



# Amendments C207 and C208 Hume Planning Scheme Panel Hearing

<b>Expert //</b>	Reece Humphreys
<b>Client //</b>	Victorian Planning Authority
<b>Instructed by //</b>	Harwood Andrews
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# Amendments C207 and C208

## Hume Planning Scheme

### Panel Hearing

Issue: A 11/08/2017

Client: Victorian Planning Authority

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GTA Consultants Office: VIC



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# 1. Introduction

## 1.1 Background

Amendment C207 (Sunbury South) and C208 (Lancefield Road) to the Hume Planning Scheme apply to the Sunbury South and Lancefield Road PSPs which relate to land located within Melbourne's Sunbury / Diggers Rest Growth Corridor, located approximately 30km from Melbourne's CBD. Also exhibited with the amendments and being considered at the Panel are three planning permit applications within the PSP areas, two of which are located in the Lancefield Road PSP and one in the Sunbury South PSP.

The transport planning for both amendments was underpinned by strategic transport modelling of the Sunbury & Diggers Rest Growth Corridor which was one of the background studies exhibited with the amendments.

I have been instructed by Harwood Andrews Lawyers in July 2017 to consider and address the regional transport planning matters associated with the two Amendments, and to prepare and provide an expert evidence report on those issues for presentation at the upcoming hearing.

In preparing this report, I have relied upon information prepared by the Victorian Planning Authority, VicRoads and previous reports prepared by others in my office. My report is an independent traffic and transport evidence report and is not a peer review of the previous work undertaken by others.

## 1.2 Expert Witness Details

### **Reece Humphreys BE (Civil)**

#### **Director – GTA Consultants**

L25, 55 Collins Street, Melbourne

**Areas of Expertise:** Traffic Engineering & Transport Planning

I have a Bachelor of Engineering degree and over fifteen years' experience spanning transport planning, modelling, traffic engineering, land use development and transport impact assessments. This experience covers a mixture of tasks ranging from strategic transport planning and analysis of projects in Melbourne and most major cities across Australia through to traffic and transport engineering advice. I have completed a number of projects for VicRoads and the NSW RMS including a series of large regional transport models, strategic corridor modelling, strategic transport planning advice and independent auditing and peer reviewing. More recently, I have assisted with planning approval for a number of large scale rezoning and development applications as well as advisory committees in Melbourne.

I have held numerous committee positions in the transport field and currently serve as a committee member on the Australian Institute of Traffic Planning and Management (AITPM), convening the 2017 National Transport Conference.

Further details of my experience are provided in Appendix A.

## 1.3 Relationship to Client / Authority

I have no ongoing private or business relationship with the client, and have been retained to provide expert witness services at this hearing for a mutually agreed fee. GTA have previously provided advice to the Victorian Planning Authority (VPA) for the Sunbury Growth Corridor and

prepared two reports that informed the selection of a preferred route for the two Jacksons Creek crossings and the strategic transport modelling of the Sunbury Growth Corridor.

## 1.4 Instructions & Scope of Report

I have been engaged to prepare and present expert traffic and transport evidence as part of the Panel Hearing to consider the two Amendments. Prior to preparing this evidence I was briefed by Harwood Andrews regarding the proposal via both oral and written instructions.

In undertaking our assessment of PSP documents and background materials, I have been asked to consider the following:

- i The role of the two crossings of Jacksons Creek in the road network of the overall growth corridor. This will include the appropriateness of their capacity as boulevard connectors, and potential pressure points on the balance of the network if one or both crossings were not provided.
- ii The implications for the growth of Sunbury associated with the unconfirmed timing of construction of the Bulla Bypass.
- iii The network effectiveness of an interim southern Jacksons Creek crossing in the event that construction of the Bulla Bypass is delayed, and associated impacts on the existing Sunbury Town Centre.
- iv Any overarching traffic impacts on the existing Sunbury Town Centre associated with the development of the PSPs, particularly pinch points and intersection congestion.
- v The timing associated with future duplication of the existing arterial road network.
- vi The impacts on traffic movements from regional Victoria to Melbourne, including congestion on Sunbury Road and Lancefield Road.
- vii The impacts of growth on the existing local road network, including Crinnion Road, through Jacksons Hill Estate and on Racecourse Road.
- viii The justification for the non-provision of a cross-town connection between Sunbury and the northern growth corridor.
- ix Any issues relating to the designs of specific road projects within the PSP areas.
- x The submissions relevant to the above matters.

As part of my review I have not considered specific details of the three Planning Permit applications as these are of a specific nature, rather than regional impacts which form the basis of my review.

## 1.5 References

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

- o The Hume Planning Scheme
- o Advertised material, relevant submissions and background reports associated with Amendments C207 and C208 of the Hume Planning Scheme
- o GTA Consultants, Jacksons Creek Road Crossings, Options Assessment & Development, dated 16 October 2014
- o GTA Consultants, Strategic Transport Modelling of the Sunbury & Diggers Rest Growth Corridor Report, dated 5 October 2015
- o GTA Consultants, Sunbury Growth Corridor DCP Modelling Supplementary Report dated 2 February 2017
- o AECOM, Bulla Bypass / Melbourne Airport Link Planning Study dated 22 August 2013
- o relevant Government policies and documents

- various technical data as referenced in this report
- an inspection of the site and its surrounds
- other documents as nominated.

## 1.6 Tests, Experiments & Assistance

In preparing this evidence, I received assistance from the following people:

Alex Blackett	Associate	BE (Civil)
Jacquelyn Viti	Consultant	Bach. Urban and Regional Planning

## 2. Sunbury Growth Corridor

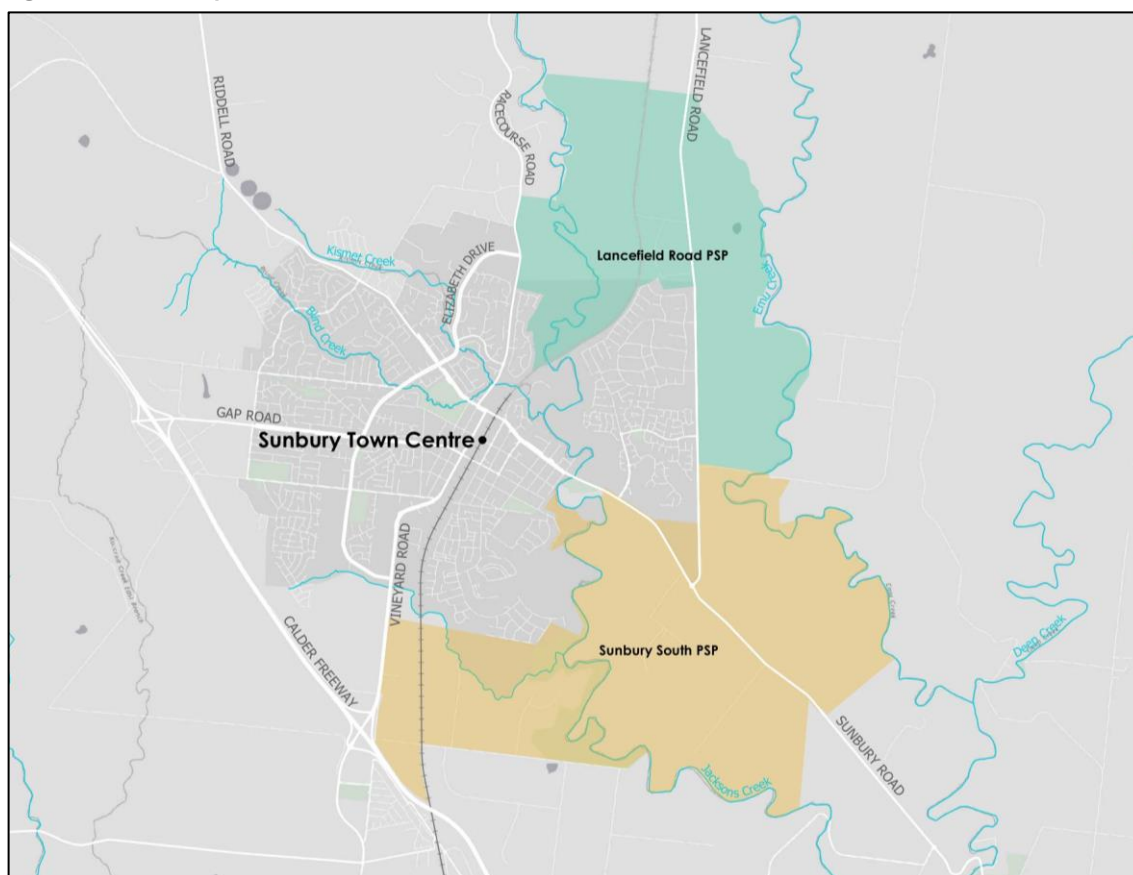
### 2.1 Introduction

The Sunbury South and Lancefield Road Precinct Structure Plans (PSP 1074 & 1075) are located in the Sunbury-Diggers Rest Growth Corridor in Melbourne's northwest. Both Sunbury South and Lancefield Road are located in the City of Hume and will ultimately form part of an expansion of Sunbury, along with the Sunbury North, Sunbury West and Diggers Rest PSPs. It is forecast that the corridor will grow to accommodate an additional population of up to 93,000 people and 10,000 jobs, with the majority of this growth located within these two PSPs.

The two growth areas are mostly undeveloped and have a limited local transport network, with the exception of the Sunbury rail line that extends north-south through the two precincts, as well as the key roads of Sunbury Road, Lancefield Road and Vineyard Road, as shown in Figure 2.1 and discussed further in Section 5.

East-west connections through and around the Sunbury Town Centre are limited, and the PSPs propose crossings of Jacksons Creek in the north and south of the corridor.

**Figure 2.1: Sunbury South and Lancefield Road PSP Locations**



Jacksons Creek plays an important role within Sunbury not only in a transport sense but the inability to provide connectivity between existing and future communities within the Corridor.

## 2.2 Sunbury Travel Characteristics

### 2.2.1 Journey to Work (VISTA)

2009 Victorian Integrated Survey of Travel and Activity (VISTA) data has been used to understand where residents of the Sunbury Statistical Local Area (SLA) travel for work purposes. It is noted that the Sunbury SLA includes Sunbury, Diggers Rest and Wildwood and is summarised in Figure 2.2.

Figure 2.2 shows that 24% of Sunbury SLA residents also work within the Sunbury SLA. 28% travel into the Melbourne Local Government Area (LGA) for work, with 14% working in the Melbourne CBD and 14% working in other parts of the municipality (including East Melbourne, Kensington, Fishermans Bend, North Melbourne, Carlton, Parkville and Flemington).

Other areas where residents of the Sunbury SLA work include Craigieburn, Port Phillip, Sunshine, Preston and Wyndham.

**Figure 2.2: Where Residents of the Sunbury SLA Travel for Work**



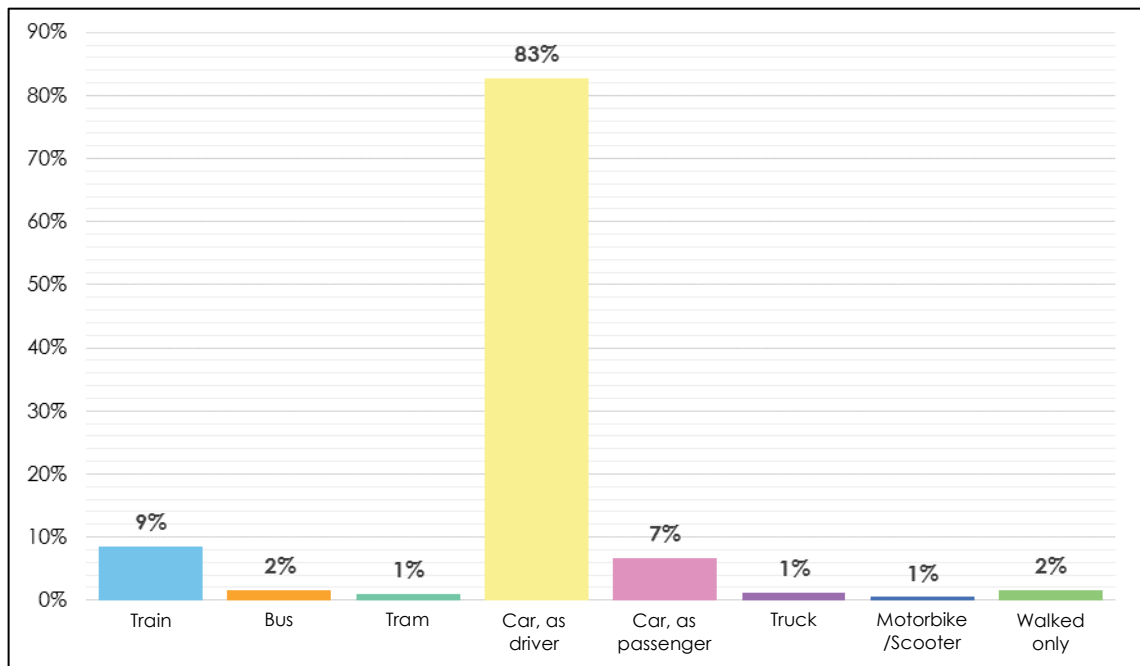
Commuters that travel to the inner Melbourne area via car have the option of travelling on the Calder Freeway via Vineyard Road or via Sunbury Road and the Tullamarine Freeway.

## 2.2.2 Mode of Travel (ABS and VISTA)

The Australian Bureau of Statistics (ABS) Census 2011 and VISTA<sup>1</sup> 2009 are the most recent sets of travel data available, and this data has been used to determine the current method of travel to work for Sunbury residents.

The ABS Census 2011 data has been analysed to include those using more than one mode in their journey. The results are presented in Figure 2.3.

**Figure 2.3: Mode of Travel for Sunbury Residents, ABS 2011**



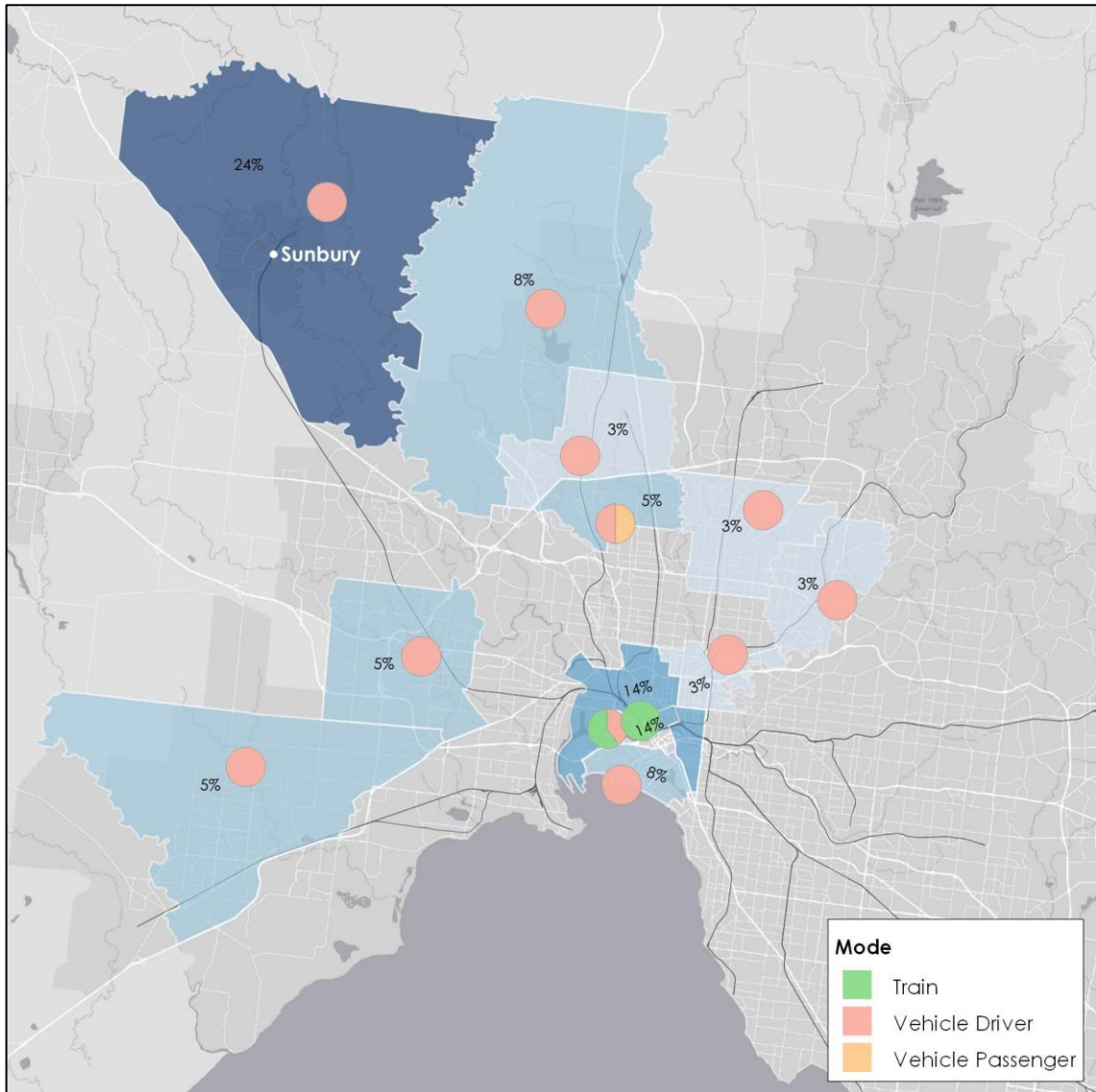
Note: This data includes individuals using more than one mode as part of their trip, which means if multiple modes have been used (i.e. car as driver then train), this will be counted in each applicable mode.

This graph shows that 83% of Sunbury residents drove a car as part of their journey to work and 7% of residents were a passenger of a car for part of their journey.

Similar to the ABS data, the VISTA 2009 data indicates that the vast majority (79%) of Sunbury residents drive themselves to work, with only those travelling to the Melbourne LGA taking the train (22%). Figure 2.4 shows the locations the residents are travelling to for work, with the mode they have used to get there.

<sup>1</sup> VISTA = Victorian Integrated Survey of Travel and Activity

Figure 2.4: Mode of Travel to Work, VISTA 2009



It is noted that of the 39% of commuters that travel to the Melbourne CBD, only 16% travel via car.

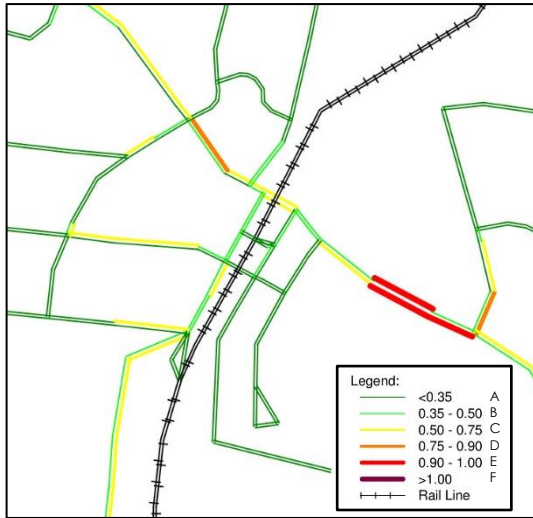
## 2.3 Current Transport Performance

In order to understand the existing road network in Sunbury, an existing conditions model was prepared by GTA as part of strategic transport modelling completed in 2014. The model was developed to understand where congestion is and is not occurring both now and into the future as a result of land use and infrastructure changes.

