strategy is evidence based and forward-thinking as it looks to address the significant transport challenges faced by Casey, including the high car ownership rate and projected population growth.

In order for the Cardinia Creek South PSP to align with the ITS, the following should be incorporated:

- Providing every day services and facilities within local catchments to residents
- Identify and prioritise the delivery and movement of sustainable transport network arrangements
- Proactively plan and delivery transport infrastructure and services as they are needed
- Enable and promote smart data collection and real time delivery to users on transport choices.

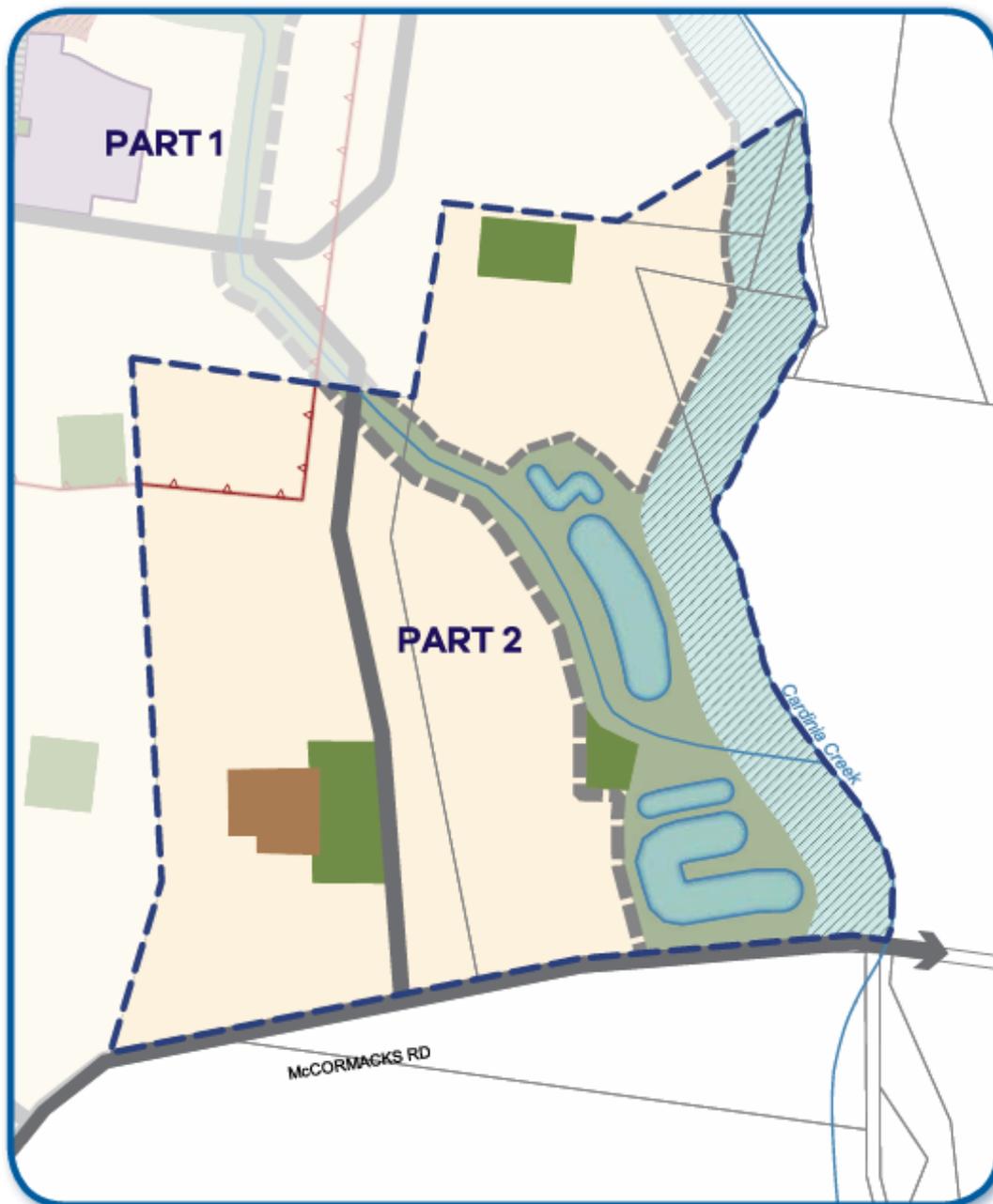


### 3 The PSP (Part 2)

#### 3.1 Urban Structure

The Cardinia Creek South PSP prepared in March 2018 by the VPA included an indicative future urban structure for Part 2, which is reproduced in Figure 3-1. It was noted that Part 2 will be subject to a future amendment pending confirmation on whether it would accommodate a Regional Park and review of the existing Conservation Area 36. Both of these matters have now been suitably investigated, resulting in the future urban structure for Part 2 generally expected to proceed as per Figure 3-1.

Figure 3-1 Indicative Future Urban Structure of Cardinia Creek South Part 2 as per the gazetted PSP



## **3.2 Subdivisional Plans**

Part 2 of the Cardinia Creek South PSP is made up of two development parcels with the following property addresses:

- 95 McCormacks Road
- 125 McCormacks Road

Both of the development parcels have subdivisional plans that have been prepared by their landowners. These discussed in the following subsections, noting that they are subject to change and only considered current at the time of preparing this report.

### **3.2.1 95 McCormacks Road**

The current subdivisional plan for 95 McCormacks Road (western portion of Part 2) covers 40.5 hectares with 36.7 hectares of NDA. It will accommodate 731 standard density residential lots and 18 medium density residential lots, resulting in 18.5 lots/ha or 20.4 lots/ hectares of NDA.

These lots will be mainly accessed via the north-south connector through Part 2, extending between McCormacks Road to the south and across Cardinia Creek to the north (integrating with Part 1 at the Hardys Road / Burnbank Parade intersection). There is also some limited access possible via the local street network in Part 1 at the northern end of the development parcel, and some local streets associated with Part 2 connecting directly with McCormacks Road to the south of the development parcel.

For the purposes of this assessment, all lots within this development parcel will be assumed to gain access via the internal north-south connector. This is considered to be a conservative assumption with it likely overestimating the traffic volumes along the north-south connector. Given the strategic nature of the analysis and the limited benefit in trying to accurately determine the proportion of trips that will use other connecting local roads through a more detailed analysis process, this approach is suitable.

### **3.2.2 125 McCormacks Road**

The current subdivisional plan for 125 McCormacks Road (eastern portion of Part 2) covers 59.1 hectares with 31.2 hectares of NDA. It will accommodate 422 standard density residential lots and 149 medium density residential lots, resulting in 9.7 lots/ha or 18.3 lots/ hectares of NDA.

These lots will be mainly accessed via the north-south connector through Part 2, extending between McCormacks Road to the south and across Cardinia Creek to the north (integrating with Part 1 at the intersection between Hardys Road and Burnbank Parade). There is also some limited access possible via local streets associated with Part 1 to the north of the development parcel, and a local street associated with Part 2 connecting directly with McCormacks Road to the south of the development parcel.

For the purposes of this assessment, as indicated above for 95 McCormacks Road development parcel, all lots within this development parcel will be conservatively assumed to gain access via the internal north-south connector, even though some would be expected to utilise some of the other connecting local roads.