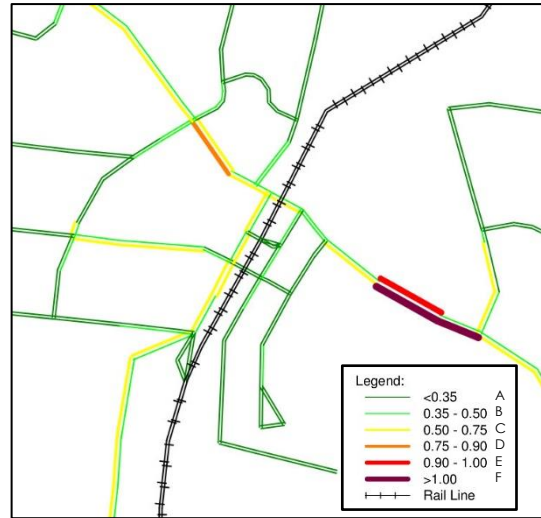
The volume to capacity ratio (degree of saturation) is a good indicator as to the operation of the network at the specific link locations. The volume to capacity ratios (VCR) are also able to be correlated with the Level of Service Definitions as defined in Austroads.

The VCR outputs for the Sunbury Town Centre for the modelled two-hour AM and PM peak periods in existing conditions have been extracted from the model and are reproduced in Figure 2.5 and Figure 2.6.

**Figure 2.5: Sunbury Town Centre, Degree of Saturation, 2011, AM Peak<sup>2</sup>**



**Figure 2.6: Sunbury Town Centre, Degree of Saturation, 2011, PM Peak<sup>1</sup>**



These figures show that over the two-hour periods the Sunbury Town Centre does not experience much congestion over the peak periods. It is noted that there would still be some localised congestion in parts of the Sunbury Town Centre however these instances generally occur over a short period in the order of 15 minutes.

In the AM peak, the network in the Sunbury Town Centre does not exceed a DOS value of 1, with only Sunbury Road in the vicinity of the existing Jacksons Creek crossing experiencing a DOS of over 0.9. Similarly, the network only exceeds a DOS value of 1 on Sunbury Road in the vicinity of the existing Jacksons Creek crossing in an inbound direction during the PM peak.

In both peaks, main streets such as Horne Street, Macedon Street, Evans Street and Racecourse Road do not exceed a DOS of 0.75, indicating the network has capacity to cater for additional demand before congestion occurs.

Traffic volumes through the following key intersections were obtained to understand how traffic flows throughout these locations occurred during the peak periods and over the course of a day:

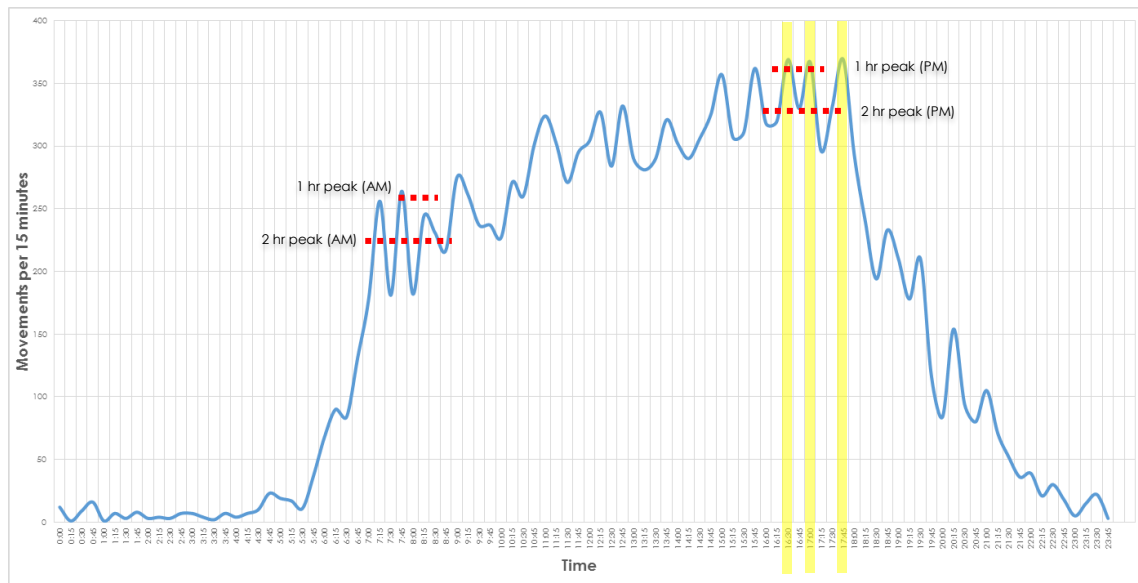
- intersection of Evans Street and Brook Street
- intersection of Evans Street and Station Street
- intersection of Horne Street and Vineyard Street
- pedestrian operated signals (POS) east of the roundabout at Macedon Street and Evans Street.

Daily profiles are provided in Figure 2.7 through to Figure 2.10

<sup>2</sup> The following criteria has been adopted for Level of Service assessment as defined in AustRoads:

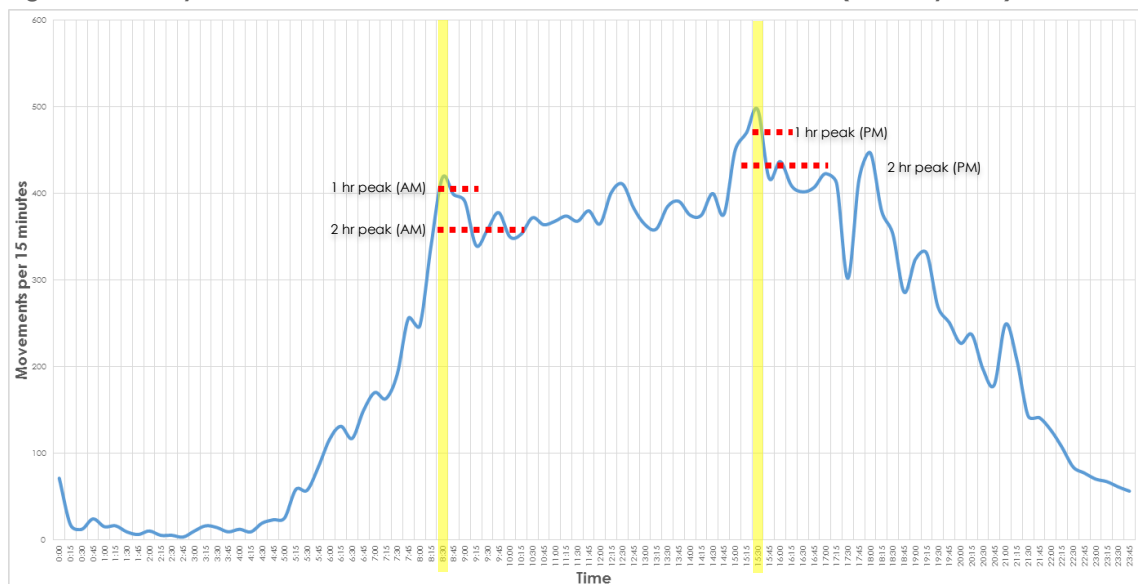
Level of Service		Degree of Saturation (DOS)
A	Excellent	<0.35
B	Very Good	0.35-0.50
C	Good	0.50-0.75
D	Acceptable	0.75-0.90
E	Poor	0.90-1.00
F	Very Poor	>=1.0

**Figure 2.7: Daily Profile at the Intersection of Evans Street and Brook Street (February, 2015)**



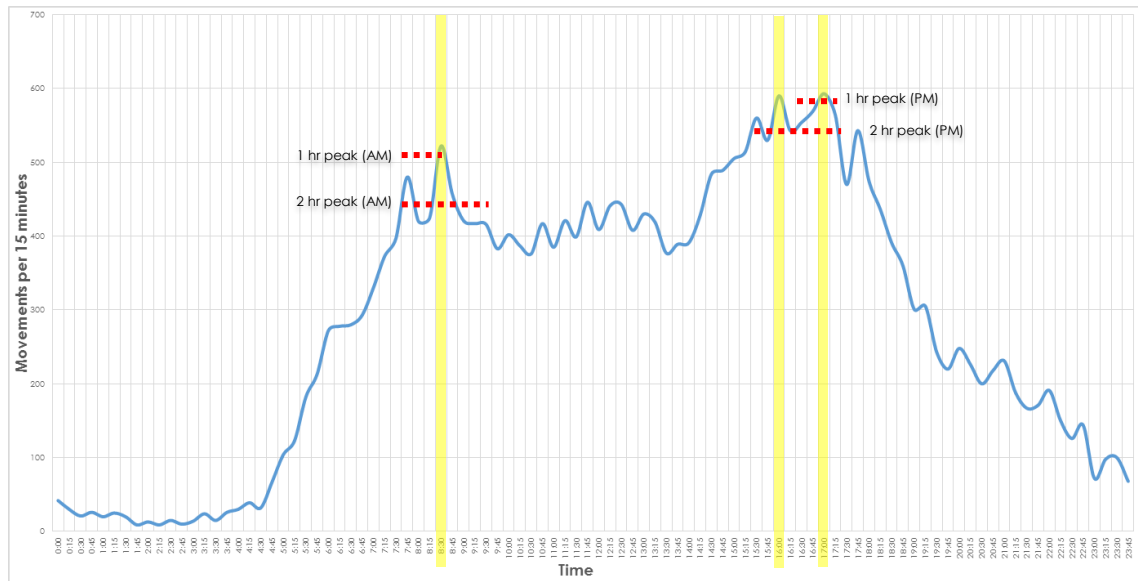
The results show that the peaks are short and sharp and represent minor levels of congestion that clear after periods of around five minutes. The one hour and two hour average peaks also show the variation over time.

**Figure 2.8: Daily Profile at the Intersection of Evans Street and Station Street (February 2015)**



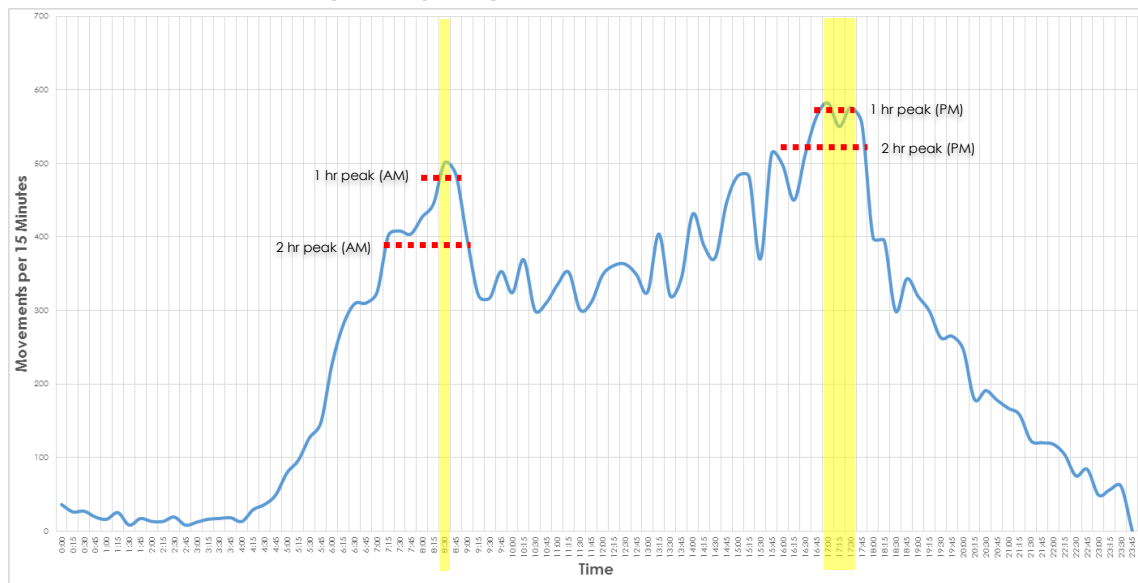
The PM peak at Evans Street and Station Street shows a particular short peak of around 15 minutes before demand reduces.

**Figure 2.9: Daily Profile at the Intersection of Horne Street / Vineyard Street and Mitchells Lane (February 2015)**



The intersection of Horne Street / Vineyard Road and Mitchells Lane has a more typical network peak with longer sustained volumes in the PM than the AM.

**Figure 2.10: Daily Profile at the Pedestrian Operated Signals East of the Roundabout at Macedon Street and Evans Street (February 2015)**



The traffic data demonstrates that the network in Sunbury experiences AM and PM peaks consistent with a typical day, and that within the peaks sharp peaks occur for a 15 minute period, with the exception of the POS east of the Macedon Street and Evans Street roundabout which has an afternoon peak that lasts for 45 minutes.

Notwithstanding, each of these peaks are considered to be manageable with the level of demand travelling through the intersections relatively minor. This data indicates that the peaks in Sunbury are very short in their duration, and as such these areas are not congested for a long period of time.

## 3. Strategic Transport Modelling

### 3.1 Overview

In October 2015, GTA Consultants prepared a report titled "Strategic Transport Modelling of the Sunbury and Diggers Rest Growth Corridor (Sunbury South PSP 1074 & Lancefield Road PSP 1075)". That report outlined the impacts of potential new road crossings of Jacksons Creek, with nine potential options for works to improve transport in the area. These are summarised in Table 3.1.

**Table 3.1: Previously Identified Options to Improve Access to Sunbury Growth Corridor**

Option	Creek Crossing in PSP 1074	Railway Station in PSP 1074 (Jacksons Hill Station)	Creek Crossing in PSP 1075	Railway Station in PSP 1075 (Raes Road Station)	Additional Connection to Calder Highway south of PSP 1074	Comments
1	✓	✓	✓	✓		
2	✓	✓		✓		
3			✓	✓		
4				✓		
5	✓	✓	✓	✓	✓	
6	✓	✓	✓	✓	✓	No OMR
7	✓	✓		✓	✓	No OMR
8			✓	✓	✓	No OMR
9				✓	✓	No OMR

Note: OMR = Outer Metropolitan Ring Road

The options assessed as part of the 2015 report were undertaken for 75% and 100% of development of the PSPs of Lancefield Road, Sunbury South, Sunbury North, Diggers Rest and Sunbury West.

The outcomes of this report are referred to within this evidence.

### 3.2 VITM Reference Case

All modelling in the growth area relies upon the information provided in the Victorian Integrated Transport Model (VITM) Reference Case as a starting point for analysis. The VITM Reference Case includes a list of transport projects and policies together with a set of land use for a given year. It is important to note that the inclusion of projects in future year networks in the Reference Case does not imply there is any commitment from the Government or the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) to undertake these projects.

DEDJTR advises that the projects within the Reference Case represent a reasonable estimate of investment in the future network for the purposes of modelling demand in the transport system.

The land use aligns with the Victoria in Future (VIF) population projections produced by the Department of Environment, Land, Water and Planning (DELWP), both in terms of the level and distribution of growth. They are broken down into smaller areas for transport modelling. While established land use development trends are relied upon in these forecasts, a degree of policy shift is also captured, along with planned land release, renewal sites and infrastructure projects.

The Reference Case is owned and controlled by DEDJTR.

### 3.3 Limitation of Strategic Transport Modelling

It is important to note the limitations that a strategic transport model has. Principally, it is a tool used to evaluate the performance of a transport network based on the travel decisions that people make on a day to day basis. Travel demand is generated in a strategic model based on demographic information including the households, education, retail and employment based trips.

They are *not* generally used to predict exact volumes on roads (or patronage on public transport) rather they are used to analyse the travel demand for a specific scenario (and to compare against). They can be used for corridor studies, wide area impact studies, major road projects, major public transport projects, different land use change scenarios, travel demand change / mode shift assessments and policy settings (i.e. public transport fares, parking charges, toll charges etc.).

This project used the model to determine the impacts of the introduction of the Sunbury South and Lancefield Road PSPs, the Jacksons Creek crossings scenarios, as well as a range of supporting infrastructure that is to be delivered in future years.

### 3.4 Inputs and Assumptions

As part of the preparation of the modelling and analysis, the land use inputs and transport network assumptions that have been included in the version of VITM were provided to GTA by the VPA in consultation with VicRoads, Council and DEDJTR.

#### 3.4.1 Stakeholder Engagement

A number of stakeholders were involved in the preparation of the strategic transport modelling, including extensive collaboration with VPA, Hume City Council, DEDJTR, VicRoads and PTV. Specifically, the stakeholder group provided input and confirmation of key items such as land use and transport networks.

### 3.5 Supplementary Report

In February 2017, GTA Consultants prepared a report titled "Sunbury Growth Corridor – DCP Modelling Supplementary Report<sup>3</sup>". The purpose of the report and the modelling task was to assess the impact of 25% of the potential future development of PSPs 1074 and 1075 (5000 lots in Sunbury South and Lancefield Road PSPs), and the impact on Sunbury Road and the Sunbury Town Centre for the initial stages of development.

Four options for mitigating works were identified and tested to determine the most effective way to accommodate development in Sunbury, while best maintaining the functionality of the road network.

The report concluded that the introduction of the Jacksons Creek crossing provides reductions in peak hour traffic flows through the Sunbury Town Centre, as the Jacksons Creek crossing provides an attractive alternative for traffic accessing the Calder Freeway.

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<sup>3</sup> GTA Consultants, Sunbury Growth Corridor DCP Modelling Supplementary Report dated 2 February 2017

## 4. Strategic Transport Planning Evaluation

There are a number of key State and Local Government policy documents applicable to the Sunbury Growth Corridor which provide guidance on appropriate land use and development, as well as the transport facilities that are proposed to support the anticipated development and what the desired transport network will look like in the future.

In this regard, a review of the following State and Local Government documents has been undertaken to inform this evidence. These documents are discussed in the below sections, with consideration as to how they relate to the Amendments C207 and C208.

### 4.1 Statutory & Other Key Legislative Controls

#### 4.1.1 Transport Integration Act (2010)

The Transport Integration Act is the primary transport statute for Victoria, and has caused significant change to the way transport and land use authorities make decisions and work together. The Act enshrines a triple bottom line approach to decision making about transport and land use matters. Decision makers must have regard to the following objectives and principles:

- social and economic inclusion
- economic prosperity
- environmental sustainability

The Act requires that all transport agencies work together to achieve an integrated and sustainable transport system, and that land use agencies such as the DEDJTR take account of transport issues in land use decisions. The Act has been effective to date in changing the focus of organisations that traditionally only considered a single transport mode.

The Act:

- unifies all elements of the transport portfolio to ensure that transport agencies work together towards the common goal of an integrated transport system
- provides a framework for integrated and sustainable transport policy and operations
- recognises that the transport system should be conceived and planned as a single system performing multiple tasks rather than separate transport modes
- integrates land use and transport planning and decision-making by extending the framework to land use agencies whose decisions can significantly impact on transport ("interface bodies")
- re-constitutes transport agencies and aligns their charters to make them consistent with the framework.

The Act forms an overarching legislative framework for transport related state planning policies and has been integrated within the Victoria Planning Provisions (VPP).

The relevance to the Amendments C207 and C208 is that it is critical for planning decisions to consider the impact transport and land use have on each other into the future. The proposed Jacksons Creek crossings do exactly this; they demonstrate the integration between land use and transport and provide transport choice for both the existing and future land uses in the area.

#### 4.1.2 Clause 18 of the Hume Planning Scheme

Clause 18 of the Hume Planning Scheme contains objectives and strategies in relation to transport which are relevant to these Amendments, including, but not limited to:

- Create a safe and sustainable transport system by integrating land-use and transport.
- Coordinate development of all transport modes to provide a comprehensive transport system.
- Reserve land for strategic transport infrastructure.
- Upgrade and develop the Principal Transport Network and local public transport network in Metropolitan Melbourne.
- Provide a Principal Public Transport Network that allows for circumferential, in addition to radial movements.
- Manage the road system to achieve integration, choice and balance by developing an efficient and safe network and making the most of existing infrastructure.
- Facilitate and safeguard pedestrian and cyclists' access to public.
- Promote the use of sustainable personal transport.
- Integrate planning for cycling with land use and development planning and encourage as alternative modes of travel.
- Achieve greater use of public transport by increasing densities, maximising the use of existing infrastructure and improving the viability of the public transport operation.

This clause sets out a range of objectives and strategies which seek to support population and employment growth together with a need to manage the by-product of that growth in the form of increased demand on the transport system.

Transport choice is one of the desirable outcomes of planning for growth whereby real alternatives exist for people to travel by private car in-road, public transport, as well as walking and cycling.

Amendment C207 and C208 require the use of land for two key crossings of Jacksons Creek. They will also provide adequate improvements to the existing network to ensure that movement through the areas and across arterials can be achieved.

These creek crossings are important for these PSPs, and the wider Sunbury area as they will mitigate any detrimental impacts on the existing road network. They provide choice in the road system, by allowing new connections around Sunbury, without having to pass through the Sunbury Town Centre.

#### 4.1.3 Hume Integrated Land Use and Transport Strategy (2011)

The Hume Integrated Land Use and Transport Strategy highlights key land use and transport initiatives to improve transport options within the municipality. It provides a framework to better provide land use and transport together.

The Strategy lists several policies, guiding principles, strategic directions, advocacy items and actions, with the following relevant to the Amendments C207 and C208:

- Action 2.6 notes the investigation of a new railway station in Sunbury North.
- A number of improvements to the road network within the municipality have been identified to be advocated for including duplication of Sunbury Road.

#### 4.1.4 Sunbury Hume Integrated Growth Area Plan (HIGAP)

##### Sunbury HIGAP Delivery & Infrastructure Strategy (2012)

This strategy builds on the original HIGAP by providing actions and timing for the delivery of new development and infrastructure within the Sunbury Growth Corridor.

The strategy identifies the 'Southern Link' (the southern Jacksons Creek crossing), as being:

- *"critical to enabling development in both Sunbury South and Sunbury South East and East to commence and to advance"*

It notes its importance for accessibility by private car, public transport and walking and states that the crossing should be constructed from the outset of the development of Sunbury South to ensure this access is provided early on as it is required in the short term.

This report also notes the 'northern link' (the northern Jacksons Creek crossing) as being important to provide improved access to Sunbury Town Centre and the Calder Freeways in connecting communities, and that additional assessment should be undertaken for the to confirm future alignment of this route (which has now been completed and included in the exhibited documents).

##### Sunbury HIGAP Spatial Strategy (2012)

The Spatial Strategy was developed in conjunction with the Delivery and Infrastructure Strategy and provides a spatial representation of Sunbury both now and in the future.

The Strategy shows both of the Jacksons Creek crossings in the future scenarios, as they form to become an orbital loop around the existing Sunbury Town Centre. It notes the need for additional investigation to determine alignments of these crossings (which has now been completed and included in the exhibited documents), though highlights the need of these crossings in order to provide access around Sunbury without going through the Sunbury Town Centre

The need for additional crossings in Sunbury is a clear direction for future planning of Sunbury and has been considered as part of both Amendment C207 and C208.

#### 4.1.1 Municipal Strategic Statement

The Municipal Strategic Statement (MSS) for Hume City Council is outlined in Clause 21 of the Hume Planning Scheme.

The key objective most relevant to this project is **Clause 21.04-2 – Freeways, Local Roads, Declared Arterial Roads**, which aims to:

*"ensure the timely provision of road infrastructure in order to encourage economic development, ensure the well being for the community and protect the environment."*

The vision for this aspect of the project aligns well with Amendments C207 and C208 in that it seeks to provide road infrastructure in a timely manner, such as upgrades of Lancefield Road, Sunbury Road and the two crossings of the Jacksons Creek.

## 4.2 Population Growth

### 4.2.1 Victoria in Future 2016

Victoria in Future 2016 is a State Government report that outlines the population and household projections to 2051. The projections are driven by assumptions regarding demographic and land use trends based on population estimates from the Australian Bureau of Statistics (ABS) and results of the 2011 ABS Census.

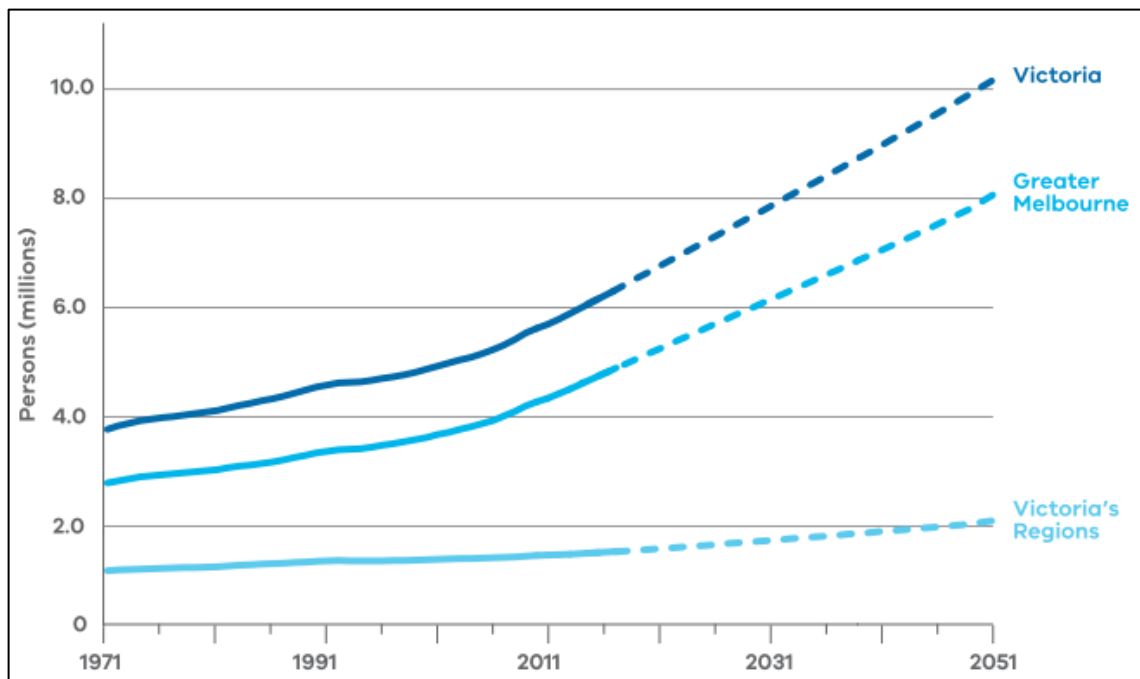
The growth is anticipated to occur as a result of natural increase, interstate and overseas migration.

Victoria in Future 2016 states that population growth within Greater Melbourne is anticipated to continue, with a total of 8 million people projected by 2051, an increase in 3.8 million people, almost double, from 2011.

In addition to forecasting population, living arrangements households and dwelling types have also been calculated. In 2011 an estimated 1.5 million dwellings were in Greater Melbourne, which is expected to grow to 2.3 million by 2031, an increase of 48%, as shown in Figure 4.1.

This population growth and these dwellings will need to be provided across Greater Melbourne, in existing areas and within growth corridors. Given the proximity of Sunbury to the Melbourne CBD being only 33km apart, Sunbury South and Lancefield Road PSPs are an appropriate location for new population and dwellings.

**Figure 4.1: Figure 3 of Victoria in Future 2016: Estimated Resident Population, Victoria and major regions 1971 to 2051**



Source: Victoria in Future 2016, Figure 3

Victoria in Future 2016 also notes LGA specific growth anticipation. The City of Hume is expected to grow by 77%, an additional 44,000 dwellings between 2011 and 2031. A lot of this growth will occur in the Northern Growth Corridor, though a proportion of this growth will occur along Sunbury Growth Corridor.

The following section expands on the projected growth around the Sunbury area.

## 4.2.2 PSP Projections

The land use specifications for the PSPs within Sunbury and Diggers Rest Growth Corridor were provided by the VPA and Hume City Council, and are summarised in Table 4.1.

**Table 4.1: Sunbury and Diggers Rest Growth Corridor Land Use Summary (2046)**

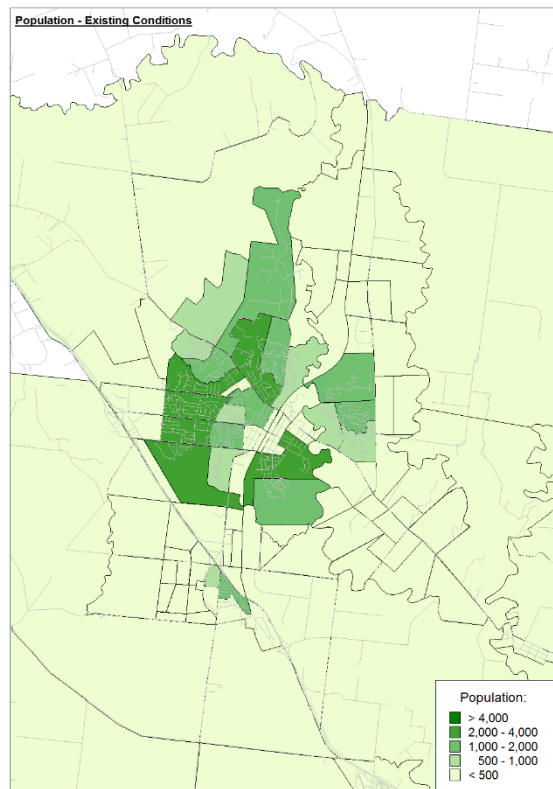
Area	2046			
	Population	Retail Employment	Total Employment	Enrolment
Existing Sunbury Township	45,915	3,430	9,939	8,002
Sunbury South Precinct (PSP 1074)	29,370	1,050	4,113	2,853
Lancefield Road Precinct (PSP 1075)	21,580	683	1,664	11,502
Sunbury West Precinct (1095)*	7,155	233	350	450
Sunbury North Precinct (1072)*	17,373	167	552	451
Diggers Rest Precinct (PSP 1073)	11,846	333	1,792	451
External	1,900	22	448	0
<b>Total Sunbury and Diggers Rest Growth Corridor</b>	<b>135,139</b>	<b>5,918</b>	<b>18,858</b>	<b>23,709</b>

\*Full details of Sunbury West and Sunbury North Precincts are still unknown.

Ultimately, the Sunbury and Diggers Rest Growth Corridor will total a population of 135,139, which is an increase of approximately 235% (existing population is 40,211). Total employment and school enrolments will increase by approximately 120% and 255% (existing total employment is 8,630 and total enrolments are 6,697), respectively.

Plots illustrating the location and makeup of the existing and future land uses in the Sunbury and Diggers Rest Corridor are provided in Figure 4.2 through Figure 4.5.

**Figure 4.2: Population (Existing)**



**Figure 4.3: Population (2046)**

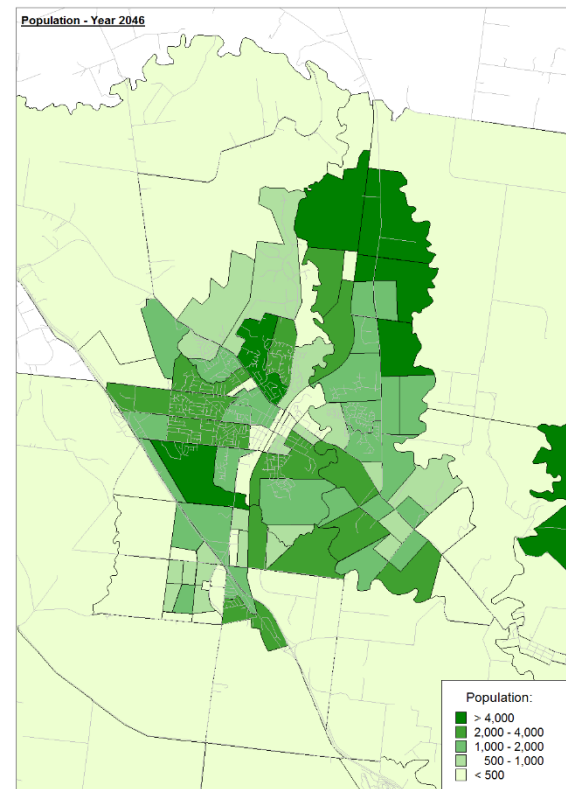


Figure 4.4: Employment (Existing)

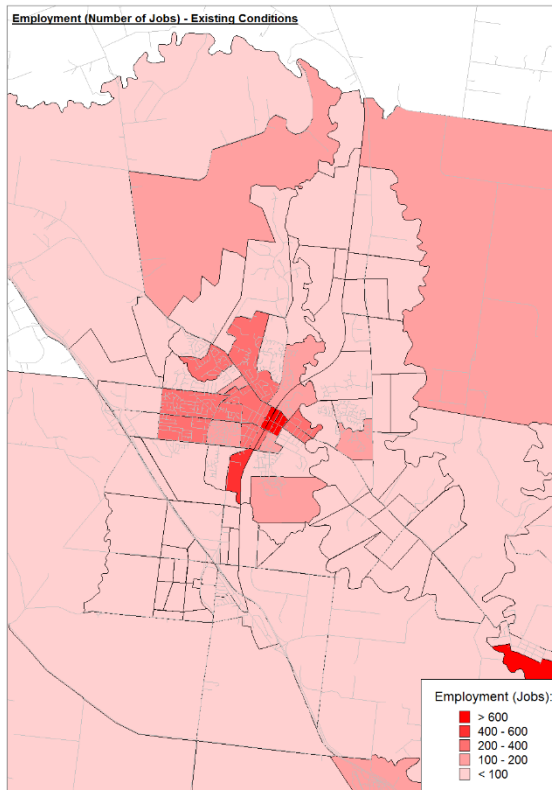
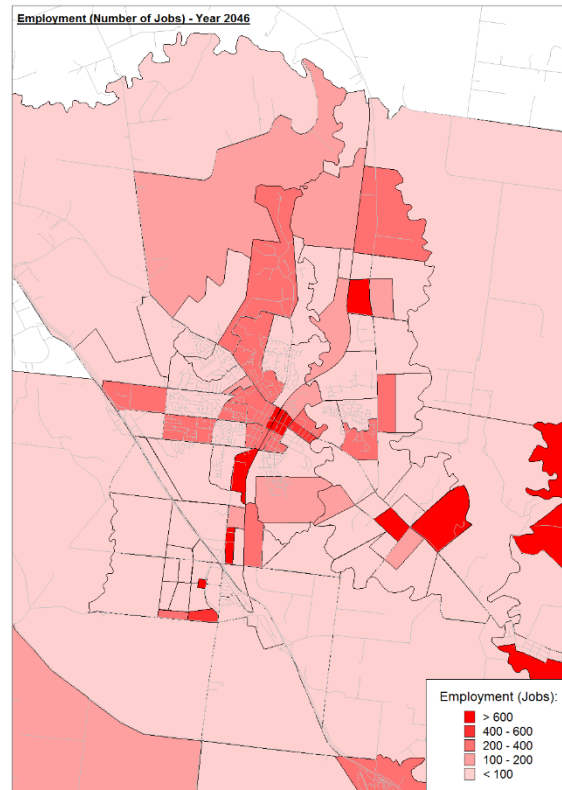


Figure 4.5: Employment (2046)



These plots show that the population of Sunbury will grow significantly, with a lot of this growth occurring to the north-east and the south, that is, in the Lancefield Road and Sunbury South PSP areas, respectively, with not much growth occurring within the Sunbury Town Centre itself.

Employment in Sunbury will also grow, with part of this to occur within the new activity centre in the Sunbury South PSP area, and additional growth occurring generally across the Lancefield Road PSP area, and to the north of Sunbury along Racecourse Road.

### 4.3 Plan Melbourne (2017-2050)

The Victorian Government released the Metropolitan Planning Strategy, Plan Melbourne (The Plan) in 2014. The Plan aims to guide Melbourne's housing, commercial and industrial development through to 2050. In 2017, the State Government updated The Plan (the Refresh), and it will continue to be reviewed and updated every 5 years.

Reiterating the information outlined in the Victoria in Future report, The Plan notes that one of Melbourne's key challenges is its growing population, as the city has grown by 800,000 people in the decade prior to 2017. As such, a key focus of The Plan is the way in which population growth is managed, and that it serves the current and future needs of Melburnians. The Plan indicates that population growth will be kept within the existing urban growth boundary, in which both the Sunbury South and Lancefield Road PSPs lie.

The Plan is underpinned by nine principles that provide a long-term vision for Melbourne, seven outcomes that drive the city's growth, and a range of supporting directions and policies.

The Plan identifies the following transport initiatives that are considered relevant to the Sunbury South and Lancefield Road PSP areas:

- The Metro Rail Tunnel, which will form part of the Sunbury Line once completed. This project will create additional capacity and will include other key improvements to the line, such as signalling, allowing more services to be run.
- Direction 3.2 is to improve transport in Melbourne's outer suburbs, focusing on improving roads within growth areas.

Both the Sunbury South and Lancefield Road PSP areas have the potential to provide for a transport system that aligns with the objectives within The Plan. Specifically, the delivery of new stations on the Metro Line and new and upgraded local and arterial roads will be provided.

## 4.4 Summary of Policy Review

My review of the existing policy documents raises a number of key transport themes which have relevance to these Amendments. These themes include the integration between land use and transport, the provision of choice in transport options and the provision of adequate infrastructure.

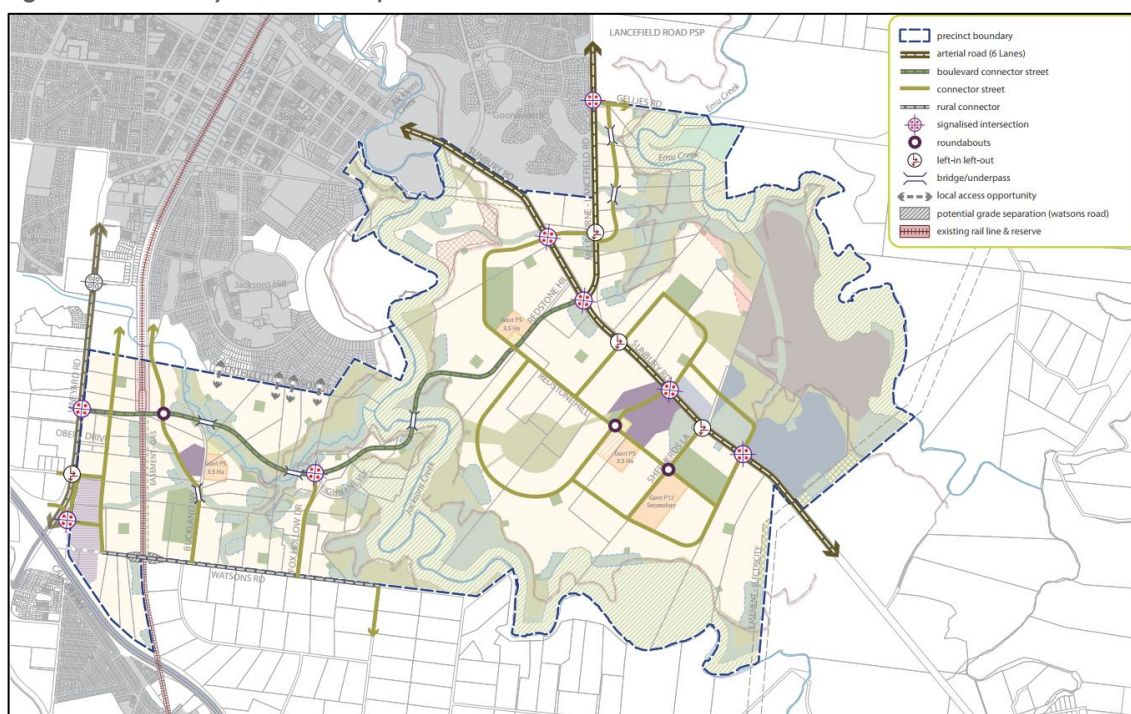
The above themes are all relevant to the upgraded arterial road network and the proposed Jacksons Creek crossings, in that these crossings will provide improved transport choice for the new land uses within these PSP areas. They will also provide existing and future residents of Sunbury with more choice in how they move about the area.