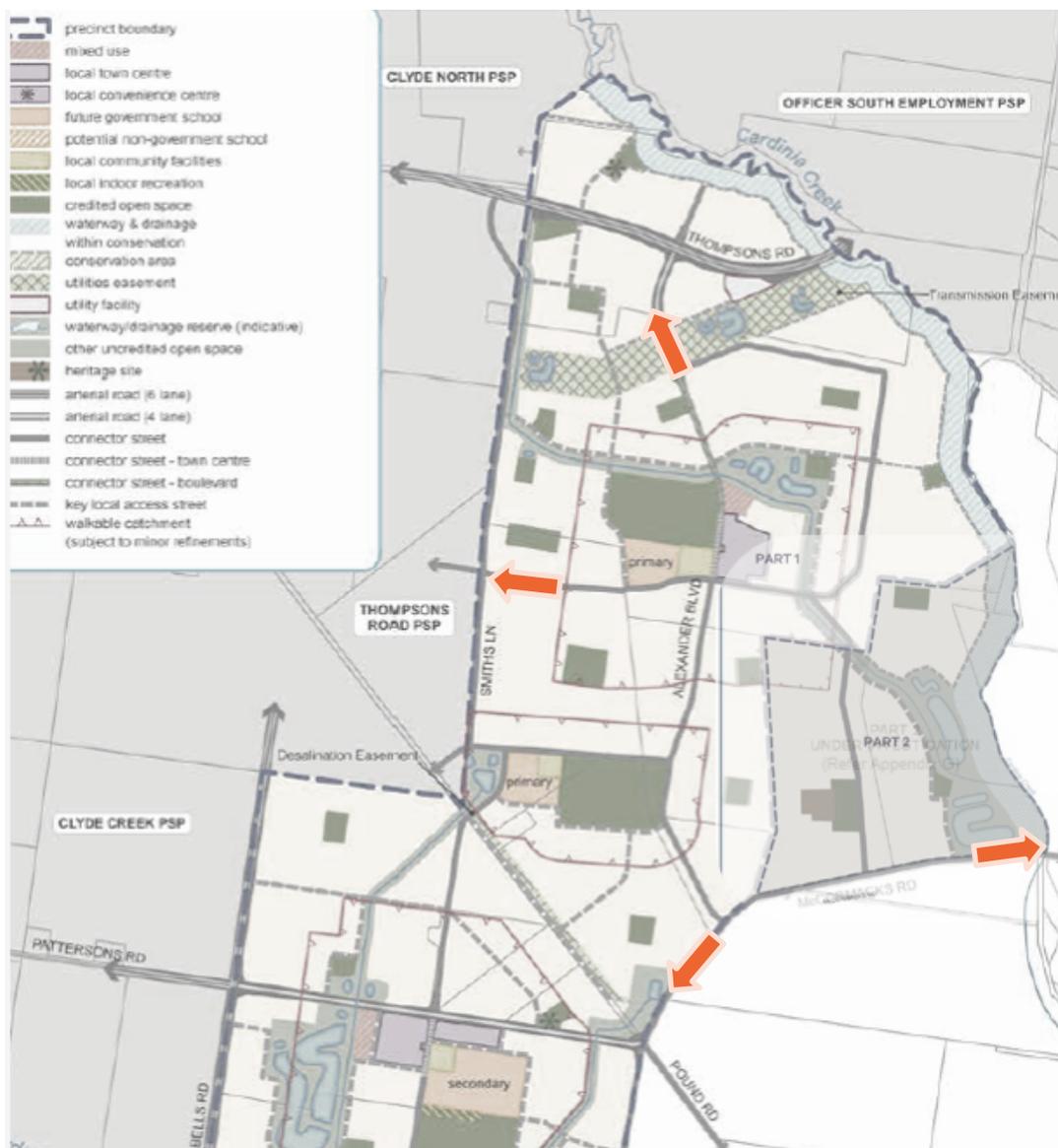


### 3.3 Transport Access

With the understanding of how the Part 2 street network will integrate into the Part 1 street network, Figure 3-2 has been prepared by overlapping the Part 1 and 2 Urban Structures, and identifying the key routes that would provide access to and from the site, namely:

- **Alexander Boulevard:** supporting north/south movements between Thompsons Road and the northern end of the Part 2 connector.
- **Hardys Road:** supporting northeast/southwest movements between Smiths Lane / Bells Road and the northern end of the Part 2 connector.
- **McCormacks Road (east):** supporting east/west movements between Cardinia Road and the southern end of the Part 2 connector.
- **McCormacks Road (west):** supporting northwest/southeast movements between Pattersons Road and the southern end of the Part 2 connector.

Figure 3-2 Part 2 Key Vehicle Access Routes through Part 1



## **4 Part 1 Transport Modelling Review**

### **4.1 Introduction**

The assessment of the impacts of Part 2 of the PSP, outlined in Section 5 of this report, has been completed using a first principles assessment, rather than detailed strategic transport modelling. In this regard, a high-level assessment of the strategic transport modelling completed for the Part 1 PSP was undertaken. The purpose of the review is to:

1. Confirm the suitability of the 2015 modelling assessment completed for the Part 1 PSP, and
2. Confirm the directional distribution of traffic as part of a first principles assessment for Part 2.

In undertaking the assessment, a review of the 2015 modelling was undertaken against the latest version of the State-wide Victorian Integrated Transport Model (S-VITM), which is detailed in the following sections.

### **4.2 S-VITM**

The strategic transport modelling investigations have been completed using the S-VITM. S-VITM is a tool held by the Department of Transport and Planning (DTP) to assist in the planning of road and public transport infrastructure in Victoria. S-VITM is a multimodal strategic model that uses future population, employment and land use data projections to forecast travel behaviour and the impacts of changes to the road and public transport networks. It is important to note that the model is based on mathematical modelling, which provides a simplification of travel behaviour.

### **4.3 Model Review**

At the time of the preparation of the Part 1, the assessment used and further developed the most recent available version of VITM (it was not a state-wide model and only covered metropolitan Melbourne at the time). Given this occurred in 2015, a review of its key inputs and outputs against the latest available version of S-VITM has been undertaken to ensure it is still current and can be built on to inform the assessment of Part 2.

The following is a comparison between the key inputs and outputs of the 2015 modelling and the latest version of the S-VITM, and focuses on the Cardinia Creek South PSP, with limited consideration on the broader future arrangements. The latest version of S-VITM has not been used to assess Part 2 as it does not include suitable detail within the PSP, unlike the 2015 modelling.

#### **4.3.1 Versions**

The model version used as part of the Strategic Transport Modelling Assessment in 2015 was the MPA's South East Growth Corridor VITM model (VITM2012\_V120423\_THOMPSONS\_v2). This model assumes an ultimate development year of 2046 which was the latest statistical horizon at the time of its production.

This review considers the latest available version of S-VITM (VITM25\_V1\_03), which was obtained from DTP. This model now assumes an ultimate year of 2056.



The two ultimate time horizons for both models reflect the full delivery of the network within the growth corridors, and for this particular assessment given the location of the PSP on the edge of the urban growth zone, are considered suitable for comparing model outputs against one another.

### 4.3.2 Land Use Inputs

As indicated in Section 2.3, the Strategic Transport Modelling Assessment in 2015 adopted the ultimate development yields for Part 1 as set out in Table 2-1, totalling 35,005 residents, 12,502 households, 1,042 jobs and 2,453 enrolments.

With the latest available version of S-VITM, it indicates the ultimate development yields for the Cardinia Creek South PSP (Part 1 and 2) will be those set out in Table 4-1.

*Table 4-1 Cardinia Creek South PSP – Ultimate Development Yields (S-VITM, 2025 & 2015)*

Model	Population	Dwellings	People / dwelling	Enrolments	Retail Jobs	Non-Retail Jobs	Total Jobs
2025 S-VITM (Part 1 & 2)	38,744	12,691	3.05	3,522	173	1,879	2,052
2015 Modelling (Part 1)	35,005	12,502	2.80	2,453	667	375	1,042
<b>Difference</b>	<b>3,739</b>	<b>189</b>	<b>0.25</b>	<b>1,069</b>	<b>-494</b>	<b>1,504</b>	<b>1,010</b>

Table 4-1 indicates that the latest available version of S-VITM has marginally higher development yields to those adopted as part of the Strategic Transport Modelling Assessment in 2015, except for the number of retail jobs. Including the 1,153 standard density residential lots and 167 medium density residential lots associated with Part 2 (as set out in Section 3.2) with the development yields adopted as part of the Strategic Transport Modelling Assessment in 2015, a variation of +9% in dwellings is realised between the 2015 (Part 1) modelling and the latest version of S-VITM (Part 1 and 2).