## 5. The Amendments

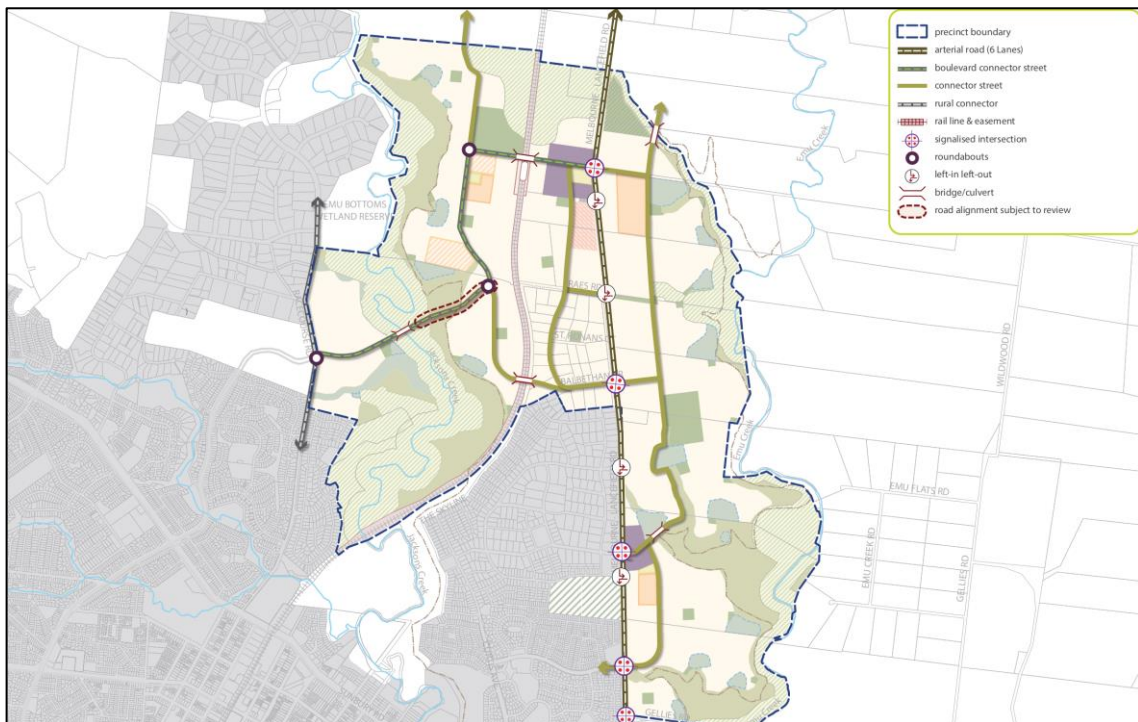
### 5.1 Overview

This section describes the two Amendments and the key transport related elements that are provided within each that impact on the regional transport network. The proposed road network for Sunbury South as depicted in the Urban Structure Plan is shown in Figure 5.1 whilst Lancefield Road is shown in Figure 5.2.

**Figure 5.1: Sunbury South PSP Proposed Road Network**



**Figure 5.2: Lancefield Road PSP Proposed Road Network**



## 5.2 Transport Characteristics

### 5.2.1 Arterial Road Network

#### Sunbury Road

Sunbury Road is an arterial road controlled by VicRoads and connects Sunbury to Melbourne Airport and the Tullamarine Freeway. It is a four lane divided road between Powlett Street and Racecourse Road and forms a two-lane road in the remaining section of the corridor. Sunbury Road will ultimately consist of a six lane cross section between Diggers Rest Road and Racecourse Road, and a four lane cross section north of Racecourse Road.

#### Vineyard Road

Vineyard Road is a four lane divided arterial road controlled by VicRoads and provides access from the Sunbury Town Centre to the Calder Freeway. At full development of the PSPs, Vineyard Road will ultimately consist of a six lane cross section in the vicinity of the Calder Freeway.

#### Melbourne-Lancefield Road

Melbourne-Lancefield Road (locally known as Lancefield Road) is a two-way sealed road aligned in a north-south direction. It provides connection from Sunbury Road in the south to the Lancefield Township, and will ultimately consist of a six lane cross section (three lanes in each direction) through the Lancefield PSP.

### 5.2.2 Key Intersections

The following existing intersections are considered to be important in the transport network in the vicinity of the Sunbury South and Lancefield Road PSPs and will be upgraded at full development of the PSPs:

- Melbourne-Lancefield Road / Sunbury Road (roundabout upgraded to signals)
- Melbourne-Lancefield Road / Balbethan Drive (unsignalised T-intersection upgraded to signals)
- Melbourne-Lancefield Road / Gellies Road – (unsignalised T-intersection upgraded to signals)
- Vineyard Road / Old Vineyard Road / Moore Road – (unsignalised X-intersection upgraded to signals)

Other upgrades will be required on both the arterial and local road networks to create new connections to land uses and communities within the PSPs, however are not considered to impact on the regional movement. Each of the intersections listed above will provide improved connectivity through and across the arterial road network as well as improved safety benefits.

### 5.2.3 Jacksons Creek Crossings

Currently, there is one main crossing of Jacksons Creek within Sunbury which is located on Sunbury Road, south east of the Sunbury Town Centre. This crossing is a two-lane, two-way bridge, though on the Sunbury Town Centre side of the bridge, the road flares to become a four-lane road, whilst on the southern side of the bridge it is a three-lane road.

Sunbury Road is the only way to travel into the Sunbury Town Centre from the Sunbury South or Lancefield Road PSPs. It is identified in the Sunbury South PSP as being upgraded to a six lane cross section.

### 5.2.4 Internal Road Network

The internal road network for the two PSPs is underpinned by a grid network of collector and boulevard road types that provide internal connectivity to local convenience centres as well as the external network.

## 6. Bulla Bypass

### 6.1 Bulla Bypass Planning Study – AECOM

AECOM was engaged by VicRoads to undertake strategic transport modelling using the VITM for a bypass of Bulla<sup>4</sup> and a Melbourne Airport Link. The study provided a high level assessment of various network options.

The effects of the proposed link and bypass were tested alongside the Outer Metropolitan Ring (OMR). Five options with varying combinations of the Bulla Bypass and Melbourne Airport Link were tested, which represented potential ultimate scenarios for the road network.

The modelling results showed that the best performing networks all included the Bulla Bypass as being operational by 2046. An economic evaluation found that four route options provided a value for money investment, with a positive benefit cost ratio ranging from 1.7 to 2.4. The report also concluded that the Bulla Bypass options provided local amenity benefits.

### 6.2 Current Status

The proposed Bulla Bypass is an arterial road that is envisioned to improve connectivity between the Sunbury & Diggers Rest Corridor and the Tullamarine Freeway, and relieve pressure on the already congested Sunbury–Bulla Road. The bypass route will begin east of Oaklands Road on Somerton Road in Greenvale and extend in a westerly direction along Somerton Road, connecting with Sunbury Road (west of Bulla).

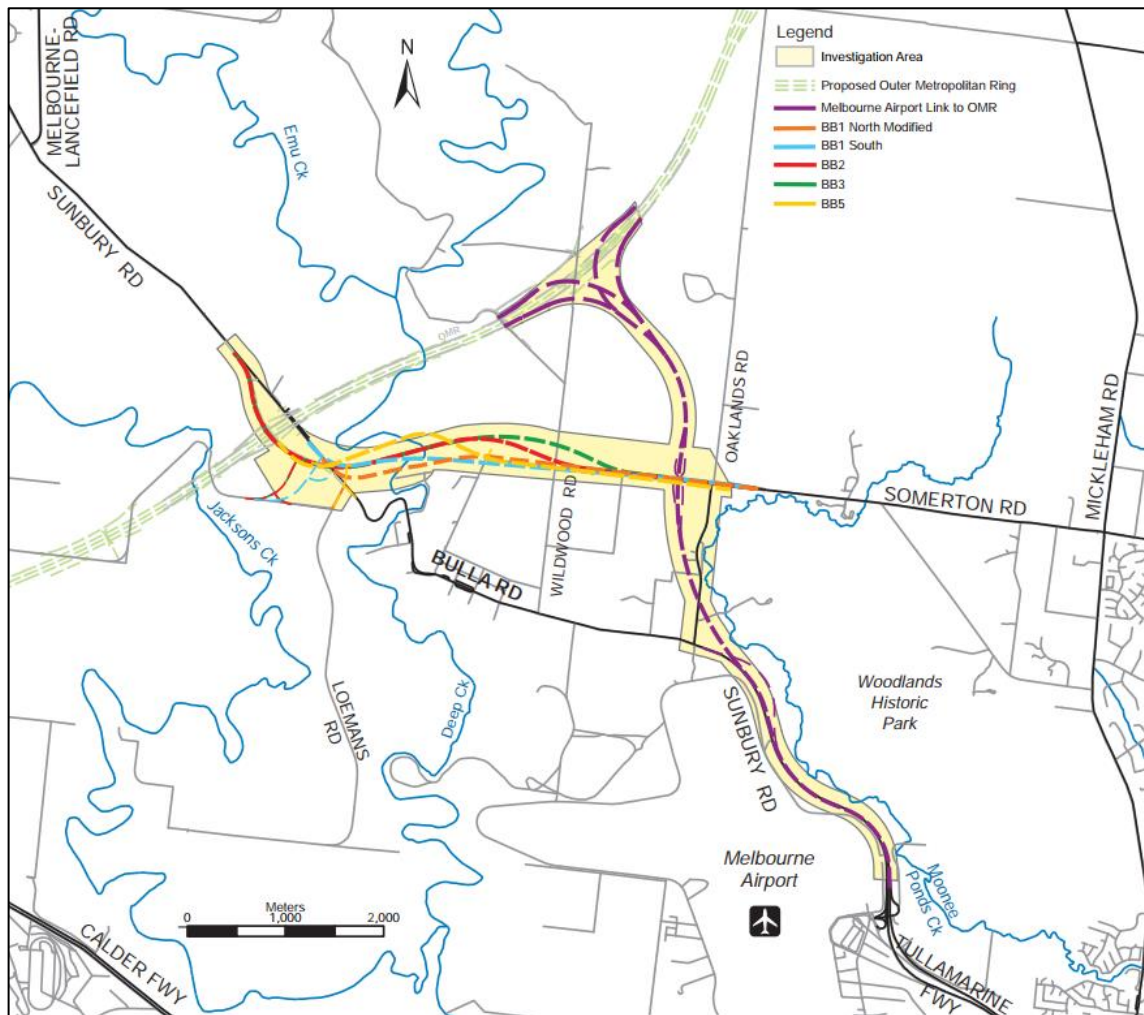
The preferred alignment was prepared as part of Amendment C190 to the Hume Planning Scheme and submitted to the Minister for Planning for approval however the amendment was not approved. In response to the panel report, the minister requested that the proposed alignment be reviewed, particularly in relation to the Oaklands Road section.

VicRoads have advised that a full review of the alignment has not yet been completed, and is likely to occur over the next 6-12 months. Subsequently, VicRoads have advised that continued dialogue between agencies will be required to determine an appropriate way forward.

After completing and satisfying the planning matters, a business case will be prepared. VicRoads has advised that it is expected that construction of the bypass will occur in the next 10-15 years.

<sup>4</sup> AECOM, Bulla Bypass / Melbourne Airport Link Planning Study, 22 August 2013

Figure 6.1: Bulla Bypass Options



Source: Figure 6 of the Bulla Bypass / Melbourne Airport Link to Outer Metropolitan Ring Planning Study, Planning and Environmental Assessment Report, by VicRoads, dated November 2014.

## 7. Jacksons Creek Crossings

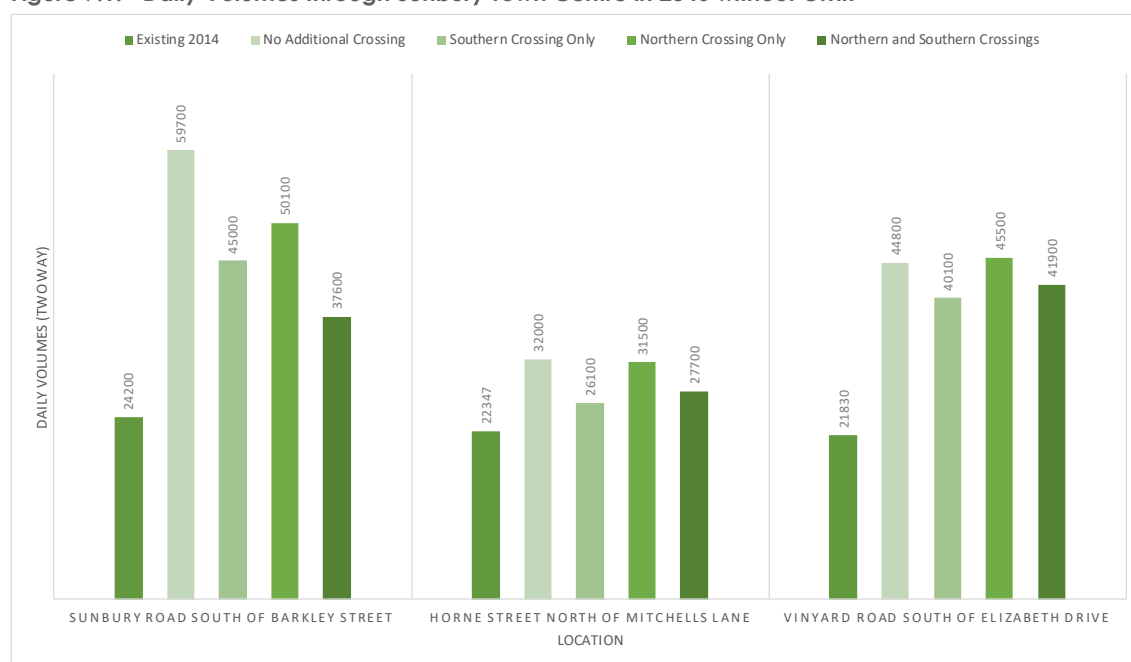
### 7.1 The Need for a New Crossing

The need for additional crossings of Jacksons Creek from a transport perspective needs to be investigated by understanding the performance of the network without the additional bridges in place. Moreover, understanding the key components of the network that are benefited by the inclusion of the bridges will provide insight into their need.

Indeed, my brief is not to determine whether or not growth in Sunbury should occur, it is whether or not, amongst other things, the proposed bridges benefit the transport network.

Transport modelling<sup>5</sup> shows that within the Sunbury Town Centre the introduction of one or two additional crossing of Jacksons Creek will result in lower daily volumes on the road network on Sunbury Road, Horne Street and Vineyard Road at full development of the PSPs and surrounding areas, as summarised in Figure 7.1 and Figure 7.2.

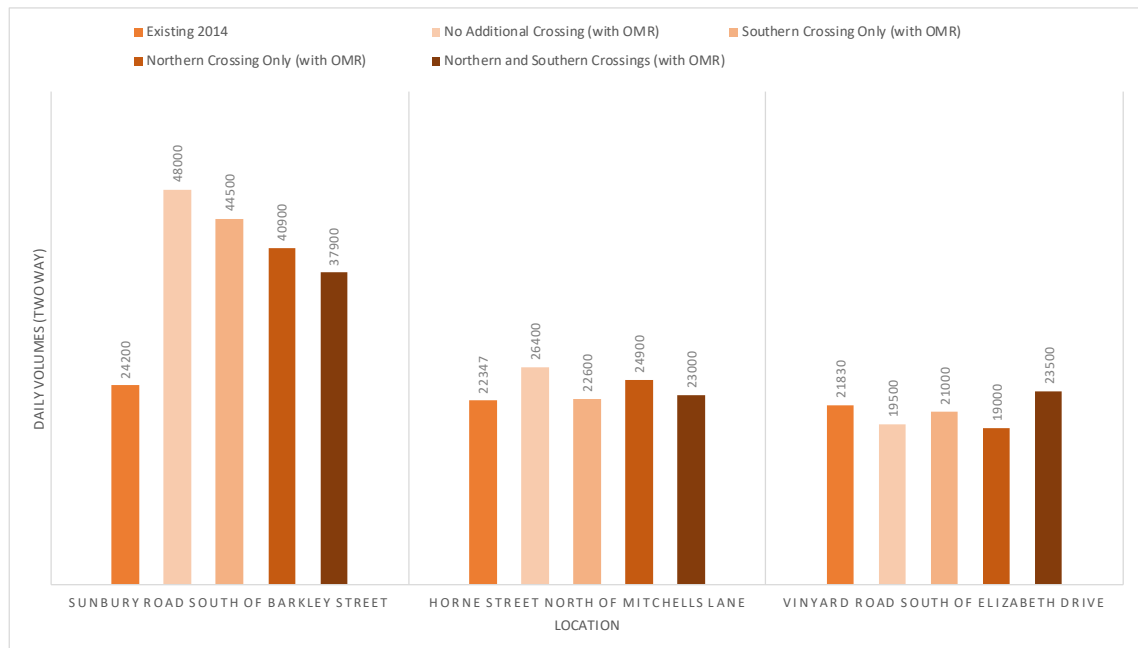
**Figure 7.1: Daily Volumes through Sunbury Town Centre in 2046 without OMR**



\*Based on Options 6-9 of GTA Report dated October 2015  
OMR – Outer Metropolitan Ring Road

<sup>5</sup> GTA Consultants, Strategic Transport Modelling of the Sunbury & Diggers Rest Growth Corridor Report, Ref No. 15M1526000, dated 5 October 2015

**Figure 7.2: Daily Volumes through Sunbury Town Centre in 2046 with OMR**



\*Based on Options 1-4 of GTA Report dated October 2015  
OMR – Outer Metropolitan Ring Road

The modelling demonstrates that in each of the options that include an additional river crossing, volumes in Sunbury reduce accordingly. Of note is Sunbury Road south of Barkley Street, which will experience significant benefit with the introduction of one and two crossings. The southern crossing is more likely to provide increased benefit to the Sunbury Town Centre as this provides the higher reduction when compared to the northern crossing in isolation.

A second crossing will result in reduced traffic travelling through the Sunbury Town Centre as well as improved levels of congestion. This is exhibited by the level of service plots that are discussed in Section 9 of this report.

## 7.2 Jacksons Creek Crossing Bridge Volumes

I have also extracted the daily volumes on the two bridges for each of the options from the model at full development which are reproduced in Table 7.1. The table also includes the daily volumes for the 2021 interim scenario which assumed 25% of development occurring by 2021.

**Table 7.1: Jacksons Creek Crossing Daily Volumes in 2046 (two way)**

Location	Both Bridges Constructed	Southern Bridge Constructed	Northern Bridge Constructed	Supplementary Option 2021* (Southern Bridge Constructed)
<b>Without OMR</b>				
Southern Bridge	20,800	21,500	-	13,000
Northern Bridge	17,400	-	18,700	-
<b>With OMR</b>				
Southern Bridge	[1] 11,100	11,200	-	-
Northern Bridge	14,300	-	15,200	-

\* Interim Option 1 as detailed in the GTA Supplementary Report Dated 02/02/2017

[1] Taken as Option 5 in the GTA Modelling Report Dated 05/10/2015

It is noted that each of the options presented in the 2015 GTA Report at 2046 assumed that the Bulla Bypass and Sunbury Road upgrades have been constructed.

The forecast volumes suggest that at full development of the PSPs and surrounding areas in all options without the OMR the daily volumes on the southern bridge will be in the order of 21,000 vehicles per day (two way) and with the introduction of the OMR will drop to around 11,000 vehicles per day. The northern bridge crossing is forecast to carry in the order of 19,000 vehicles per day without the OMR and in the order of 15,000 vehicles per day after the construction of the OMR.

In the years leading to the 2046 time-period, the resultant volumes on the bridges will likely depend on a number of factors including the timing of the delivery of infrastructure and wider capacity increases such as the OMR. It is clear that the OMR makes a difference to the demand on the bridges as it fundamentally alters the travel behaviour for motorists travelling from Sunbury into their destinations in Melbourne.