Council has also provided data on the dwellings that have already been delivered within the Part 1 PSP, which is in the order of 19 dwellings/hectare of NDA. These figures are very similar densities to what is being proposed within the two development parcels for Part 2, as outlined in Section 3.2. When we apply a rate of 19 dwellings/hectare to the 668 hectares of NDA expected as part of Part 1 and 2 of the Cardinia Creek South PSP, it results in a total of 12,692 dwellings. This is marginally higher than what was included as part of the 2015 modelling and consistent with the latest available version of S-VITM.

As such, the land use inputs adopted as part of the Strategic Transport Modelling Assessment in 2015 for Part 1 of the PSP are considered to still be relevant and appropriate.

### 4.3.3 Transport Network Inputs

The ultimate transport network adopted as part of the Strategic Transport Modelling Assessment in 2015 for Part 1 of the Cardinia Creek South PSP is presented in Figure 4-1 (the daily one-way traffic volume plot as taken from Appendix E of the 2015 Strategic Transport Modelling Assessment report).

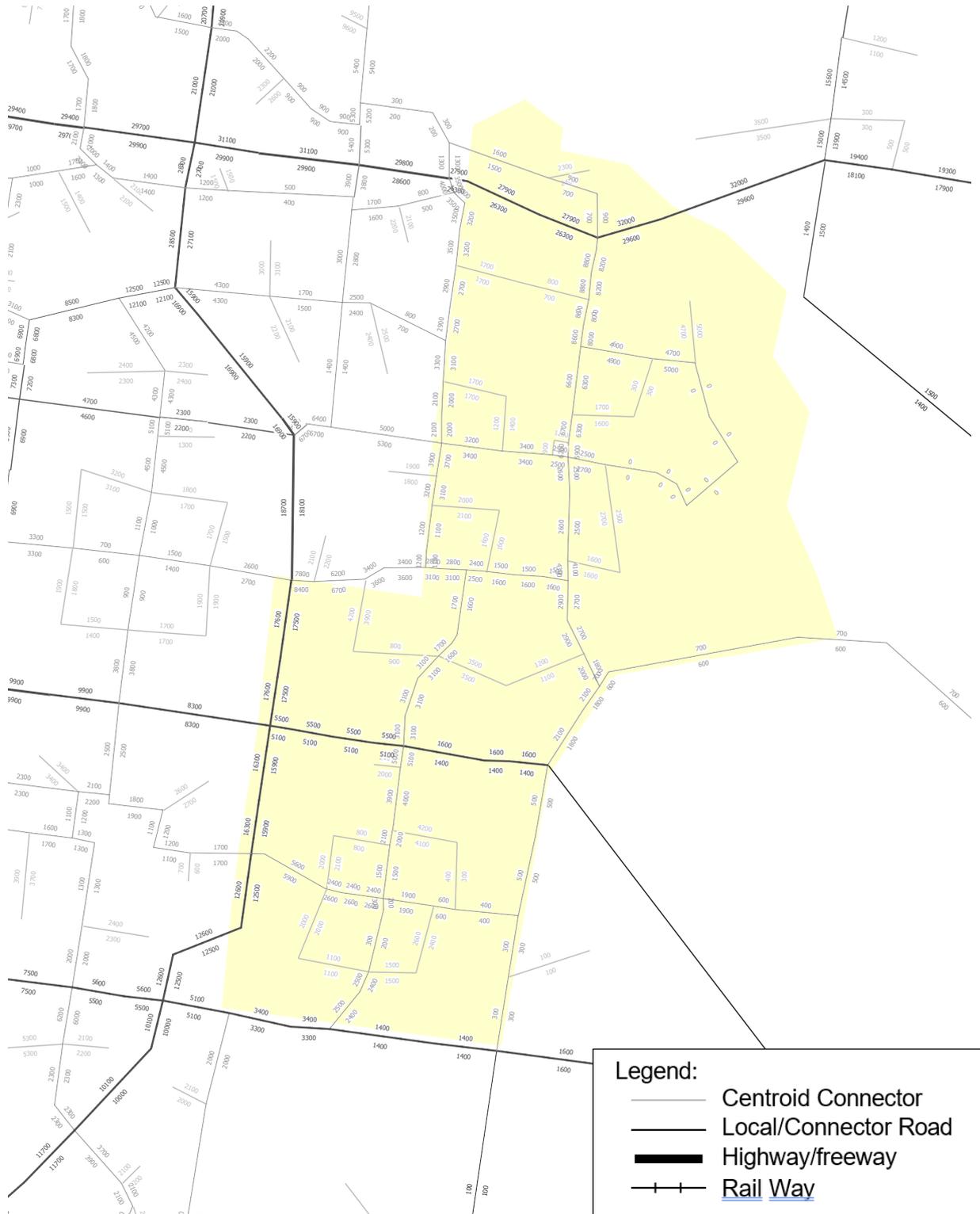
This network included the PSPs integration to the surrounding arterial roads of Thompsons Road, Pattersons Road, Bells Road and Ballarto Road. It also included McCormacks Road along the southern



**Cardinia Creek South, Part 2 - Precinct Structure Plan**  
**4 Part 1 Transport Modelling Review**

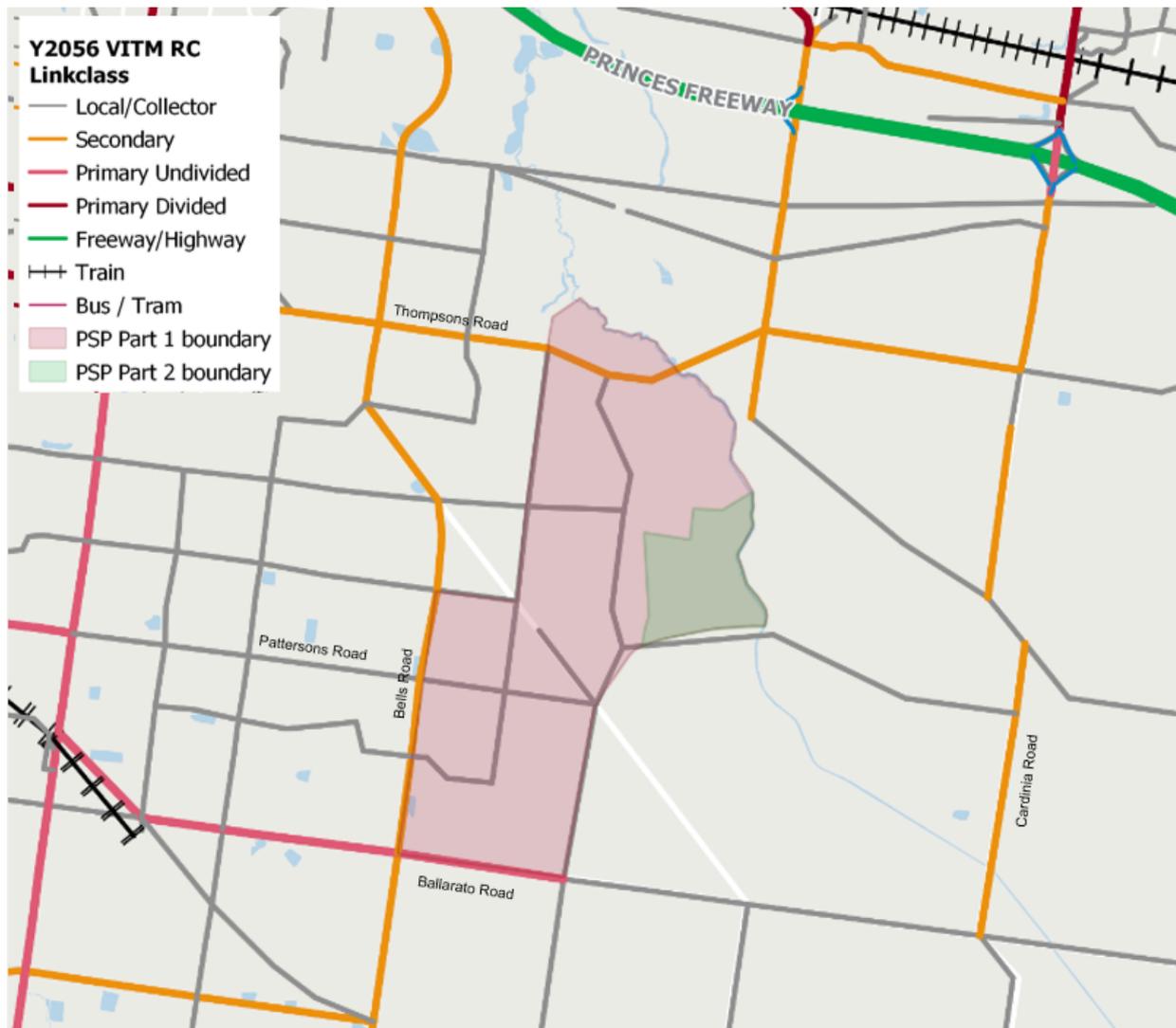
boundary of Part 2. It generally included the connector network within Part 1 of the PSP, and excludes the network proposed in Part 2.

**Figure 4-1 Daily One-Way Traffic Volumes – Ultimate Modelled Transport Network (VITM, 2015)**



The ultimate transport network from the latest available version of S-VITM is presented in Figure 4-2. It includes a more simplified version of the connector network within the Cardinia Creek South PSP, noting it doesn't include the Part 2 proposed connector network or the proposed extension of Heather Grove to the east into Part 1 of the PSP. However, it still provides the same general level of integration with and access to the surrounding arterial roads, reflecting a good level of strategic modelling alignment between the two models.

Figure 4-2 Road Link Class Types - Ultimate Transport Network (S-VITM, 2025)



#### 4.3.4 Traffic Volumes

The ultimate resulting daily on-e-way traffic volumes as part of the Strategic Transport Modelling Assessment in 2015 for Part 1 of the Cardinia Creek South PSP is presented in Figure 4-3 (as taken from Appendix E of the 2015 Strategic Transport Modelling Assessment Report). The daily traffic volumes on four critical access points associated with Part 2 have been highlighted, which accommodate a combined total of 28,800 vpd.

# Cardinia Creek South, Part 2 - Precinct Structure Plan

## 4 Part 1 Transport Modelling Review

The ultimate daily one-way traffic volumes from the latest available version of S-VITM is presented in Figure 4-4. The daily traffic volumes on the same four critical access points associated with Part 2 have been highlighted and accommodate a combined total of 26,700 vpd.

Figure 4-3 Part 2 Key Access Routes - Ultimate Daily One-Way Traffic Volumes (VITM, 2015)

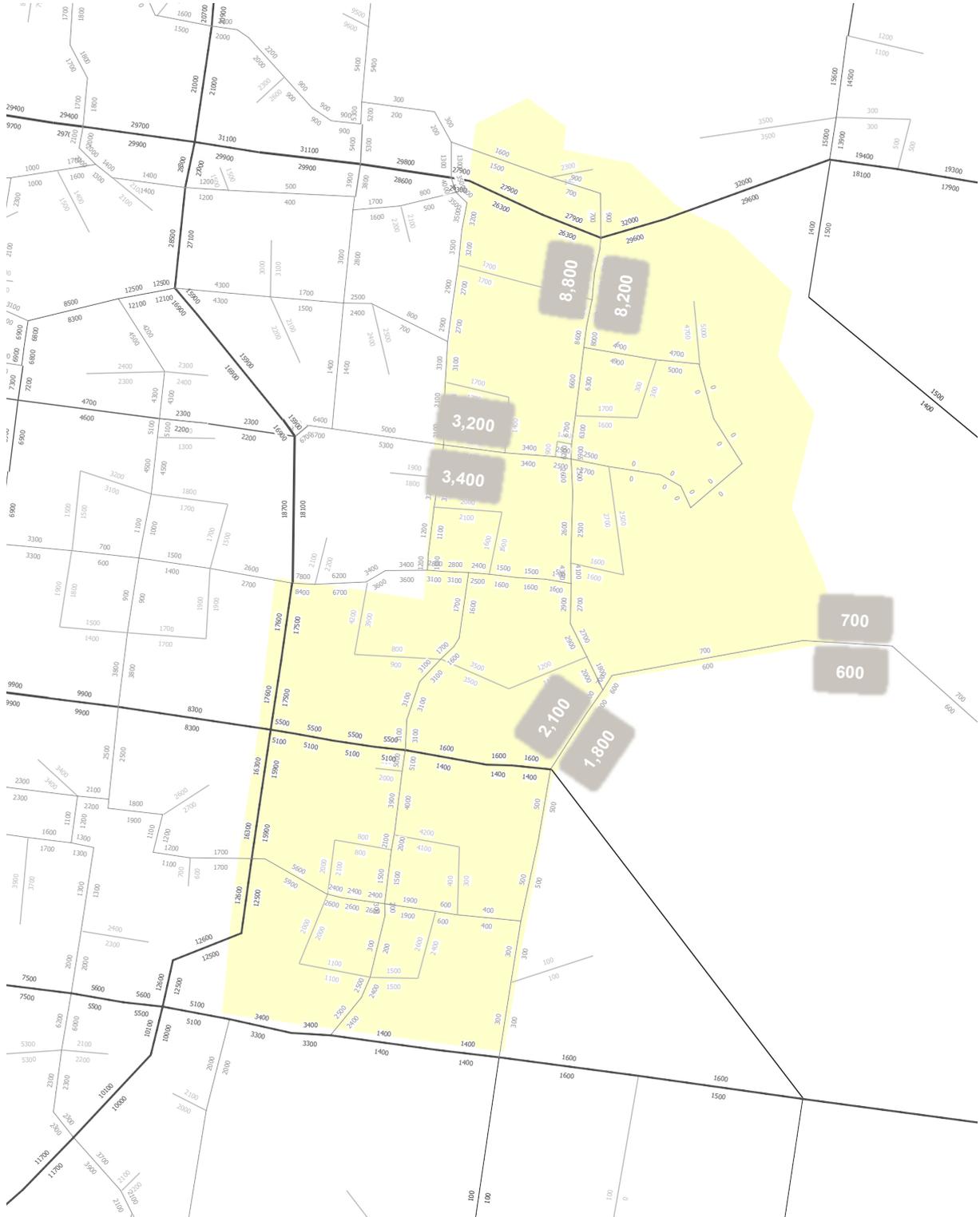
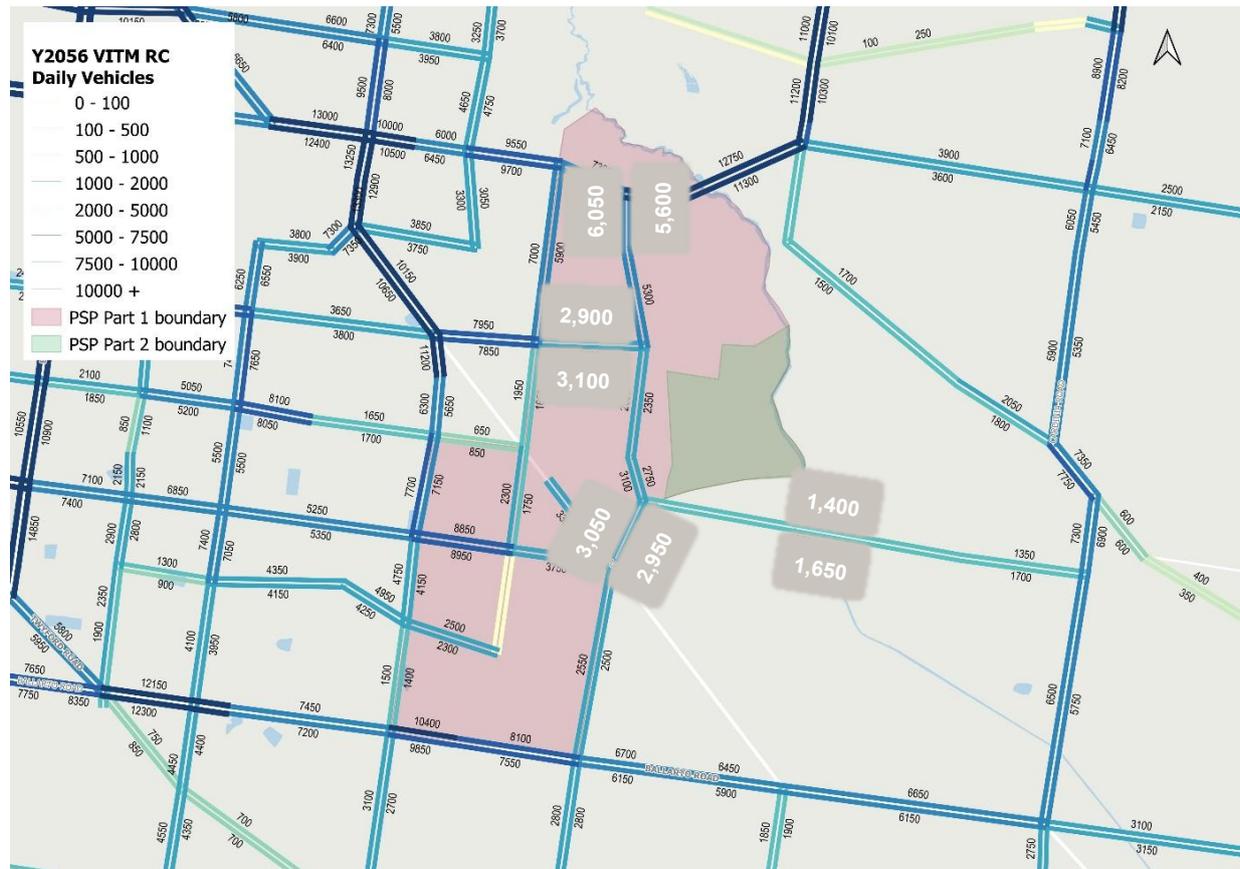