### 7.2.1 Suitability of Cross Section

In order to assess the appropriateness of the quantum of lanes that is required for a road, a number of factors must be considered including topography, horizontal alignment, side friction and intersection spacing. Capacity limits scoured from Austroads Standards "Guide to Traffic Management – Part 3 Traffic Studies and Analysis" document indicates that a two-lane road (one lane in each direction) will have a daily capacity of up to 18,000vpd whilst a four-lane arterial road has a capacity of up to 36,000vpd. Further, a general 'rule of thumb' for transport planning suggests that duplication of roads should occur at a range above 20,000 vehicles per day.

Indeed, there are several two-lane roads within metropolitan Melbourne that currently exceed 20,000vpd (including Sunbury Road) and have demonstrated that in certain situations they can still operate efficiently and safely. Needless to state that in each case the prevailing conditions will determine a roads ability to accommodate high demands prior to warranting duplication.

In order for volumes on the bridges within the two PSPs to exceed 18,000 vehicles per day a number of factors would need to be realised, including the level of land use development that occurs and the timing of regional infrastructure upgrades, all of which will likely be delivered before 2046.

Given that expected increase in network capacity will be delivered before full development of the Sunbury Growth Corridor, I would consider that the likelihood of volumes on the two bridges exceeding 18,000 vehicles per day is small and that the provision of one lane in each direction for the bridges functioning as collector roads is satisfactory.

## 8. The Need for an Interim Crossing

### 8.1 Introduction

I have been requested to assess the network effectiveness of an interim southern Jacksons Creek crossing in the event that construction of the Bulla Bypass is delayed, as well as any associated impacts on the existing Sunbury Town Centre.

In doing so, my review considers the overarching traffic impacts on the existing Sunbury Town Centre associated with the development of the PSPs, in particular, pinch points and intersection congestion.

Having reviewed the available information afforded in preparing this evidence, I regard the key question of note with the southern Jacksons Creek crossing is not whether or not it should be delivered, rather, what are the traffic and transport implications with its inclusion in the network. This section sets out the discussion in my response.

### 8.2 Assessment of an Interim Southern Jacksons Creek Crossing

Additional modelling was also undertaken by GTA in the Supplementary Report<sup>6</sup> to test the effectiveness of the network to respond to initial development growth in the Sunbury Growth Corridor in the advent of wider infrastructure upgrades such as the Bulla Bypass. The report assessed the impact of 25% of the potential future development of the two PSPs (1074 and 1075) and reported the impact on Sunbury Road and to the Sunbury Town Centre.

The modelling was undertaken for the following scenarios at 25% development of the PSPs:

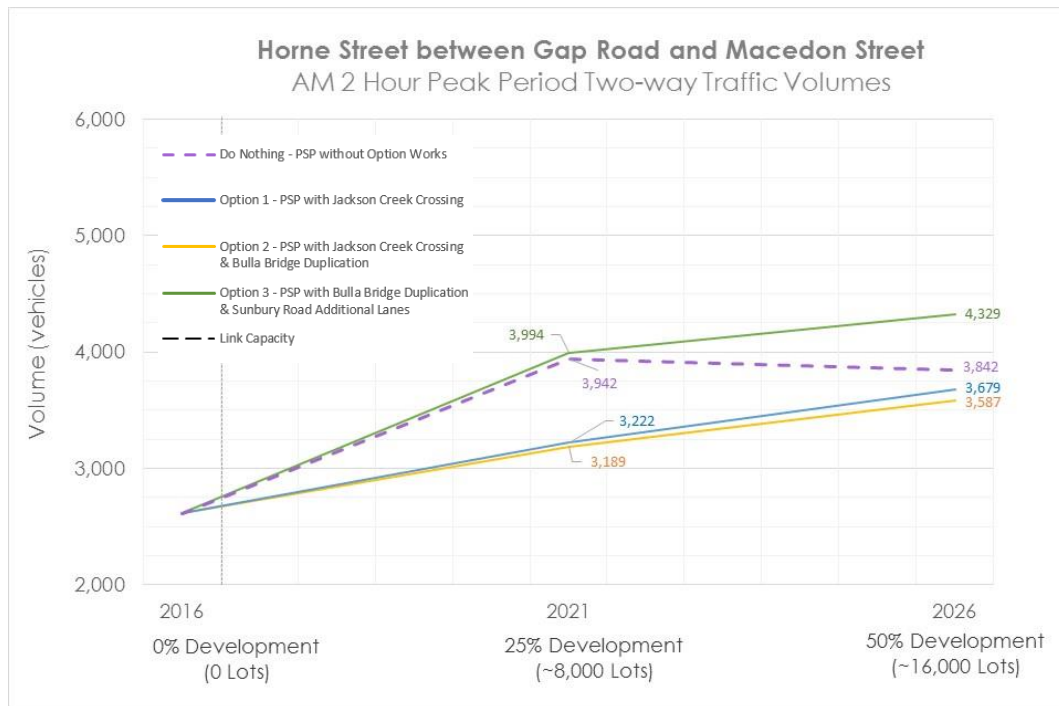
- Option 1 included the southern Jackson Creek crossing
- Option 2 included the southern Jackson Creek crossing, the duplication of the Bulla Bridge and the Sunbury Road Duplication between Wildwood Road and Bulla – Diggers Rest Road
- Option 3 included the duplication of the Bulla Bridge and the Sunbury Road Duplication between Wildwood Road and Bulla – Diggers Rest Road

It is noted that these options are in addition to those presented in the October 2015 GTA report.

Due to the current constraints on Sunbury Road through Bulla, the modelling showed that the majority of traffic associated with any new development in Sunbury South and Lancefield Road would result in a shift or redistribution of traffic through the Sunbury Town Centre to the Calder Freeway. To demonstrate, AM peak period volumes on Horne Street for each option are shown in Figure 8.1 which show that traffic is expected to decrease with the introduction of the southern Jacksons Creek crossing, regardless of whether or not capacity through Bulla is delivered.

<sup>6</sup> GTA Consultants, Sunbury Growth Corridor DCP Modelling Supplementary Report dated 2 February 2017

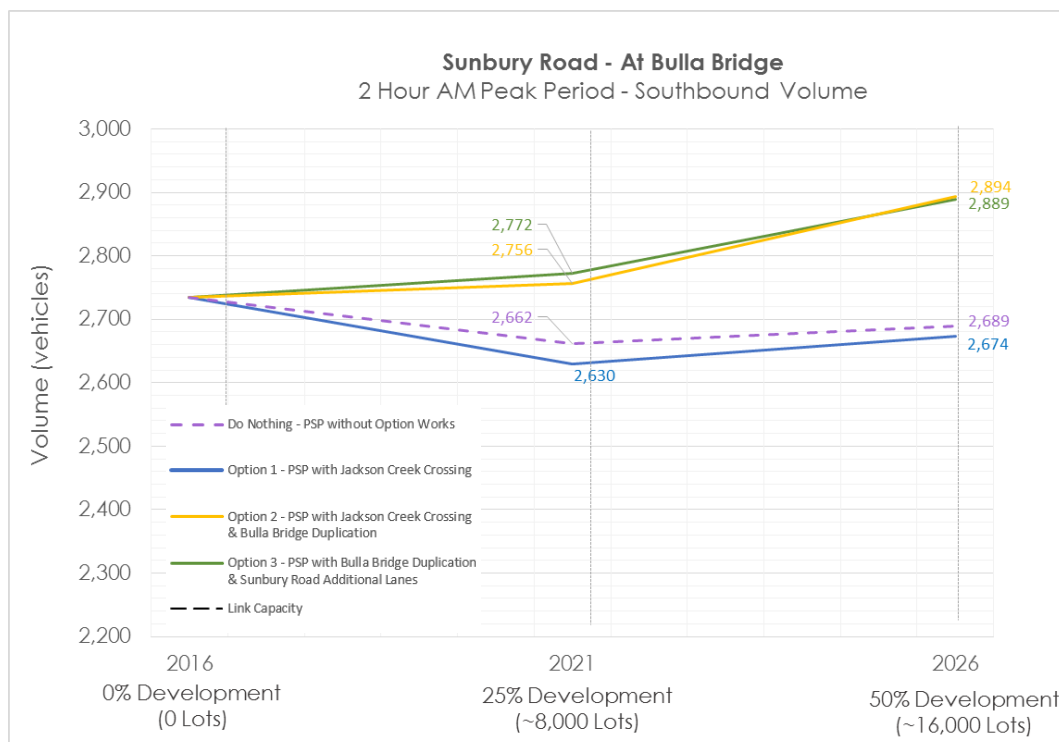
**Figure 8.1: Sunbury Town Centre Traffic, Horne Street (AM Peak)**



While the introduction of increased capacity through Bulla will provide a better outcome for motorists travelling to their destinations from Sunbury, the results show that volumes in the Sunbury Town Centre will not reduce with this improvement.

In addition, the AM peak period volumes on Sunbury Road through Bulla were extracted to understand what the impacts on demand would be as a result of increased capacity.

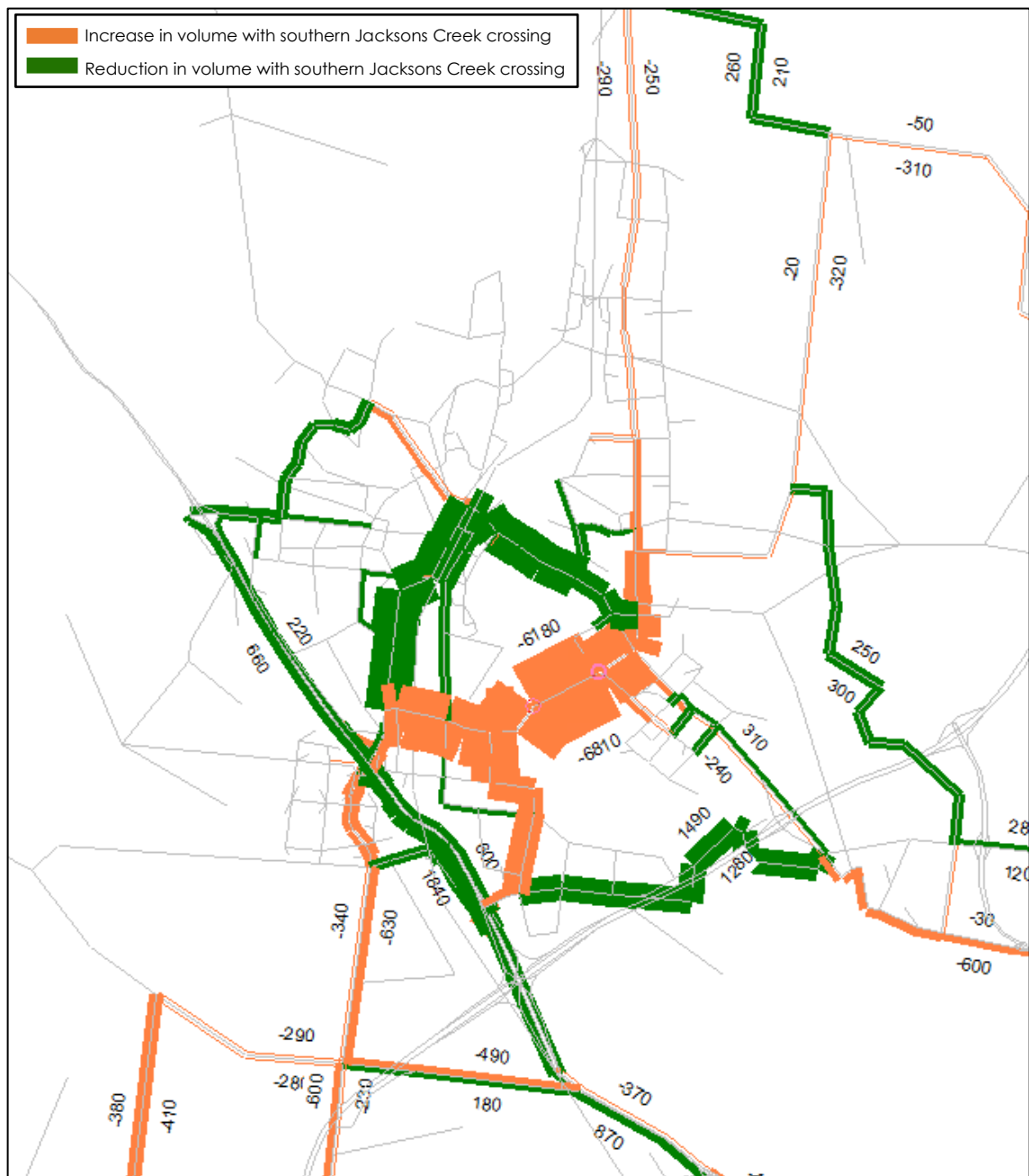
**Figure 8.2: Sunbury Road Traffic through Bulla (AM Peak)**



Volumes on Sunbury Road through Bulla will experience marginal variation. In particular, increased capacity will increase volumes in the order of 5%, indicating that whilst there will be some attraction through the centre the uplift may not be substantial.

The modelling demonstrates that the real benefit to traffic in the Sunbury Town Centre is achieved by the delivery of the Jacksons Creek crossing, which will result in lower volumes at both a daily level and during the commuter peak periods. Figure 8.3 is the daily difference plot between the 'Do Nothing' option and the introduction of the southern Jacksons Creek crossing, both at 25% development.

**Figure 8.3: Daily Volume Difference Plot (Do Nothing Vs Option 1)**



The introduction of a southern Jacksons Creek crossing will provide a more direct access for new and existing residents travelling to the Calder Freeway, rather than through the Sunbury Town

Centre which is a more circuitous route. The outcome is that motorists will either choose an alternate travel route (i.e. through the Sunbury Town Centre to Vineyard Road) or start their trip earlier, later or outside of the peak period.

### 8.3 Summary

It is important to note that my review does not consider or have regard for whether or not development should proceed, rather it assesses the implications for growth with the unconfirmed timing of the Bulla Bypass. A summary of the transport planning implications of the southern Jacksons Creek crossing is provided in Table 8.1.

**Table 8.1: Assessment of the Southern Jacksons Creek Crossing**

Measure	Without Southern Jacksons Creek Crossing	With Southern Jacksons Creek Crossing
<b>Without Bulla Bypass (i.e. no increase in capacity through Bulla)</b>		
Traffic movement through the Sunbury Town Centre	Traffic volumes are expected to increase through the Sunbury Town Centre particularly on Macedon Street, Home Street and Vineyard Road. Daily volumes on Home Street will increase from 22,000 to almost 34,000 vehicles per day by 2021. The increase in volumes will add congestion pressure on existing intersections and access points and may require localised capacity improvements. Sunbury Road between Francis Street and Barkley Street will experience the highest levels of congestion during both peak periods with volume to capacity ratios exceeding 1.0.	Reduced volumes through the Sunbury Town Centre with almost 6,000 less daily vehicles on Macedon Street, Home Street and Vineyard Road. Commuters travelling from Lancefield Road and Sunbury South seeking access to the Calder Freeway will be provided a more direct and faster route with more efficient travel path. Sunbury Road volume to capacity ratio reduces below 1.0 and congestion levels through the Sunbury Town Centre also reduce, resulting in more longevity from existing infrastructure.
Sunbury Road Traffic at Bulla	Sunbury Road traffic is expected to increase during the peak periods regardless of the current capacity constraints. Volumes are expected to be in the order of 36,000 vehicles per day by 2021, which is expected to be a result of peak spreading rather than increased throughput.	Marginal changes in traffic volumes on Sunbury Road with volumes to be within five percent of the with and without capacity options over the two-hour AM peak and 36,000 vehicles per day by 2021.
<b>With Increased Capacity through Bulla (i.e. Bulla Bypass or Similar)</b>		
Traffic movement through Sunbury	Increasing the capacity of the network through Bulla will not likely alter traffic patterns through the Sunbury Town Centre with daily volumes comparable on key roads to the 'do nothing' scenario in 2021. Does not reduce volumes on Sunbury Road through the Sunbury Town Centre in particular at the existing Jacksons Creek Bridge which carries in the order of 13,000 vehicles per day.	Volumes through the Sunbury Town Centre will be reduced by almost 6,000 vehicles per day on Macedon Street, Home Street and Vineyard Road with the introduction of a second river crossing. Reduces volumes on Sunbury Road at the existing Jacksons Creek crossing resulting in an improved level of service.
Sunbury Road Traffic at Bulla	From a regional level, the introduction of a Bulla Bypass does not provide an alternate route for motorists rather an improved outcome for the road user. In the short term, Sunbury Road traffic volumes are likely to be similar to the volumes without the bypass however the level of congestion and reliability for motorists will improve.	Similar volumes will be experienced through Bulla regardless of whether or not a southern bridge crossing is provided. The southern bridge crossing will result in improved flexibility for residents of Sunbury travelling through Bulla as it provides an alternative when accessing Sunbury Road from Bulla and not Sunbury West through Sunbury.

I am satisfied through the analysis undertaken that in the interim period before additional capacity is provided by the State Government, the transport network is likely to change its behaviour as a result of increased growth. A range of possible changes to this behaviour include:

- the diversion or re-distribution of traffic from Sunbury Road to other parts of the network, including the Calder Highway

- the potential to be attracted to alternate modes of transport which offer higher levels of service for commuters travelling to their place of work, particularly the Melbourne CBD
- a preparedness by residents of the new PSPs and those in the broader Sunbury area to alter their travel patterns by travelling outside of identified network peak hours.

It is also worth noting that the roll out of development will likely occur progressively and in that time improvements to the road and public transport network will occur.

In summary, it is clear that the southern Jacksons Creek crossing will not resolve the capacity issues of Sunbury Road, however it will provide significant transport benefit to the Sunbury Town Centre and give the network flexibility to facilitate the movement of traffic and people. As such, I do not consider that development of the two PSPs should be delayed in the absence of the Bulla Bypass.

## 9. Transport Network Impacts

### 9.1 Introduction

This section of the report aims to respond to the following components of my brief which is to assess:

- i Any overarching traffic impacts on the existing Sunbury Town Centre associated with the development of the PSPs, in particular, pinch points and intersection congestion.
- ii The impacts of growth on the existing local road network, including Crinnion Road, through Jacksons Hill Estate and on Racecourse Road.
- iii Impacts on traffic movements from regional Victoria to Melbourne, including congestion on Sunbury Road and Lancefield Road.
- iv Justification for the non-provision of a cross-town connection between Sunbury and the northern growth corridor.

### 9.2 Sunbury Town Centre Congestion

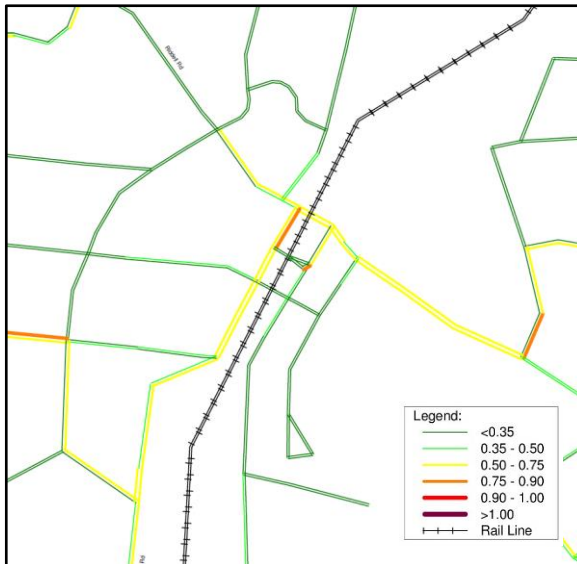
A limitation of strategic modelling is that it does not take into account the level of congestion at intersections due to operational performance such as signals and other traffic control devices. Strategic transport models do though have regard for midblock traffic congestion given it is a link based model.

As such, it is difficult to quantify the level of localised congestion both now and into the future, however I consider that these matters are those that can be addressed on a case by case basis rather than at a strategic or regional level.