Figure 4-4 Part 2 Key Access Routes - Ultimate Daily One-Way Traffic Volumes (S-VITM, 2025)



Given the above there is considered to be a good level of strategic modelling alignment between the models, noting the differences in land use inputs and network arrangements previously described. The only notable difference is that there are higher traffic volumes at the southern end of the PSP in the latest version of S-VITM. This is likely due to differences in network congestion and/or link capacities on arterial roads to the north.

## 4.4 Review Outcomes

The review of the most recent available version of S-VITM and the strategic transport modelling completed in 2015 to help inform Part 1 of the Cardinia Creek South PSP has shown good alignment between them, at least in terms of within the PSP and the key access routes expected to support the development of Part 2.

In this regard, it is suitable to build on the strategic transport modelling completed in 2015 to inform the assessment for Part 2.

## 5 Traffic Assessment

### 5.1 Introduction

A first principles assessment of the Part 2 PSP has been undertaken. The assessment overlays the anticipated traffic volumes onto the previous modelling assessed as part of the Part 1 PSP and assesses the impacts on the broader network.

### 5.2 Traffic Generation

As part of the residential areas that have already been approved within Part 1 of the Cardinia Creek South PSP, traffic generation rates have been agreed between developers and Council. The agreed daily traffic generation rates are understood to be the following, which align with such relevant industry guidance as the [NSW Guide to Transport Impact Assessment](#) (refer to Section 5.6.2 of the guide):

- Standard density dwelling = 8 trips / dwelling / day
- Medium density dwelling = 7 trips / dwelling / day

Based on the adoption of the above traffic generation rates for the two development areas that relate to Part 2 of the PSP, the resulting daily traffic volumes anticipated to be generated are set out in Table 5.1, which totals 10,393 vpd (50% inbound and 50% outbound).

Table 5.1 Part 2 Daily Traffic Generation

Location	Type of Dwelling		Daily Trips		
	Standard Density	Medium Density	Standard Density	Medium Density	Total
95 McCormacks Road	731	18	5,848	126	<b>5,974</b>
125 McCormacks Road	422	149	3,376	1,043	<b>4,419</b>
<b>Total</b>	<b>1,153</b>	<b>167</b>	<b>9,224</b>	<b>1,169</b>	<b>10,393</b>

### 5.3 Traffic Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a number of factors, including (but not limited to) the following:

- configuration of the internal and connecting future road network
- operation of intersections providing access between the local and arterial road network
- distribution of households within and in the surrounds
- location and access to the surrounding employment centres, retail centres and schools

To help better understand the above considerations, a Select Link Analysis (SLA) of Zone 2762 has been undertaken through the latest version of S-VITM to understand the likely directional distribution of traffic generated by Part 2 on the future road network within the broader PSP. An SLA is able to identify where the associated traffic volumes travel on a network from a transport zone. Zone 2762 is generally bounded by Hardy Road, Cardinia Creek, McCormacks Road and Pound Road, so consists of an area



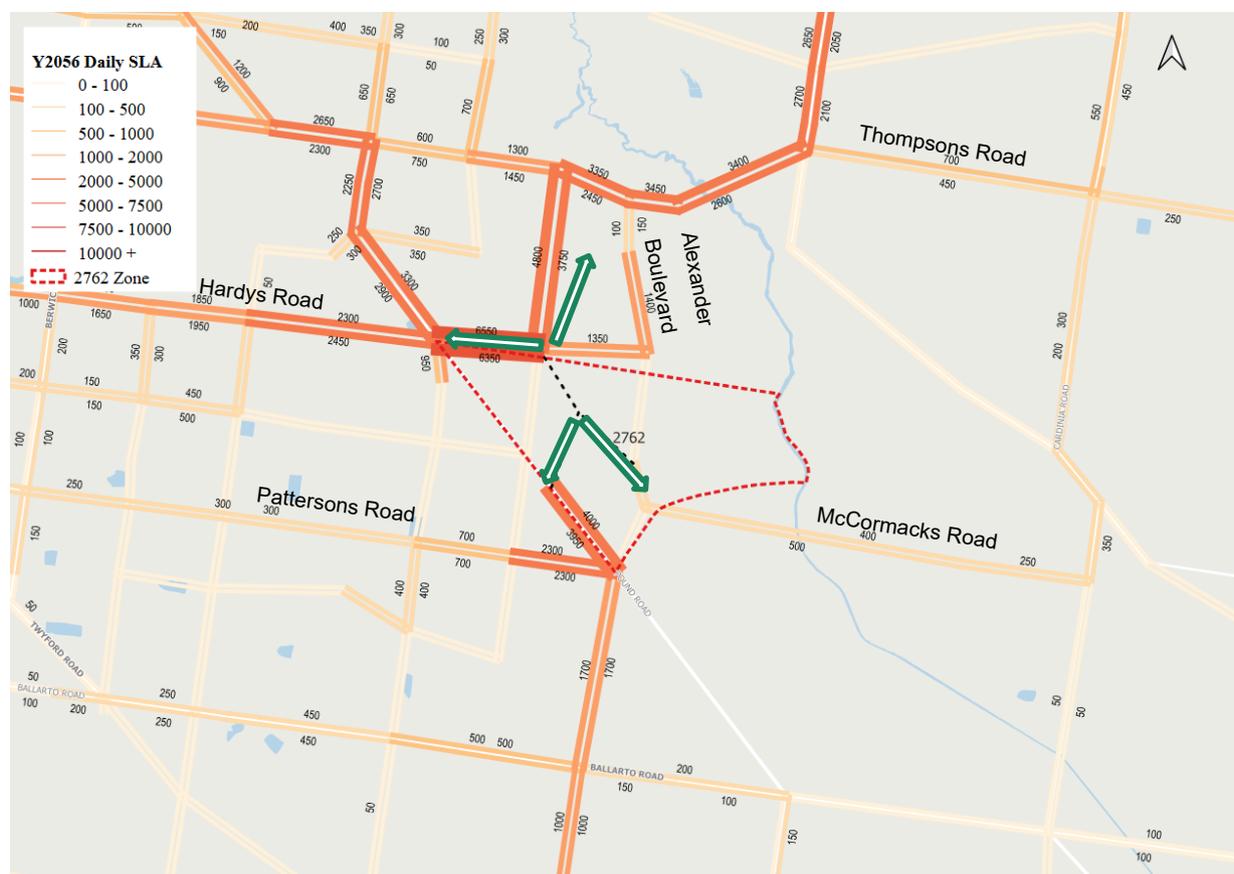
## Cardinia Creek South, Part 2 - Precinct Structure Plan 5 Traffic Assessment

that covers more than just Part 2 of the PSP. As such, a level of interpretation of the zones accessing traffic volumes is required to determine the likely traffic distributions for Part 2.

The results of the SLA for Zone 2762 are shown in Figure 5-1, which have been adapted to determine the following likely directional distributions for the key access routes associated with Part 2 (as per Figure 3-2):

- Part 2 Connector (North) = 75% in and 74% out
- Part 2 Connector (South) = 25% in the 26% out
- Alexander Boulevard = 33% in and 36% out
- Hardys Road = 42% in and 38% out
- McCormacks Road (West) = 22% in and 24% out
- McCormacks Road (East) = 3% in and 2% out

Figure 5-1 SLA of Zone 2762, S-VITM

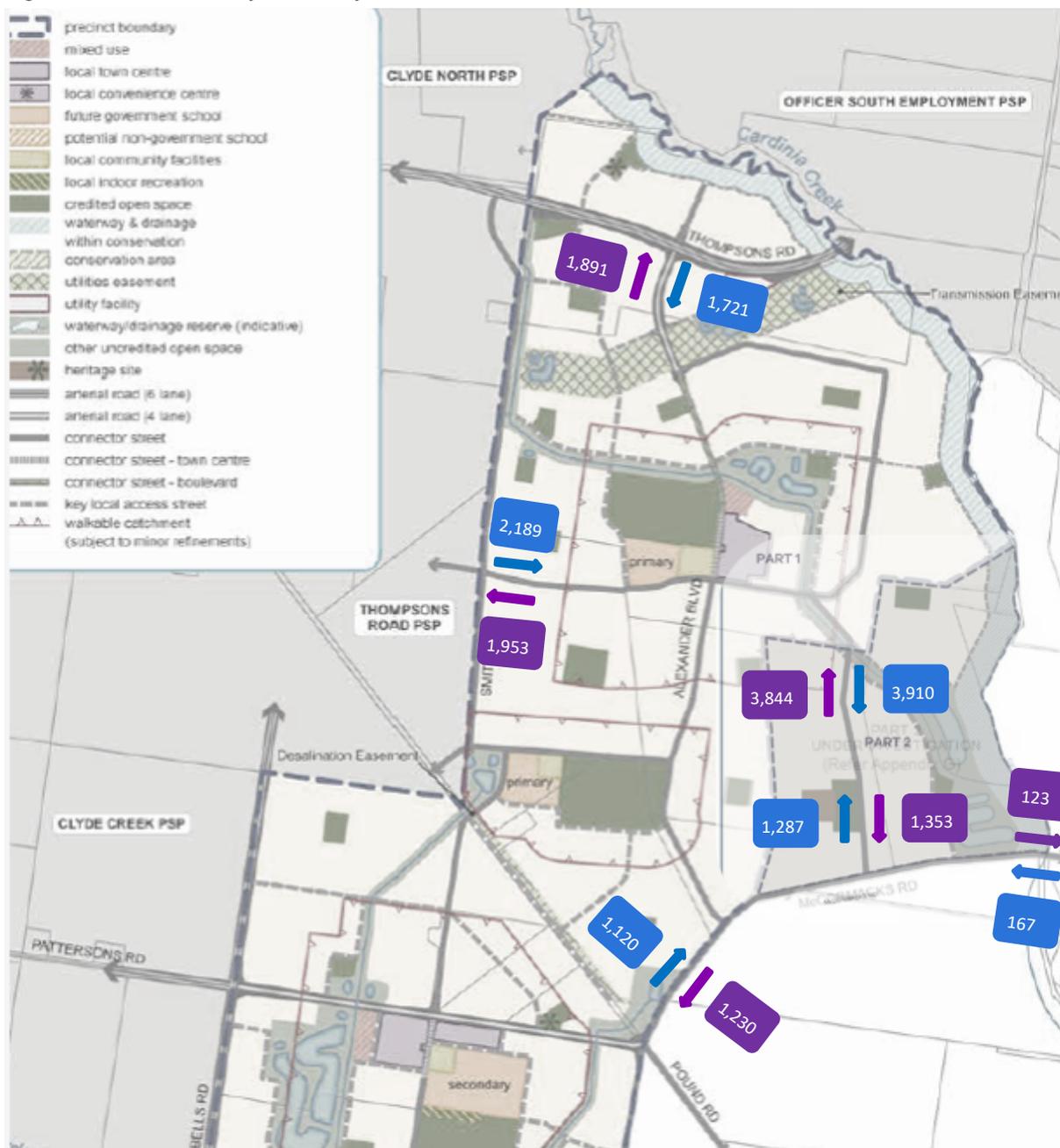


By using the daily traffic generation volumes as set out in Table 5.1 and assigning them onto the network as per the above directional distributions for the key access routes, Figure 5-2 has been prepared to show the estimated increase in daily traffic volumes following full delivery of Part 2.

It has been conservatively assumed that all traffic generated by Part 2 will utilise the north-south connector through it and travel along the key access routes to / from destinations beyond the PSP. In reality, there will be other routes via the local street network utilised by the traffic generated by Part 2 and some will access destinations within the PSP.



Figure 5-2 Part 2 Daily One-Way Generated Traffic Volumes



## 5.4 Traffic Impact

Building on the strategic transport modelling completed in 2015 to help inform Part 1 of the Cardinia Creek South PSP and the traffic volumes anticipated to be generated by Part 2, the future ultimate daily traffic volumes at various key locations have been determined.

The key locations are indicated in Figure 5-3, with the Part 1, 2 and resulting ultimate daily traffic volumes set out in Table 5.2.