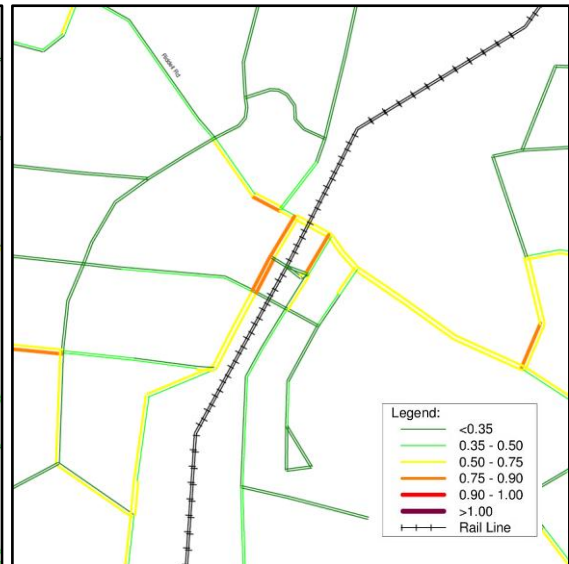
Having regard for the limitations outlined above, I have assessed the level of congestion based on outputs from the strategic transport modelling undertaken for the PSPs. As mentioned in Section 2 of this report, the current levels of congestion in Sunbury, excluding some localised congestion that is of a short nature, are generally low with degrees of saturation of less than 0.75 and 0.5, meaning that traffic on these roads are less than 75% and 50% of their theoretical capacity. For relativity, degrees of saturation greater than 0.9 and 1.0 are typically the point in which they impact on peoples travel choice, and alternative routes or modes are sought.

To understand the level of congestion in 2046 at full development of the PSPs, the degree of saturation outputs for the Sunbury Town Centre for the modelled two-hour AM and PM peak periods without the two Jacksons Creek crossings are reproduced in Figure 9.1 and Figure 9.2. The traffic volumes through the Sunbury Town Centre without the two Jacksons Creek crossings are the highest so this is considered to be a worst case for the Sunbury Town Centre.

**Figure 9.1: Sunbury Town Centre, Degree of Saturation, 2046, AM Peak (Option 4)**



**Figure 9.2: Sunbury Town Centre, Degree of Saturation, 2046, PM Peak (Option 4)**



The volume to capacity ratios are a good measure of the level of congestion that is likely to be experienced on the road network. The modelling shows that when compared to the 2014 existing network the Sunbury Town Centre maintains good levels of service with minimal congestion. There are areas (in particular Horne Street) that will be approaching a VCR in the order of 0.9, however this level will not likely be significant enough to alter people's decision making with regard to travelling through Sunbury. It is also highlighted that the above assessments at 2046 do include capacity increases on Sunbury Road.

### 9.3 Impact of Growth on the Existing Road Network

Growth on the Sunbury local road network will vary depending on the role that a particular road plays in the context of performing a local or sub regional purpose. Generally, growth on most of the existing local roads will not be expected to increase with the exception of Elizabeth Drive and Racecourse Road, with growth dependent on the introduction of the northern Jacksons Creek crossing.

Table 9.1 and Table 9.2 summarise the projected increases for each option assessed in 2046. A description of the options is provided in Table 3.1 of this report.

**Table 9.1: Expected Growth on Key Roads in Sunbury**

Location	Existing (2014)	Option 1 (2046)	Option 2 (2046)	Option 3 (2046)	Option 4 (2046)
Riddell Road north of Old Riddell Road	7,050	13,100	13,100	13,150	13,100
Elizabeth Drive south of Duntrosil Drive	300	5,500	1,200	5,550	1,200
Riddell Road south of Elizabeth Drive	14,700	22,150	23,550	22,050	23,350
Racecourse Road north of Riddell Road	6,000	10,800	5,950	11,700	5,950
Francis Boulevard north of Sunbury Road	8,500	7,450	10,600	7,900	11,000
Bellevue Drive south of Shields Street	100	3,550	3,600	5,400	5,450
Crinnion Drive north of Bulla Diggers Rest Road	-	550	550	700	700
Lancefield Road north of Sunbury Road	7,750	41,200	44,000	38,950	41,950
Lancefield Road north of Raes Road	5,700	24,550	29,450	23,750	29,050

Source: GTA Transport Modelling Report dated 05/10/2015

**Table 9.2: Expected Growth on Key Roads in Sunbury (continued)**

Location	Option 5 (2046)	Option 6 (2046)	Option 7 (2046)	Option 8 (2046)	Option 9 (2046)
Riddell Road north of Old Riddell Road	13,150	13,050	13,050	13,100	13,050
Elizabeth Drive south of Duntrosil Drive	5,500	5,850	1,250	5,950	1,250
Riddell Road south of Elizabeth Drive	22,400	20,000	21,650	22,150	23,200
Racecourse Road north of Riddell Road	10,850	12,200	5,800	14,600	5,850
Francis Boulevard north of Sunbury Road	7,450	7,950	10,600	8,800	11,800
Bellevue Drive south of Shields Street	3,850	3,950	3,700	6,150	6,250
Crinnion Drive north of Bulla Diggers Rest Road	2,450	2,950	3,050	2,150	2,100
Lancefield Road north of Sunbury Road	41,500	31,150	35,850	29,800	34,750
Lancefield Road north of Raes Road	24,900	20,150	25,800	20,000	27,050

Source: GTA Transport Modelling Report dated 05/10/2015

Riddell Road is expected to experience increases in the order of 6,000 additional trips per day. This is a result of a combination of the growth within Sunbury as well as growth in Riddell and Gisborne. Riddell Road at this location is one lane in each direction and the daily volumes are within the theoretical threshold for one lane. Notwithstanding, the modelling assumes that this section of Riddell Road will be duplicated by 2046.

Elizabeth Drive south of Duntrosil Drive is likely to experience the largest uplift as a result of the introduction of the northern Jacksons Creek crossing. Currently it does not provide access to many properties. The cross section is a wide boulevard capable of accommodating two lanes in each direction, however from a capacity perspective it is assumed as one lane in each direction. The increased volumes will not warrant any capacity increases in the future.

Riddell Road south of Elizabeth Drive will be in the order of 20,000 to 23,000 vehicles per day, which is an increase in the order of 8,000 vehicles per day from the existing situation. The forecast volumes would warrant two lanes in each direction which the 2046 model assumes will be in place by this time.

Racecourse Road will be expected to experience increases of up to 9,000 vehicles per day north of Riddell Road. Similar to Elizabeth Drive, the increases will be subject to the level of development that occurs and the infrastructure provided. With the introduction of the northern Jacksons Creek Crossing Racecourse Road represents a more direct route from the Lancefield Road PSP to the Sunbury Town Centre as well as the Calder Freeway. The volumes do not warrant duplication and can be accommodated under its current cross section.

The increases expected on Francis Boulevard will be marginal and are not likely to be impacted by the development of the two PSPs. Some attraction for motorists to use Francis Street as a rat run prior to upgrades of Lancefield Road will exist in the network, however I do not anticipate these to be significant. The introduction of the southern Jacksons Creek crossing has the potential to reduce volumes on Francis Boulevard as motorists travelling to the Calder Freeway will use the Melbourne – Lancefield Road instead of travelling through the Sunbury Town Centre.

The Jacksons Hill Estate is accessed by a localised road that will connect the existing estate to the Sunbury South PSP, which has the possibility to attract some residents from the Sunbury South PSP wishing to travel into the Sunbury Town Centre. Bellevue Drive is considered a circuitous and slow route for motorists accessing Sunbury which is, in my view, unattractive. The forecast volumes are not expected to exceed in the order of 6,250 vehicles per day and are considered to be low level and consistent with the function of a local connector which it currently functions as.

Crinnion Road will not be expected to alter its function in providing access to localised properties wanting to access the freeway and the Bulla Diggers Rest Road. Whilst it will offer an alternative for residents of Sunbury South wishing to access the Calder Freeway, given its rural nature, it is not expected to attract high volumes of traffic and will be less than 3,050 vehicles per day.

The Melbourne – Lancefield Road will attract a significant amount of traffic by 2046 as the majority of traffic from the Lancefield Road PSP will form a direct connection to it. The forecast volumes are up to 44,000 vehicles per day near Sunbury Road which will be able to be accommodated within the proposed six-lane cross section.

## 9.4 Cross Town Connection to the Northern Growth Corridor

The provision of a cross town connection to the northern growth corridor as part of the two PSPs would need to be considered on the basis of need and nexus. Investigating such a road has not been considered as part of previous work and would require a broader investigation into the likely demand for a connection and its intended purpose.

The northern growth corridor is forecast to be a significant attractor in terms of jobs expected to cater for residents of the growth corridor. Existing Journey to work information suggests that around 21% of workers from Sunbury travel to neighbouring municipalities north of Melbourne and that 39% travel to the CBD. Given Sunbury's proximity to the CBD I do not consider that demand to the northern growth corridor will increase substantially.

By 2046 it is expected that the OMR will be constructed and this will provide a more direct route from Sunbury Road and the northern growth corridor, should the demand exist. The provision of this type of infrastructure will require detailed investigation and investment and as mentioned has not been completed as part of work undertaken by GTA or others.

In my opinion, I consider the provision of a cross town connection to the northern growth corridor to be a matter of state significance and outside of the scope of the two PSPs.

## 9.5 Summary

Overall, whilst there is anticipated to be some growth on the local road network in Sunbury, I do not consider that the increases are of a substantial nature and people's ability to travel through Sunbury will not be compromised by the developments of the two PSPs. From a regional perspective, the increased traffic on Lancefield Road, whilst substantial when compared to the existing volumes, will be complimented with the appropriate capacity upgrades and will not inhibit motorists to travel both locally and regionally.

The level of infrastructure that is attributed to the two PSPs will not only service the growth afforded with the PSPs but it will also benefit existing Sunbury residents and the future development of Sunbury North and West.

## 10. Response to Submissions

### 10.1 Overview

A number of submissions were received in relation to Amendment C207 and Amendment C208 and my review of these has been summarised in Appendix B of this report. A number of these I consider to be outside of my brief whilst a number of responses refer to sections within this report.

The details of specific items that were not covered in my report are summarised in Table 10.1

**Table 10.1: Responses to Specific Comments**

Sub#-Item	Issue Raised	Response
<b>Sunbury South</b>		
SS22-RLM2	Requests that major upgrades of Sunbury Road be expedited, so as to keep traffic congestion to a minimum.	Please refer to exhibited PSP documents for the proposed upgrades to Sunbury Road.
SS45-RCL1	Request provision for left-in / left-out vehicle access between the RCL land and Sunbury Road.	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment. Notwithstanding, A left-in/left-out should be provided if development occurs prior to adjacent road network being constructed.
SS45-RCL20	It is recommended that a left-in / left-out access point from 605 Sunbury Road to Sunbury Road be provided. In addition, a connector road from this access point to Sunbury Road be provided, which could well extend into the property a suitable distance before travelling west into the adjacent property to align with the local park along the western frontage of 605 Sunbury Road, and connect with the proposed connector road network in Plan 9 further to the west.	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment. Notwithstanding, A left-in/left-out should be provided if development occurs prior to adjacent road network being constructed.
SS57-HCC31	Gellies Road Concept Plan - The two left-in, left-out intersections on Lancefield Road do not provide access to the concept plan area for people driving north or pedestrians. The first signalised intersection that provides an opportunity for a U-turn is 2km north. At least one of these two intersections needs to be signalised or pedestrian crossing facilities provided together with U turn capacity mid-block. Council's preference is for a signalised intersection at the crossroad with Lancefield Road to the west.	A signalised intersection will provide improved pedestrian connectivity and is supported. I do not consider that this will not alter the transport modelling assessments.
SS57-HCC93	Council still has outstanding concerns regarding the access arrangements off Vineyard Road into the employment area. This concern relates to traffic volumes on Moore Road and the potential need to signalise the intersection with Vineyard Road. Requests that further discussions be held with VicRoads regarding the Vineyard Road access arrangements.	Noted. This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment. Notwithstanding, I have reviewed the layout and am comfortable that the proposed left-in/left-out at Moore Road is suitable given that access is provided at the new connection further north on Vineyard Road.

Sub#-Item	Issue Raised	Response
<b>Lancefield Road</b>		
LR22-MC8	Concerned about impact on public transport for commuters with limited bus services past Rolling Meadows, impact on vline with increased passenger flow from the growth pushed into Sunbury or up to Clarkefield (under strain from Romsey / Lancefield growth). The proposed Sunbury North station should be built for infrastructure before the housing growth to cater to the growth in stages.	This is outside of the scope of my brief. Nonetheless, additional public transport services will be provided as population & demand for services grows. A new rail upgrade will be subject to state funding and will require more detailed investigation.
LR54-HCC31	Gellies Road Concept Plan - The two left-in, left-out intersections on Lancefield Road do not provide access to the concept plan area for people driving north or pedestrians. The first signalised intersection that provides an opportunity for a U-turn is 2km north. At least one of these two intersections needs to be signalised or pedestrian crossing facilities provided together with U turn capacity mid-block. Council's preference is for a signalised intersection at the crossroad with Lancefield Road to the west.	A signalised intersection will provide improved pedestrian connectivity and is supported. I do not consider that this will not alter the transport modelling assessments.
LR54-HCC93	Council still has outstanding concerns regarding the access arrangements off Vineyard Road into the employment area. This concern relates to traffic volumes on Moore Road and the potential need to signalise the intersection with Vineyard Road. Requests that further discussions be held with VicRoads regarding the Vineyard Road access arrangements.	Noted. This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment. Notwithstanding, I have reviewed the layout and am comfortable that the proposed left-in/left-out at Moore Road is suitable given that access is provided at the new connection further north on Vineyard Road.

## 11. Summary of Opinion & Other Statements

### 11.1 Summary of Opinion

On the basis of the information set out within this report, I note the following:

- i Over the morning and afternoon peak periods the Sunbury Town Centre does not experience high levels of congestion with the exception of short minor peaks that occur at isolated locations.
- ii Strategic transport modelling shows that whilst when compared to the 2014 existing network, the Sunbury Town Centre will maintain good levels of service with minimal congestion, which is not likely to be sufficiently significant to alter people's decision making with regard to travelling through Sunbury.
- iii The introduction of a second crossing of Jackson's Creek will provide the network with an alternative to travelling through Sunbury Town Centre and will result in lower traffic volumes and reduced congestion.
- iv The forecast volumes on the two bridges dictate that the provision of one lane in each direction functioning as collector roads will be satisfactory.
- v The southern Jacksons Creek crossing will provide significant benefit to the Sunbury Town Centre and give the transport network flexibility to facilitate the movement of traffic and people, and I do not consider that development of the two PSP's should be delayed in the absence of the Bulla Bypass.
- vi The increased traffic demand from the development of the two PSPs will result in marginal increases to the Sunbury local road network and will not require capacity increases, noting that the Melbourne – Lancefield Road, Sunbury Road and Vineyard Road will be upgraded by 2046.
- vii The proposed network and capacity increases will not impact on the ability for residents to travel at both a local and regional level.

#### Declaration

I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have, to my knowledge, been withheld from the Panel.



**Reece Humphreys**  
**Director**

11/08/2017

## Appendix A

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### Reece Humphreys – Curriculum Vitae



# Reece Humphreys

Director

GTA consultants

transportation planning, design and delivery

Reece has a Bachelor of Engineering degree and over fourteen years' experience spanning transport modelling, major event planning, traffic engineering design, land use development and strategic traffic and parking impact assessments. This experience covers a mixture of tasks ranging from transport and microsimulation modelling of large scale projects in Melbourne and Sydney to transport planning, engineering analysis, and advice on projects around Australia.

Reece has active roles in industry organisations; being a member of the AITPM Vic Committee, and sitting on the National Council of Transport Modellers Network. He has completed a number of projects for VicRoads and the NSW RMS (formerly RTA) including a series of large regional transport and microsimulation models, strategic corridor modelling, SCATSIM modelling and independent model auditing. Reece has also recently assisted with planning approval for a number of high profile rezoning and development applications for large retail and residential uses in Melbourne.

In 2012 Reece was a finalist for the Engineers Australia Young Engineer of the Year Award, and he is a national committee member for the AITPM Modelling User Group.

## Office

Melbourne

## Qualifications

BEng (Civil)

## Memberships and Affiliations

AITPM  
MIEAust Member  
VITM

## Industry Roles

AITPM Committee Member (VIC)  
AITPM National Council Transport Modellers Network (TMN)

## Referee:

Chris Bright  
Manager Network Development  
Transport Network Development  
Department of Economic  
Development, Jobs, Transport and  
Resources (DEDJTR)

## Project Experience

### Transport Modelling

Review of F3-M2 Corridor (NSW-RMS)  
Interchange Analysis for East-West Link (VicRoads)  
Development of a four-step integrated model of  
Albury and its surrounds (NSW-RMS)

Transport Modelling for numerous PSPs in land  
growth areas (in Melbourne for the Metropolitan  
Planning Authority) including:

- Sunbury Growth Corridor
- Northern Growth Corridor
- Lillydale Town Centre
- Donnybrook and Woodstock
- Merrifield PSP
- Beveridge and Beveridge North PSP

Webb Dock Redevelopment (Port of Melbourne  
Corporation)

Tamworth Traffic Study (NSW RMS)  
Grafton Bridge Traffic Study (NSW RMS)

### Transport Planning

Sunbury Growth Corridor (MPA)

Chandler Highway Planning Study (VicRoads)  
Central Coburg 2020 Vision Simulation Modelling  
Transport Planning for Essendon Fields and Essendon  
Airport

### Traffic Engineering

Victorian Comprehensive Cancer Centre  
(Grocon/PCL)

Freshwater Place (Australand)

### Expert Evidence

Amendment C130 – Epping Central (City of  
Whittlesea)

Amendment C149 – Ballarat Road, Sunshine  
(Onesteel Pty Ltd)

DTF Gateway 2 Review, East West Link Enabling  
(DTPLI/VicRoads)

602-630 Doncaster Road, VCAT (Westfield Pty Ltd)

Summerhill Road, Templestowe (Applicant)

Harvest Home Road, Wollert (Asset1 Pty Ltd)

## Professional Background

### 2004 – Present: GTA Consultants

In his capacity as Director and National  
Modelling Manager Reece has developed  
proficiency with a number of software  
packages, principally VISSIM, AIMSUN and  
VITM, and has recently been involved in  
detailed SCATSIM Modelling.

He currently provides technical advice on a  
number of large land use development  
projects in Metropolitan Melbourne and across  
Australia.

### 2002 – 2004: Hyder Consulting

Reece produced several microsimulation  
models under Hyders employment, including  
the Dandenong Town Centre Model for the  
Department of Infrastructure and the West  
Gosford traffic model for the NSW RTA. Reece  
also provided traffic and transportation  
advice in the development of the Highpoint  
Shopping Centre and prepared and  
investigative report for VicRoads into intelligent  
transportation systems for pedestrians with  
disabilities.

### 2000 – 2002: Moorabool Shire Council

As a design engineer, Reece was involved in  
assisting the Assets Service Unit objectives by  
the accurate and competent performance of  
surveying, design, plan preparation, contract  
specifications, building maintenance, asset  
management, drafting and other duties.



Melbourne	03 9851 9600
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## Appendix B

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### Response to Submissions

**Table B.1: Response to Submissions – Sunbury South**

Sub#-Item	Issue Raised	Response
SS2-TAC3	Watsons Road and Crinnion Road will be a main thoroughfare through their area, which is currently only used by local traffic and not by through traffic. These roads are relatively narrow rural roads with no lighting and no footpaths and residents currently use the roads while exercising. The use of these two roads for access around Sunbury would make it dangerous for pedestrians and cyclists.	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS3-SMLM1	Objects to the proposed opening up of an extension of local streets from Jacksons Hill (i.e. Bishops Way, Fentonhill Pde, Roseberry Ave and Whitechapel Way) into the new development. Concerned with the potential landscape and cultural heritage impacts this may cause, as well as the safety of pedestrians. Request that if/when the development south of Jacksons Hill goes ahead that all existing roads in Jacksons Hill be completely blocked / fenced off so no traffic can go through, particularly, Bishops Way.	Please refer to Sections 8 and 9 of my evidence.
SS3-SMLM2	The area immediately to the south of Jacksons Hill will be the first to develop and without other access options, trucks will use Bishops Way for access and as thoroughfare to build the new streets in the precincts. Trucks may cause damage to nature strips, pose a risk to the safety of children and pets, and will have potential noise pollution and fumes.	This is outside of the scope of my brief.
SS3-SMLM5	Concerned about property being devalued as a result of increased traffic and medium to high density development south of Jacksons Hill within the PSP.	This is outside of my area of expertise.
SS3-SMLM6	Concerned about the potential capacity issues in regards to accessing the Calder Freeway from Vineyard Road and the Tullamarine Freeway from Sunbury Road.	Please refer to Sections 7, 8 and 9 of my evidence.
SS3-SMLM7	Concerned about the timeliness of the interim and ultimate delivery of RD09 (Jacksons Hill Link Road).	Please refer to Sections 7, 8 and 9 of my evidence.
SS7-DK2	Concern about traffic congestion that will reduce access that links Melbourne to the north-east of Victoria. In particular, traffic volumes on Sunbury Road and Lancefield Road.	Please refer to Sections 8 and 9 of my evidence.
SS7-DK3	Seeks a parallel internal road network within the proposed housing estates that ensures that all local traffic is differentiated and separated from the through traffic using the Lancefield & Sunbury road transport corridor.	Please refer to Sections 8 and 9 of my evidence.
SS7-DK4	Seeks that the only place that traffic from the proposed housing estates should mix with through corridor traffic would occur at one controlled intersection. The most suitable location is at the current intersection of Lancefield Road and Sunningdale Avenue, Goonawarra. For the Sunbury South development this should occur at the Lancefield and Sunbury Road intersection.	Please refer to Sections 8 and 9 of my evidence.
SS7-DK5	Seeks that any proposed development must automatically set aside prior to commencement a suitable road reservation of land for future Lancefield and Sunbury roads expansion to dual carriageway so the need to compulsorily acquire land in the future is eliminated and the suitable set back for housing is maintained to reduce traffic noise impacts on future residential amenity.	This is outside of the scope of my brief.
SS7-DK9	There will be a loss of amenity for existing residents of Sunbury and other communities due to more road congestion, which produces more time wastage and uncontrolled costs, and also leads to increased resource consumption and quicker depletion.	This is outside of my area of expertise.
SS8-MAB1	Concerned about the increase of traffic on Crinnion and Watsons Road, which will interfere with local rural and recreational activities, and wildlife.	Please refer to Sections 8 and 9 of my evidence.
SS8-MAB5	The new Sunbury South Railway station needs 1000 parking spaces. Sunbury Station has run out of spaces and Diggers Rest is also getting full.	This is outside of the scope of my brief.
SS8-MAB6	Bulla Diggers Rest Road should go straight through to Plumpton Road to the south of the Diggers. There is a traffic problem in Diggers Rest with traffic winding around the streets of Diggers trying to get to Plumpton and Holden Roads. This solution involves both the Diggers Rest PSP and Sunbury South PSP.	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
SS9-AK3	The PSP will significantly increase traffic in the area on Crinnion Road, Watsons Road and Bulla Diggers Rest Road, making the area irrelevant to support the semi-rural lifestyle, increasing risk to children and animals.	Please refer to Sections 8 and 9 of my evidence.
SS11-LS1	Southern crossing of Jacksons Creek will exacerbate the local traffic problems by bringing high volumes of traffic (including heavy traffic) and noise through Sunbury from the Hume Highway by people accessing the Calder Freeway.	Please refer to Sections 8 and 9 of my evidence.
SS11-LS2	The traffic from the southern crossing will create a major intersection with Vineyard Road which will cause traffic delays for the residents who enter and exit Sunbury using Vineyard Road. The same problem will exist at the intersection with Sunbury Road.	Please refer to Sections 8 and 9 of my evidence.
SS11-LS3	Many residents who currently use the Sunbury road to access Sunbury will continue to use the local road rather than the Southern Crossing as they live in Sunbury East, North and North West.	Please refer to Sections 7, 8 and 9 of my evidence.
SS11-LS4	Proposed solution is to only proceed with the upgrade of Buckland Way (including connection to Yirrigan Road in Jacksons Hill), as per the current Places Victoria project. This road will provide local Sunbury traffic the solution to bypass the centre of Sunbury. Notes that the Bulla-Diggers Rest Road already provides a link from Sunbury Road to the Calder Freeway for traffic outside of Sunbury.	Please refer to Sections 7, 8 and 9 of my evidence.
SS11-LS5	If the southern crossing proceeds it should be linked directly to the Calder Freeway using the Diggers Rest access to avoid the potential traffic jams and the new intersection with Vineyard Road.	Please refer to Sections 7, 8 and 9 of my evidence.
SS11-LS7	The boom gates in Sunbury township need to be removed.	Please refer to Sections 8 and 9 of my evidence.
SS11-LS8	Parking at Sunbury station and Sunbury town centre needs to be increased.	This is outside of the scope of my brief.
SS11-LS10	The Bulla Bypass must be built and Sunbury Road duplicated before any further increase to the Sunbury population.	Please refer to Sections 7, 8 and 9 of my evidence.
SS11-LS11	The Calder Freeway must have an overpass installed at the Calder Park drive. The Greentree Gully section of the freeway has to be fixed.	This is outside of the scope of my brief.
SS13-SS3	The Jacksons Creek Southern Link is the most vital link needed to alleviate Sunbury Road traffic, and the submitter has concerns that the role of the collector road may exceed the anticipated traffic volumes anticipated in the PSPs as many residents (as well as Romsey and Lancefield Residents) may utilise it. This may result in congestion around the Vineyard Road intersection, which would be exacerbated when the train station is developed.	Please refer to Sections 7, 8 and 9 of my evidence.
SS13-SS4	Notes that Elizabeth Drive is to complete the "circular loop" road, but given the higher order of Lancefield Road, many commuters north of the Elizabeth Drive intersection are unlikely to veer from Lancefield Road.	Please refer to Sections 8 and 9 of my evidence.
SS14-CMc3	With so many new houses and no parking for rail and services suggests that the effort to look to the future is poor.	This is outside of the scope of my brief.
SS19-CKP1	Concerned that the semi-rural lifestyle south of Watsons Road will be significantly impacted by the expected increase in local and through traffic, along with noise from the proposed close by connector roads.	Please refer to Sections 8 and 9 of my evidence.

Sub#-Item	Issue Raised	Response
SS21-CM1	<p>Concerned about the increase of traffic on Watsons Road and Crinnion Road. The current intersection of Crinnion &amp; Bulla-Diggers Roads is a T intersection, and no mention has been made as to what sort of road remediation works would be required to manage the traffic volume. Neither road has the capacity to carry projected volume, have no drainage and are not safe dual carriageway. There is a dangerous gully at the east end of Watsons Road near the intersection with Crinnion Road, which has a blind corner. There have been numerous instances of crashes at the intersection of the roads.</p> <p>The significant traffic increase will severely impact residents amenity via noise pollution, continual traffic movement, safety accessing properties due to increased traffic flow, safety participating in recreational activities in public areas.</p>	Please refer to Sections 7, 8 and 9 of my evidence.
SS21-CM5	<p>Reduce speed limits to 60kms along Fox hollow, Watsons and Crinnion Roads.</p> <p>Install speed humps to slow traffic.</p>	This is outside of the scope of my brief.
SS22-RLM2	Requests that major upgrades of Sunbury Road be expedited, so as to keep traffic congestion to a minimum.	Please refer to exhibited PSP documents for the proposed upgrades to Sunbury Road.
SS22-RLM3	Requests that until a "Bulla Bypass" is completed, Sunbury South development should be as minimal as possible. Levels of traffic congestion are unacceptable, and without a bypass, will only get worse.	Please refer to Sections 2, 8 and 9 of my evidence.
SS23-NRI4	<p>The main road transport issue - getting out of Sunbury and heading to Melbourne - is not well addressed in the PSP.</p> <p>Requests that the staging of development and implementation of the PSP should be more closely linked to the delivery of road infrastructure. Development should be restricted to coincide with infrastructure delivery to minimise road "gridlock".</p>	Please refer to Sections 8 and 9 of my evidence.
SS30-BL5	The PSP will destroy the tranquil environment of the Watsons Road area with no compensation.	This is outside of my area of expertise.
SS30-BL10	The proposed road linking Sunbury Rd to Vineyard Rd needs to be dual lanes.	Please refer to Sections 8 and 9 of my evidence.
SS32-FW1	Concerned that the updgade to Crinnion Road and link from Vineyard Road to the Calder will heavily impact on the residents of Crinnion and Buckley Roads. Will impact on the amenity of the land as a lifestyle property.	Please refer to Section 9 of my evidence.
SS34-APA15	The PSP indicates the extension of Buckland Way to the north of the plan area. It would appear that this extension of Buckland Way may encroach upon the pipeline easement. The PSP plans should clearly indicate that Buckland Way will not encroach upon the easement within the Sunbury South PSP area or facilitate it's encroachment externally.	This is outside of my area of expertise.
SS37-ASF4	The PSP identifies land both sides of the railway line and station as being a "public transport facilities / reserve". Request that the VPA introduce a public acquisition overlay to this public purpose land, through an additional map being incorporated into the Hume Planning Scheme.	This is outside of the scope of my brief.
SS40-SCPA1	Duplicate Lancefield Road to Romsey to ensure traffic doesn't bottle neck at the end of the road.	This is outside of the scope of my brief.
SS40-SCPA2	Jacksons Hill & Goonawarra need alternate roads out of town before construction has started to ease the burden of traffic through Sunbury's CBD.	Please refer to Sections 8 and 9 of my evidence.
SS40-SPCA3	Completed Bulla Bypass in early stages of Development to help people get to and from work as well as making it easier for people to gain employment.	Please refer to Sections 8 and 9 of my evidence.

Sub#-Item	Issue Raised	Response
SS40-SPCA5	Better bus connections and more frequent services to cope with the future demand.	This is outside of the scope of my brief.
SS40-SPCA6	Better train services during the day as it is currently 40 minute waits and more people will need to get to the city during the day.	This is outside of the scope of my brief.
SS40-SPCA7	The possibility of Park and Ride to the train station in Sunbury - Will ease the traffic burden in Sunbury's CBD.	Please refer to Sections 8 and 9 of my evidence.
SS40-SPCA8	Better Public Transport parking during early stages (before the new train stations are built) as it is impossible to get parking in the morning.	This is outside of the scope of my brief.
SS40-SPCA9	Better bus connections to facilities throughout Hume (Craigieburn & Broadmeadows).	This is outside of the scope of my brief.
SS42-BS5	3. Road and intersection congestion: Many upgrades are required to address both safety and efficiency - such as the Bulla bypass, Gap Road rail crossing etc.	Please refer to Sections 8 and 9 of my evidence.
SS42-BS6	4. Parking: This is particularly an issue at Sunbury Train Station and already showing signs of becoming an issue at Sunbury Square and on Evens and O'Shannassy Streets.	This is outside of the scope of my brief.
SS43-PM6	Bring forward the construction of the Sunbury Ring Road to permit Sunbury South residents access to Diggers Rest Station and the Calder Freeway.	Please refer to Sections 7, 8 and 9 of my evidence.
SS43-PM7	Liaise with Vic Roads with a view to bringing forward the construction of the Bulla bypass.	Please refer to Sections 7, 8 and 9 of my evidence.
SS43-PM8	Bring forward the construction of the Sunbury South Train Station or work with Hume City Council to construct additional parking at both Sunbury and Diggers Rest stations as an interim measure.	This is outside of the scope of my brief.
SS44-APP9	While we are generally supportive of the stormwater planning provided in MW's DSS and the PSP, the following issues are identified for further investigation: 1) It's understood the large area set aside below WI-27 (the bowl) includes an area specifically intended for Growling Grass Frog (GGF) habitat. Any GGF habitat will need to be supported by stormwater infrastructure because treated stormwater is the only feasible means of sustaining suitably stable water levels in the ponds. The bowl is also the natural outfall for planned upstream development. It is requested the VPA facilitate acknowledgement and support from any relevant stakeholders for essential stormwater works to be undertaken within the area.	This is outside of my area of expertise.
SS44-APP13	The alignment of the east-west boulevard between the Harpers Creek and Jacksons Creek crossing needs to be amended. The current alignment creates inefficient areas of land between conservation areas and the road reserve and would not deliver an orderly and efficient planning outcome. An alternative alignment is provided below for consideration that is similar to the exhibited version. This alignment will be shown to be far more appropriate than the exhibited alignment as it will create efficiencies in design and lead to a far more orderly urban form than the exhibited version. The exhibited version appears to have not been put through any sort of design rigour (which to a degree is understandable), which leads one to the conclusion that our version should be preferred:	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS44-APP14	'Figure 3 – Harpers Creek Residential Concept Plan' identifies a 'local access opportunity' to the existing Jacksons Hill residential estate to the north (see below). While there is an existing tree reserve that separates the subject land from the estate, it is requested the PSP be updated to reflect a 'local access street' to avoid ambiguity and ensure that a local connection can be delivered.	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
SS45-RCL1	<i>Request provision for left-in / left-out vehicle access between the RCL land and Sunbury Road.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment. Notwithstanding, A left-in/left-out should be provided if development occurs prior to adjacent road network being constructed.
SS45-RCL14	<i>GTA Comments - Section 3.1.3, item R9, identifies suitable walking catchment distances to key trip generators and destinations. However, of the key trip generators and destinations there is no guidance in the draft PSP on the Principle Public Transport Network extent. As such, the public transport network should be provided, including whether it forms part of 605 Sunbury Road, so no missing opportunities occur during any interim arrangements as this and other properties within the PSP area is developed.</i>	This is outside of the scope of my brief.
SS45-RCL20	<i>It is recommended that a left-in / left-out access point from 605 Sunbury Road to Sunbury Road be provided. In addition, a connector road from this access point to Sunbury Road be provided, which could well extend into the property a suitable distance before travelling west into the adjacent property to align with the local park along the western frontage of 605 Sunbury Road, and connect with the proposed connector road network in Plan 9 further to the west.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment. Notwithstanding, A left-in/left-out should be provided if development occurs prior to adjacent road network being constructed.
SS45-RCL21	<i>Section 3.4.1, item R59, sets a requirement that 30% of local streets have alternative cross-sections to those provided in Appendix 4.2. Moreover, it goes on to indicate that the carriageway dimensions and road reserve widths should be consistent with the cross sections in Appendix 4.2, so can only change the nature strip and path components. As such, this 30% requirement doesn't seem reasonable and should be removed.</i>	This is outside of the scope of my brief.
SS45-RCL23	<i>Section 3.6.3, item R93, requires traffic management measures along arterial roads to be provided as part of a subdivision, yet there are no specific projects that relate to this in Plan 13 or Table 10. As such, it is not clear what these traffic management measures would be as part of a subdivision, so should be removed from the PSP. If however they are known, and given the shared use of the arterial road network, they should be provided through the ICP.</i>	This is outside of the scope of my brief.
SS45-RCL26	<i>Appendix 4.2, Arterial Road Cross Sections, do not give consideration / allowance to accommodate left-turn lanes. It is also recommended that the speed limits along the arterial roads within the PSP be indicated and when they will be changed from their current 100km/h as they will impact the design of the intersections along them.</i>	This is outside of the scope of my brief.
SS45-RCL27	<i>Appendix 4.2, Connector Road Residential (25m) Cross Sections, includes a 2.1m wide parking bay. If along a bus route parking bays are typically required to be 2.3m wide by PTV.</i>	This is outside of the scope of my brief.
SS45-RCL28	<i>Appendix 4.2, Shared &amp; Pedestrian Path are located hard up against property boundaries in many cross-sections. It is recommended that suitable off-sets be provided to enable suitable sight lines, or vehicle access points be restricted along these frontages.</i>	This is outside of the scope of my brief.
SS47-MF5	<i>The PSP proposes that Sunbury Road will ultimately be upgraded to a 6 lane, primary arterial road. Our client seeks confirmation that the existing access to and from the property for large agricultural equipment will be protected. We request that VPA and VicRoads confirm the specific arrangements will be retained for existing farming operations to allow for continued use of Sunbury road for the transportation of oversized agricultural vehicles.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.