**Cardinia Creek South, Part 2 - Precinct Structure Plan**  
**5 Traffic Assessment**

Figure 5-3 Future Ultimate Daily Traffic Volumes – Key Locations

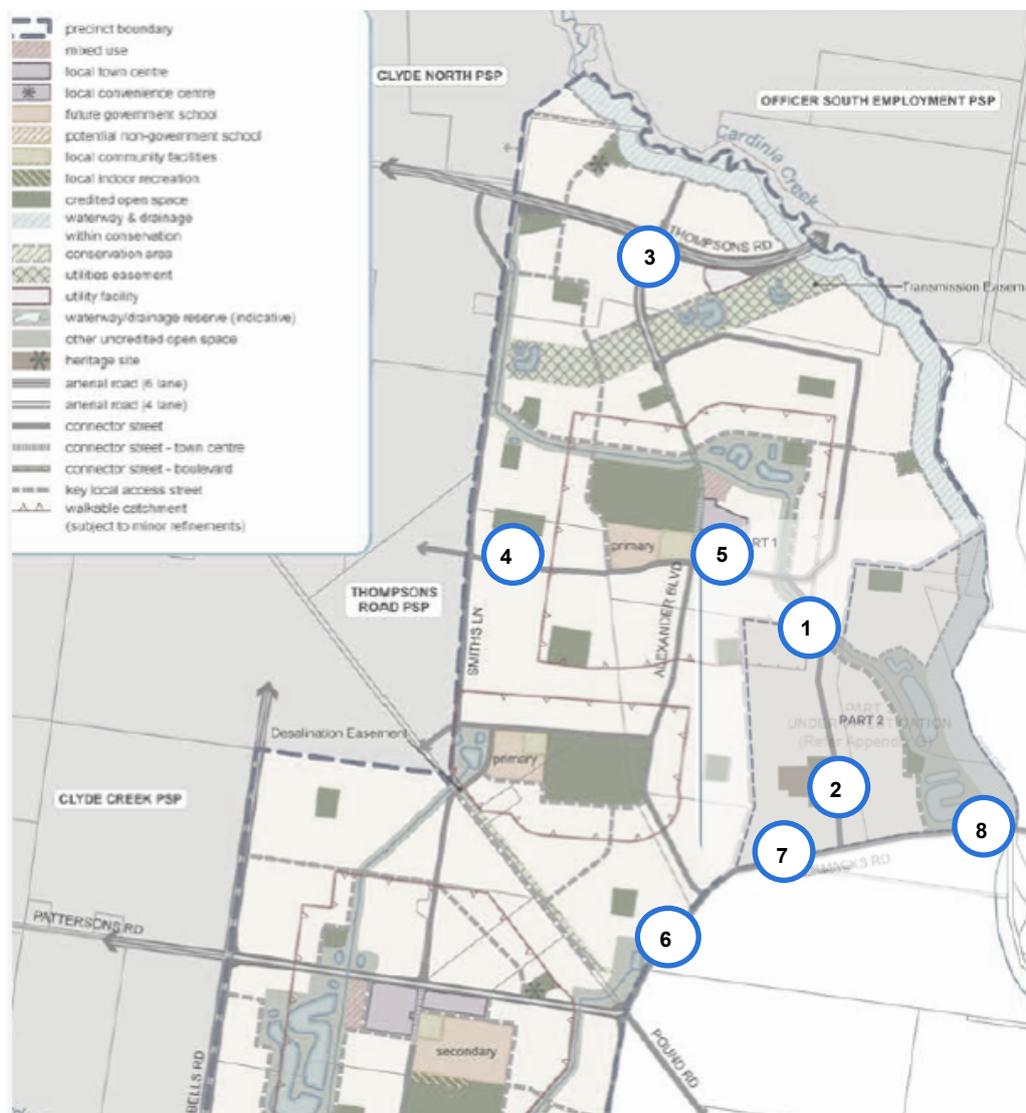


Table 5.2 Future Ultimate Daily Traffic Volumes – Key Locations

Location	Part 1 (Cardno, 2015)		Part 2		Part 1 + 2		
	In	Out	In	Out	In	Out	Total
1. Part 2 Connector (North)	-	-	3,910	3,844	3,910	3,844	7,753
2. Part 2 Connector (South)	-	-	1,287	1,353	1,287	1,353	2,640
3. Alexander Boulevard	8,200	8,800	1,721	1,891	9,921	10,691	20,612
4. Hardys Road (West)	3,200	3,400	2,189	1,953	5,389	5,353	10,741
5. Hardys Road (East)	2,500	2,700	3,910	3,844	6,410	6,544	12,953
6. McCormacks Road (West)	2,100	1,800	1,120	1,230	3,220	3,030	6,249
7. McCormacks Road (Central)	600	700	1,120	1,230	1,720	1,930	3,649
8. McCormacks Road (East)	600	700	167	123	767	823	1,590



In order to understand if the future ultimate daily traffic volumes in Table 5.2 for the various key locations are able to be suitably accommodated, reference is made to Clause 56.06 (access and mobility management) of the Casey Planning Scheme, which indicates the following daily traffic volume ranges that given street types can reasonably be supported:

- Access Street = 1,000 to 3,000 vpd
- Connector Street = 3,000 to 7,000 vpd
- Arterial Road = +7,000 (to 9,000<sup>1</sup>) vpd/lane

It is noted that the traffic volumes ranges are based on amenity and not a theoretical capacity limit to which a road can achieve. All of the locations in the network that are being analysed are connectors, indicating that four of the locations will be within the ranges for a connector road, with the four that exceed the threshold discussed as follows:

- **Location 1 – Part 2 Connector (North):** At the northern end of the north-south connector through Part 2, daily traffic volumes could marginally exceed 7,000 vpd. It is noted that this assessment is conservative and does not consider the local options for access through the subdivision. Having regard for this, it is expected to operate satisfactorily as a connector street, noting that it should be bus capable.
- **Location 3 – Alexander Boulevard:** The northern end of Alexander Boulevard, as it approaches Thompsons Road, is expected to accommodate daily traffic volumes of 20,612 vehicles which is well above those associated with a connector. This location was also identified as part of the strategic transport modelling completed in 2015 to help inform Part 1, which resulted in the road being designated (and delivered) as an arterial road and providing four lanes between Thompsons Road and southern extent of the utilities easement. As it is a four lane road, the northern section of Alexander Boulevard is expected to be able to operate satisfactorily.
- **Location 4 – Hardys Road (West):** The western section of Hardys Road within the PSP as it approaches Smiths Lane is expected to accommodate daily traffic volumes of 10,741 vehicles which is above the ranges associated with a connector. This location is within a larger residential area that will include various local streets off Hardys Road that will provide alternate access points to Smiths Lane that were not included in the modelling, meaning that the actual daily traffic volume it will accommodate will likely be lower. However, to help ensure the section of Hardys Road on approach to Smiths Lane operates satisfactorily, it is recommended that no kerbside car parking or similar measures be provided on this section to help ensure the through lanes provide a higher level of throughput. This should form part of the analysis associated with the development of the Smiths Lane / Hardys Road intersection.
- **Location 5 – Hardys Road (East):** The section of Hardys Road that fronts the local town centre is expected to accommodate daily traffic volumes of 12,953 which is above those associated with a connector. This outcome will be dependent on the access arrangements for the local town centre and the operational capacity of the Alexander Boulevard / Hardys Road

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<sup>1</sup> As per Section 5.2 of the Austroads Guide to Traffic Management – Part 3



intersection. There is also an alternative route for traffic to access Alexander Boulevard via Burnbank Parade (connector that goes east around the local town centre).

## 5.5 McCormacks Road

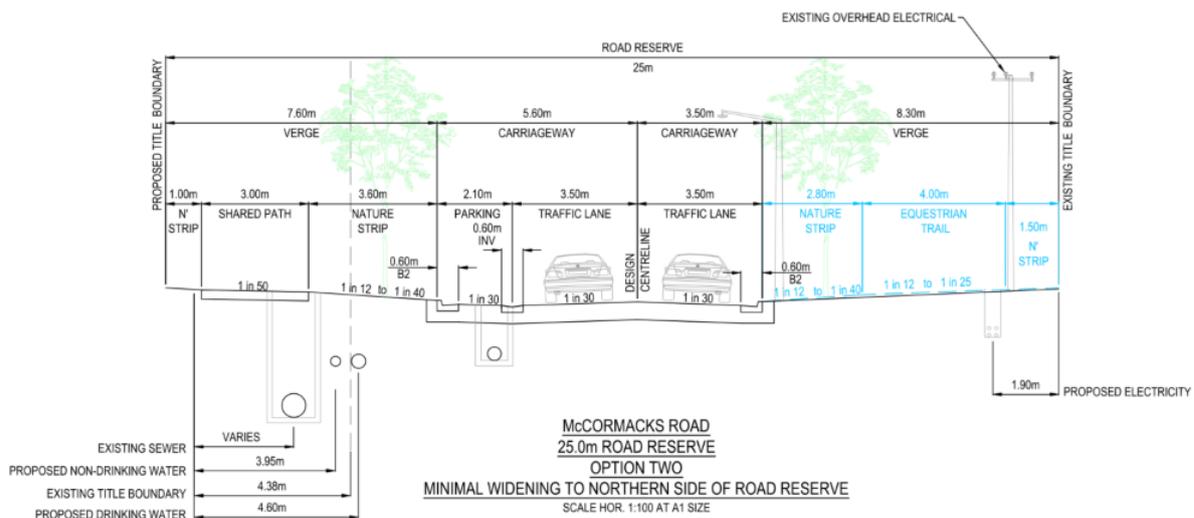
The analysis presented in this report indicates that in two locations, McCormacks Road will experience volumes of less than 7,000 vehicles per day which will meet the Connector Road threshold. At the eastern end of the PSP the volumes will be in the order of 1,500 vehicles per day indicating that it could be amended to a local road. More discussion is provided in the following sub section.

### 5.5.1 Cross-Section

The PSP indicates that McCormacks Road is proposed to be a connector street between Pattersons Road and Part 2. A specific cross-section for this extent of McCormacks Road was included in the PSP, referred to as Section 4 – Connector Street (located in Appendix C of the PSP).

This cross-section has been refined since the PSP, removing the kerbside car parking and footpath on the southern side of the road, reflecting it location along the perimeter of the PSP and UGB. The resulting cross-section is shown in Figure 5-4, which maintains an overall width of 25m but includes the equestrian trail within the southern road reserve.

*Figure 5-4 Part 1 PSP – McCormacks Road Cross-Section*



It is expected that the connector cross-section shown in Figure 5-4 would be provided between Pattersons Road and the north-south connector through Part 2 given the associated traffic volumes and the need to have a second primary traffic access route.

To the east of the north-south connector through Part 2, the traffic volumes on McCormacks Road are significantly lower, consistent with an Access Street - Level 1 based on Clause 56.06 of the Casey Planning Scheme. This section of McCormacks Road along the frontage of Part 2 is expected to be upgraded to a suitable urban street standard. It will then transition to and match into the existing rural road cross-section to the east of Part 2.



It is noted that there is an existing bridge on McCormacks Road over Cardinia Creek. It is currently 6.4m wide and able to accommodate two-way vehicle movements. It is also noted that the bridge has reasonable sight lines between approaching vehicles and no [recorded crashes](#) at or proximate the bridge in the last available 10 year period. This section of gravel road is capable of accommodating the forecast traffic (circa 1,600 vehicles per day) and will be able to operate satisfactorily following delivery of Parts 1 and 2 of the PSP.

### **5.5.2 Staging**

It is generally understood that the Cardinia Creek South PSP is being developed in a north-to-south manner, which is also expected to occur with Part 2. As such, the north-south connector through Part 2 is expected to initially connect and integrate with the Part 1 Street Network at its northern end with the Hardys Road / Burnbank Parade intersection.

The delivery of the southern connection of the north-south connector through Part 2 will be associated with the upgrade of McCormacks Road along the frontage of Part 2 and connection to Pattersons Road, where there is a roundabout to be delivered as part of IN-07 from the ICP.

The need for the second connection at the southern end of the north-south connector through Part 2 will be when its operation and/or those on the connecting streets (namely Hardys Road and Burnbank Parade) reach their typical operational capacity (7,000vpd).

Given the discussion around Hardys Road (East) in Section 5.4, the recommended trigger for the upgrade of McCormacks Road should occur when the north-south connector through Part 2 reaches 7,000vpd. Based on the traffic generation rates indicated in Section 5.1 for a standard residential lot, this will occur when 875 dwellings (66% of all lots) in Part 2 are delivered. Further analysis could be provided to support a higher yield that has regard to the local network should this be required.



## 6 VPA Performance Targets

In October 2021 the VPA prepared the [Precinct Structure Planning Guidelines: New Communities in Victoria](#), which aim to ensure that PSPs are prepared within a framework that guarantees quality outcomes while also being flexible, responsive and supportive of innovation.

A key part of realising this is achieving minimum performance targets for each PSP. Table 6.1 presents the transport related performance targets, and how well Part 1 of the Cardinia Creek South PSP has scored. Each of these are discussed further, in how Part 2 will likely impact the scoring for the overall PSP (Part 1 and Part 2).

Table 6.1 Part 1 PSP Transport Related Performance Targets and Scoring

Reference	Target	Score
T9 – Public transport in walking distance	95% of dwellings should be located within either of the following walking distances: <ul style="list-style-type: none"> <li>800m to a train station</li> <li>600m to a tram stop; or</li> <li>400m to a future bus route or bus capable road.</li> </ul>	99%
T18 – Education & community facilities in walking distance	The location of dwellings should achieve the following accessibility targets in relation to education and community facilities: <ul style="list-style-type: none"> <li>70% of dwellings located within 800m of a government primary school</li> <li>100% of dwellings located within 3,200m of a government secondary school</li> <li>80% of dwellings located within 800m of a community facility</li> <li>80% of dwellings located within 800m of a health facility.</li> </ul>	<ul style="list-style-type: none"> <li>79% of dwellings located within 800m of a government primary school</li> <li>100% of dwellings located within 3,200m of a government secondary school</li> <li>85% of dwellings located within 800m of a community facility</li> <li>100% of dwellings located within 800m of a health facility.</li> </ul>
T19 – Activity centre in walking distance	80-90% of dwellings should be located within 800m of an activity centre	73%

### Public Transport in Walking Distance (T9)

The Cardinia Creek South PSP will require an extensive bus capable network to achieve the T9 performance target, as it requires 95% of dwellings to be located within at least one of the following walking distances (based on Clause 56.04-1 of the Casey Planning Scheme):

- 800m to a train station
- 600m to a tram stop, or
- 400m to a future bus route or bus capable road.

In this regard, and generally consistent with the connector streets being bus capable with Part 1, it is expected that the north-south connector through Part 2 and western section of McCormacks Road will be bus capable.



## **Cardinia Creek South, Part 2 - Precinct Structure Plan**

### **6 VPA Performance Targets**

On this basis, 95% of dwellings within Cardinia Creek South PSP will be within a 400m walking distance of a bus capable road.

#### **Education and Community Facilities within Walking Distance (T18)**

Through the provision of active transport paths being provided on all streets within the Cardinia Creek South PSP, the following proportion of dwellings are to be located (and have been achieved with Part 1) within the given walking distances to education and community facilities:

- 70% (79% achieved) of dwellings located within 800m of a government primary school
- 100% (100% achieved) of dwellings located within 3,200m of a government secondary school
- 80% (85% achieved) of dwellings located within 800m of a community facility
- 80% (100% achieved) of dwellings located within 800m of a health facility.

The most proximate education and community facilities in Part 1 are located within 800m of the western and northern sides of Part 2, and there is a secondary school located some 1.5km southwest of Part 2. However, the current subdivisional plan for 95 McCormacks Road does not indicate any active transport permeability along its western edge with Part 1. Providing footpath connections along the eastern edge of Part 2 will help maximise the proportion of its residents within 800m of the proposed education and community facilities in Part 1.

Without this active transport permeability along the eastern side of Part 2, there is a potential that the T18 performance targets associated with the primary schools and community hubs may not be achieved.

***It is recommended that pedestrian permeability with Part 1 be provided as part of the subdivision plans for Part 2.***

#### **Activity Centre in Walking Distance (T19)**

Similar to T18, the provision of active transport paths on all streets within the Cardinia Creek South PSP will help make it a walkable place. However, specific to T19, it sets a target of 80-90% of dwellings being located within 800m of an activity centre.

There is a local town centre proposed to be located within 800m of the northwest corner of Part 2. However, the majority of Part 2 will be located beyond an 800m walking distance, so it will further lower the score being achieved by Part 1 of 73%.

To improve the score for T19, an activity centre could be provided within Part 2 of the Cardinia Creek South PSP.



## 7 Summary

Based on the traffic assessment set out in this report, the following summarises the findings:

- The modelling assessment completed in 2015 for the Part 1 assessment is similar to current land use and network planning for the PSP.
- The transport network within Part 2 includes a north south connector road that will carry the majority of traffic, with more than 75% of the Part 2 generated traffic travelling north along it.
- Part 2 is expected to generate in the order of an additional 10,400 vehicle trips per day.
- The **Part 1 Street Network** is expected to operate satisfactorily following the full delivery of Parts 1 and 2.
- The **Part 2 Street Network** is expected to operate satisfactorily, noting the traffic volumes at the northern end of the internal north-south connector will likely approach the upper range expected for its street type. Ideally, the northern areas of Part 2 have an integrated local street network with Part 1 to help maintain the daily traffic volumes along the internal connector within its targeted range.
- The traffic analysis supports McCormacks Road to operate as a Connector Street to the west of the Part 2 internal north-south connector, with traffic volumes between 3,000 and 7,000 vpd expected. To the east, McCormacks Road is expected to accommodate much lower traffic volumes of 1,590 vpd indicating no need for an upgrade, beyond its conversion to an urban street along the frontage of Part 2
- An analysis of the VPA PSP performance targets indicate the following should be explored with the proposed layout of Part 2:
  - Ensure that the Part 2 Connector is bus capable.
  - Provide pedestrian permeability along the western side of Part 2 with Part 1.





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