Sub#-Item	Issue Raised	Response
SS49-DF6	<i>Has consideration been made of the short to medium term issues caused in the CBD with the large increase in population? The current parking situation in the CBD, particularly for train commuters, is critically inadequate. Even with two planned new stations and their associated parking facilities the current CBD/commuter parking will be overwhelmed. It is highly probable that the new houses will be built before the new stations which will exacerbate the problem in the short to medium term.</i>	Please refer to Sections 8 and 9 of my evidence.
SS49-DF7	<i>Queries whether the PSPs consider the need for improvements in existing roads and infrastructure before the development of new areas, or if they treat the new areas in isolation. Notes that many upgrades are required to address both safety and efficiency of existing roads, such as the Bulla bypass and Gap Road rail crossing.</i>	Please refer to Sections 8 and 9 of my evidence.
SS50-AW5	<i>Has concerns about the impact on Sunbury Road and the Calder Freeway and the impact of an additional 10,000 Sunbury residents on an already congested road system. The VPA, Hume City Council and local Members of Parliament must lobby the State Government to fast-track the Bulla by-pass project as a matter of priority or it will be impossible for Sunbury residents to access jobs, the airport and other services out of town.</i>	Please refer to Sections 8 and 9 of my evidence.
SS51-IPP4	<i>Opposes the use Watson Road to Crinnion Road as a main thoroughfare from Sunbury to the Calder Freeway.</i>	This is outside of the scope of my brief.
SS51-IPP5	<i>Watson Road from Fox Hollow Road to Crinnion Road has a number of flaws. 1. Watson Road between Fox Hollow Road and Crinnion Road is crooked and there is a sharp incline in the road as well. Vehicles travelling in either direction speed when going downhill and vehicles have to move part of their vehicle off the bitumen road to pass. 2. The road was too narrow for the amount of vehicles using the road. 3. There was major concerns with heavy vehicles/buses using the road on that day which pushed drivers almost off the road and the sides of this area is definitely unsafe for passing vehicles at the moment. 4. Where Watson Road meets Crinnion Road there is virtually a right /left hand turn vehicles have to negotiate because it is a blind corner. The lay of the land impairs vision for vehicles travelling in the opposite direction. It is unsafe at the best of time and on this day there were a number of near misses.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS51-IPP6	<i>Crinnion Road has a number of safety issues: 1. The blind corner at Crinnion Road and Watson Road as stated previously. 2. The intersection of Crinnion Road and Buckley Road saw vehicles almost colliding due to no signage and drivers obviously not aware of the area. 3. There was a traffic jam at the intersection of Bulla Diggers Rest Road and Crinnion Road due to the amount of traffic using both Roads.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS51-IPP7	<i>For 10,000 vehicle movements out of the proposed development there needs to be a direct route to the Calder Freeway and not this stop gap measure being proposed.</i>	This is outside of the scope of my brief.
SS51-IPP8	<i>The proposed Road from Sunbury Road to Vineyard Road should be developed to take the major volume of traffic which would ensure easy access to the Calder Freeway and Plumpton Road and alternatively Sunbury Road.</i>	Please refer to Sections 7, 8 and 9 of my evidence.
SS51-IPP9	<i>There should be a simple measures put in place to ensure motorist do not use Fox Hollow Road, Watson Road, Crinnion Road as a means to gain access to the Calder Freeway. Fox Hollow Road should be made a dead-end Street blocked at Watson Road forcing vehicles to use the road leading to Vineyard Road.</i>	Please refer to Section 8 of my evidence.
SS51-IPP10	<i>Recommend that Buckland Way be developed as a dead-end Street to ensure vehicles do not use Watson Road as an escape route and are then forced to use the road leading to Vineyard Road.</i>	Please refer to Section 8 of my evidence.
SS53-HIP3	<i>The PSP also shows a connector road, which if located in its exhibited alignment would result in the demolition of an existing, very substantial, dwelling. This house has recently been constructed and is still some 6 months from completion but is in excess of 100 squares and has required a substantial capital investment. Suggest realignment of Connector Road as provided:</i>	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
SS53-HIP4	Given the location of the Connector Road as shown on the 96A Planning Permit Application P18858 submitted by Villawood (refer plan exhibited 'Redstone Hill, Sunbury South Subdivision Layout Plan Drawing Ref 8727_UD_SLP01_V25), and as shown on the plan attached as it affects our client's site, we formally object to the application for Planning Permit P18858 given that as it is currently shown, the road connection would require the demolition of the new dwelling. We would be happy to work with the VPA and Villawood Properties to come up with a solution that will result in the house being retained.	This is outside of the scope of my brief.
SS53-HIP5	The north/south connector road between our clients' site and the proposed P-12 government school to the east is wholly located within our client's site. We consider it a more balanced outcome if the road was shared between our client's site and the adjoining site (Property 70) to share the burden more equitably. This would result in 12.5m being provided within our client's site and 12.5m being provided within the school site.	This is outside of the scope of my brief.
SS57-HCC17	The intersection of Stockwell/Balbethan Drive doesn't align with that shown on the Aurecon Grade Crossing Report (May, 2015). Amend the concept plan to reflect this work in regards to the intersection, lot design and lot access.	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS57-HCC31	Gellies Road Concept Plan - The two left-in, left-out intersections on Lancefield Road do not provide access to the concept plan area for people driving north or pedestrians. The first signalised intersection that provides an opportunity for a U-turn is 2km north. At least one of these two intersections needs to be signalised or pedestrian crossing facilities provided together with U turn capacity mid-block. Council's preference is for a signalised intersection at the crossroad with Lancefield Road to the west.	A signalised intersection will provide improved pedestrian connectivity and is supported. I do not consider that this will not alter the transport modelling assessments.
SS57-HCC47	Additional road cross sections are provided for Local Access Streets Level 2 and Connector Roads on sloping land.	Noted
SS57-HCC57	It is Council's preference that the alignment of this crossing avoids the Cannon Gully site. The Post-Contact Heritage Assessment (Context, December 2014) provides a number of recommendations in regards to this site and the proposed creek crossing, including the need for consent from Heritage Victoria, archaeological investigations, detailed construction plans, a landscape assessment, and site interpretation features. It is requested that this work be undertaken prior to approval of the PSP. Council has been involved in discussions to date regarding the alignment of this creek crossing, and requests continued involvement in the resolution of the final alignment of this road. In addition, it is requested that the PSPs and Infrastructure Contributions Plan (ICP) are not approved until the alignment of this road has been resolved. Any change in the alignment of this road will have significant implications on the Future Urban Structure, Sherwood Heights 96A application, and the ICP.	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS57-HCC93	Council still has outstanding concerns regarding the access arrangements off Vineyard Road into the employment area. This concern relates to traffic volumes on Moore Road and the potential need to signalise the intersection with Vineyard Road. Requests that further discussions be held with VicRoads regarding the Vineyard Road access arrangements.	Noted. This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment. Notwithstanding, I have reviewed the layout and am comfortable that the proposed left-in/left-out at Moore Road is suitable given that access is provided at the new connection further north on Vineyard Road.

Sub#-Item	Issue Raised	Response
SS57-HCC146	<i>It is unclear from the traffic modelling provided whether the southern creek crossing will assist in reducing traffic volumes on Sunbury Bulla Road. It is of concern that in the absence of this evidence, the southern creek crossing is being prioritised in the short term at the expense of other infrastructure needs. Council seeks clarification from the VPA as to the traffic modelling evidence that supports the need for the early delivery of the creek crossing.</i>	Please refer to Sections 7, 8 and 9 of my evidence.
SS57-HCC147	<i>It is requested that the VPA resolve all outstanding post-contact and Aboriginal cultural heritage concerns in order to confirm the alignment of this bridge prior to any panel hearing. Left unresolved, the alignment of the creek crossing will impact on the urban structure and ability of landowners to develop (including the Sherwood Heights 96A application), and the ICP. Until such point in time that the alignment of this road is confirmed, Council is unable to determine whether the standard levy is sufficient to cover the costs of delivering the crossing, or if a supplementary levy is required.</i>	This is outside of the scope of my brief.
SS57-HCC148	<i>It is noted that the PSP proposes a connection to the Jacksons Hill Estate as a future ICP item. The provision of a road connection from the Jacksons Hill Estate to Vineyard Road is also an obligation of the developer of the Jacksons Hill Estate (Places Victoria) as outlined in the Jacksons Hill Local Structure Plan. Two different road alignments are proposed, with the PSP assuming that the Place Victoria connection has been delivered prior to the delivery of the PSP connection. It is requested that the PSP and ICP not be approved until Places Victoria deliver or enter into an arrangement for the delivery of the connection.</i>	This is outside of the scope of my brief.
SS57-HCC151	<i>That the VPA work with Council, VicRoads and the servicing authorities to ensure that the cross sections met VicRoads clear zone requirements and that adequate land is set aside for servicing.</i>	This is outside of the scope of my brief.
SS57-HCC159	<i>Amend Plan 10 to show: o The designation of the cross sections and associated bike lane and shared path network. o Inclusion/extension of a number of off road shared paths as shown on Attachments 3 and 4.</i>	This is outside of the scope of my brief.
SS57-HCC160	<i>G76 (Sunbury South) and G63 (Lancefield Road) should be deleted. Off-road shared paths are intended for recreational cycling, and are shared paths for use by both pedestrians and cyclists. Cyclists using these paths should not be encouraged to travel at 30km/hr. Fast travelling cyclists should use the road network or on-road cycle paths.</i>	This is outside of the scope of my brief.
SS59-SR3	<i>Relocate the eastern connector road so it allows for development on both sides of the road within the subject site.</i>	This is outside of the scope of my brief.
SS60-AW1	<i>Issues of car parking, level crossings and traffic congestion need to be addressed by new infrastructure now. The plan does not address the issues, particularly car parking, in the short term.</i>	Please refer to Sections 8 and 9 of my evidence.
SS61-HQ8	<i>The PSP does not show, and has not acknowledged, the existing access road into Hi-Quality's Eco Park. This road would provide sensible access to the industrial and commercial land proposed for along Sunbury Road, allowing for separation of heavy vehicles and residential traffic. This road should be shown on the PSP and integrated into the street network.</i>	This is outside of the scope of my brief.
SS61-HQ9	<i>The existing access road is the only current legal point of access to property 98 and 99.</i>	This is outside of the scope of my brief.
SS61-HQ10	<i>The PSP should also show a connector street running between the proposed commercial and employment land along Sunbury Road on properties 97 and 98.</i>	This is outside of the scope of my brief.
SS61-HQ11	<i>The intersection of the existing access road and Sunbury Road should be considered for upgrade and signalisation.</i>	This is outside of the scope of my brief.
SS62-APP1	<i>Agrees with the designation in the PSP that Intersection No 7 (Vineyard Road and Watsons Road) be classified as Short Term. Requests that the SICADS be amended to reflect the PSP in this regard.</i>	Noted
SS63-JH1	<i>Requests that the VPA and HCC produce a long term strategic transport plan for Sunbury (and include community engagement).</i>	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
SS67-WW5	Western Water has identified the need to install mains along the connector road between Sunbury Rd and Vineyard Rd over Jacksons Creek. Provision for these mains on the bridge will be critical to reinforce the network by providing a level of security and redundancy into the network.	This is outside of my area of expertise.
SS70-DEDJTR2	A strong pedestrian link should be provided to the potential future railway station from the north - south connector road, (located to the west of the railway corridor).	This is outside of the scope of my brief.
SS70-DEDJTR3	The proposed left in left out access on Lancefield Road just south of Gellies Road) would not allow buses to utilise the proposed connector road extending east along Lancefield Road. The proposed access will need to be modified to allow buses the option of a right turn. Alternatively; buses could utilise Lancefield Road however, pedestrian crossings would need to be provided along Lancefield Road at 400 metre intervals. (Please refer to Attachment 4 ).	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS70-DEDJTR4	The proposed Sunbury Road left in left out intersection will need to allow buses to perform a right turn movement, in order to provide sufficient coverage. (Please refer to Attachment 4 ).	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS70-DEDJTR5	The potential future station will need to provide terminus facilities for two bus routes.	Noted
SS70-DEDJTR6	Plan 10 Public Transport and Path Network - The rail station should be labelled as a 'potential future rail station'. All other references in the PSP should also be amended to 'potential future rail station'.	This is outside of the scope of my brief.
SS70-DEDJTR7	3.4.1 Street Network - This section should include the following requirement: "Any connector road or access street abutting a school must be designed to achieve safe and low vehicle speeds."	This is outside of the scope of my brief.
SS70-DEDJTR10	Road Cross Sections: The main connector street within the Redstone Hill Town Centre will need to be bus capable. The Network and Corridor Planning team within DEDJTR - Transport have provided their comments via attachments to this letter. (Please refer to Attachment 1 and Attachment 2).	This is outside of the scope of my brief.
SS70-DEDJTR13	The required signals at Vineyard Road and the on and off ramps are not funded by the PSP. Moore Road and Vineyard Road intersection is shown as left-in and left-out, consideration should be given to signalising the intersection. Both intersections require further assessment and therefore it is requested a hold be placed over the two intersections indicating that further work is required. Interested parties, VicRoads, Transport Group, VPA, City of Hume to continue with further discussions to resolve prior to panel.	This is outside of the scope of my brief.
SS70-DEDJTR15	Road 02 - Change indicative timing from Short to Long term.	Please refer to Sections 8 and 9 of my evidence.
SS71-VW13	Request confirmation that no additional widening of Sunbury Road is required - as per Cross Sections: Sunbury Road - Ultimate option 1 & 2.	Please refer to Sections 8 and 9 of my evidence.
SS71-VW14	Intersection type and extent to be confirmed.	This is outside of the scope of my brief.
SS71-VW20	Confirm extension of Redstone Hill Road reserve will be located entirely within the Villawood title, to allow implementation of this road as part of the Town Centre.	This is outside of the scope of my brief.
SS71-VW21	A minor realignment may be necessary to transition the extension of Redstone Hill Road east.	This is outside of the scope of my brief.
SS71-VW30	Seek clarification that limited access to boulevard connector road is permitted where appropriate. Confirm all widening to Redstone Hill Road is to the north (on adjacent parcel).	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
SS71-VW32	<i>Request that the southern link boulevard connector (34m) road remains entirely outside the Villawood parcel (currently clips the corner). Any deviation of this connector boulevard is requested to occur further north as not to encroach into Villawood parcel 61 and to facilitate implementation, in accordance with design submitted by Villawood and Capital Property.</i>	This is outside of the scope of my brief.
SS71-VW34	<i>Realign connector road to avoid existing dwellings on adjoining land.</i>	This is outside of the scope of my brief.
SS71-VW37	<i>O2 - Amend objective or add additional objective to relate to the connector road network as well</i>	This is outside of the scope of my brief.
SS71-VW42	<i>O31 - Amend objective to include reference to connector roads and key local character roads. Other amendments may be required following discussions with VPA about the Sunbury Road cross-section.</i>	This is outside of the scope of my brief.
SS71-VW67	<i>R59 - Reword as a guideline. Refer to Permit Conditions submissions for further comments on implementation.</i>	This is outside of the scope of my brief.
SS71-VW69	<i>G74 - Clarify how it is to be balanced with other objectives</i>	Cross Sections do not impact on results from a transport modelling perspective.
SS71-VW84	<i>Cross-section P.66 - Primary Arterial Road (6 lane) Sunbury Road- Ultimate Option 1 - Review cross-section. Villawood will prepare an alternative cross-section for discussion with VPA.</i>	Cross Sections do not impact on results from a transport modelling perspective.
SS71-VW85	<i>Cross section P.67 - Primary Arterial Road (6 lane) Sunbury Road- Ultimate Option 2 - Clarify difference between cross-section 1 and 2, and potentially delete Cross-section 2, with ability for variations noted on Cross-section 1.</i>	Cross Sections do not impact on results from a transport modelling perspective.
SS71-VW86	<i>Cross-section P.72 - Connector Boulevard - Review and amend.</i>	Cross Sections do not impact on results from a transport modelling perspective.
SS71-VW87	<i>Cross-section P.84 - Main Street MTC Redstone Hill - Replace cross-section with enclosed cross-section, with notation stating that it is indicative only - exact cross-section details will be determined during the UDF process</i>	Cross Sections do not impact on results from a transport modelling perspective.
SS72-DELWPE2	<i>FUS and UGZ9 - North of the Jacksons Creek crossing the 'connector road' boulevard is shown to encroach into Conservation Area 21 (refer copied image below). The connector road must be realigned at this location to wholly avoid the conservation area through this section.</i>	This is outside of the scope of my brief.
SS75-CAP4	<i>Amend Plan 10 - to remove the off road path within the 'land subject to capability assessment' land.</i>	This is outside of the scope of my brief.
SS75-CAP13	<i>Remove cross-section 4.2</i>	This is outside of the scope of my brief.
SS75-CAP20	<i>Plan 9 be amended to include a left in-left out intersection approximately midpoint between intersections IN-04 and the Francis Boulevard roundabout, and An access point onto the Francis Boulevard roundabout.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
SS75-CAP25	<i>The PB functional designs be updated or replaced with designs that support the exhibited PSP road alignments and intersection locations, particularly RD-04 and IN-03.</i>	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
SS77-MW19	R64 - Modify R64 "Road crossings of waterways must respond sensitively to landform, environment and the amenity of the waterway subject to Melbourne Water approval"	This is outside of the scope of my brief.
SS79-MRSC1	1. There is a need to review the capacity to increase passenger services via the Metro and V/Line network. Discussions with relevant transport organisations are needed to better understand how the metro/regional public transport system can respond to the growth in_ population without impacting adversely on the existing arterial road networks.	This is outside of the scope of my brief.
SS79-MRSC2	2. Council seeks commitment in the PSP documentation that additional capacity will be provided on the existing metropolitan and V/Line network (i.e. train passenger capacity and frequency of service) to meet the demands of this growing commuter population.	This is outside of the scope of my brief.
SS79-MRSC3	Discussions with VicRoads must consider road safety infrastructure investments to improve the safety of all types of road users using the Melbourne to Lancefield Rd (rural and planned urban stretches of this road). This road is already well-recognised as a dangerous stretch of high speed, rural road. Vic Roads are currently planning road safety upgrade treatments along this rural road. Increasing population to this area, would require review and coordination of metropolitan and regional road safety treatments.	This is outside of the scope of my brief.
SS79-MRSC4	4. As traffic volumes increase on the Calder Hwy, Council needs further information regarding what treatments for existing infrastructure are planned to be in place to manage the increase in vehicle traffic demand, and increased demand at the Calder Highway and Diggers/Bulla Rd interchange.	Please refer to Sections 8 and 9 of my evidence.
SS79-MRSC5	Currently traffic volumes from Keilor Park Drive and Kings Rd are increasing at levels which are already causing significant congestion in this area - e.g. during peak times, travel speeds currently decrease substantially to 20-40km, and sometimes traffic stops at a standstill. Ramp metering has been recently installed at Keilor Park Drive as part of the City Tullamarine Widening project.	This is outside of the scope of my brief.
SS79-MRSC6	Seek certainty in the delivery of the Bulla Bypass. Asserts that it is needed now, and notes that there is uncertainty that it will be undertaken in 2025 as projected.	Please refer to Sections 8 and 9 of my evidence.
SS79-MRSC7	Requests the traffic modelling data be reviewed to include regional traffic volume data for state arterial road networks.	Please refer to Sections 8 and 9 of my evidence.
SS79-MRSC8	The interim (southern access road) option to the Bulla Bypass is reasonable but must be conditional on the PSP amendments specifying the programming and committed funding for the Sunbury Bulla By Pass by a defined date. Without this, there is a risk in further delay in the delivery of the Sunbury Rd / Bulla By Pass Rd and an interim option becoming a long term result.	Please refer to Sections 7, 8 and 9 of my evidence.
SS83-TD5	Bulla Bypass is required and is not scheduled for in these plans.	Please refer to Sections 8 and 9 of my evidence.
SS83-TD6	Concerned about car parking in the Sunbury town centre / railway station.	This is outside of the scope of my brief.
SS83-TD11	Requests all traffic studies done for Elizabeth Drive, Racecourse Road, Lancefield Road and Riddell Road (from Council).	This is outside of the scope of my brief.
SS84-CF7	Seek confirmation from the VPA that the construction of the Buckland Way Link including the connector road bridge will be undertaken by Hume Council and Places Victoria and that the owners of 35 Buckland Way will only need to provide the land for the road as per the road widening public acquisition overlay that has been in place for some time, subject to the normal acquisition process, and that they will not be required to construct the bridge.	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
SS84-CF8	<i>If our assumptions above are not correct, the wording of R69 is of concern. The construction of the connector street bridge should be linked to traffic volumes rather than what sequence developers seek approvals. We seek clarification from the VPA as to how R69 would be applied to 35 Buckland Way.</i>	This is outside of the scope of my brief.
SS84-CF12	<i>Request that the interim Jacksons Hill road link be deleted and that the ultimate alignment be constructed as a short term priority.</i>	This is outside of the scope of my brief.
SS85-IDNJK9	<i>Request that Requirement R99 be deleted.</i>	This is outside of the scope of my brief.
SS85-IDNJK10	<i>R69 - The construction of the connector street bridge should be linked to traffic volumes rather than what sequence developers seek approvals. The timing of the construction of bridges therefore needs to be considered on a site-by-site basis as it is in other PSPs, and we seek clarification from the VPA as to how R69 would be applied to 35 Buckland Way.</i>	This is outside of the scope of my brief.
SS85-IDNJK14	<i>Request that the connector roads and associated bridges and intersections be shown as short term priorities. We also request that the interim Jacksons Hill road link be deleted and that the ultimate alignment be constructed as a short term priority.</i>	This is outside of the scope of my brief.
SS87-PV11	<i>Crown Land excision from Holden Flora Reserve - Excision of Crown Land from Nature Conservation Reserves for proposed roads is a complicated process that will need to be assessed and progressed through the Department (DELWP). Parks Victoria will assist DELWP with advice about the values requiring protection in the Holden Flora Reserve and avoiding or mitigating impacts from infrastructure in the conservation reserve. DELWP have also advised that Native title has not been extinguished in this vicinity.</i>	This is outside of my area of expertise.
SS89-OP10	<i>Seek clarification on the PSP road networks which do not take account of the existing PAO.</i>	This is outside of the scope of my brief.

**Table B.2: Response to Submissions – Lancefield Road**

Sub#-Item	Issue Raised	Response
LR9-DK4	Seeks that the only place that traffic from the proposed housing estates should mix with through corridor traffic would occur at one controlled intersection. The most suitable location is at the current intersection of Lancefield Road and Sunningdale Avenue, Goonawarra. For the Sunbury South development this should occur at the Lancefield and Sunbury Road intersection.	Please refer to Sections 8 and 9 of my evidence.
LR9-DK5	Seeks that any proposed development must automatically set aside prior to commencement a suitable road reservation of land for future Lancefield and Sunbury roads expansion to dual carriageway so the need to compulsorily acquire land in the future is eliminated and the suitable set back for housing is maintained to reduce traffic noise impacts on future residential amenity.	This is outside of the scope of my brief.
LR9-DK7	Unchecked urban sprawl places an automatic requirement for all residents to own and operated an automobile/s for all transport activities both within the developments and to provide all transport options to connect them with other areas outside the developments.	This is outside of the scope of my brief.
LR9-DK9	There will be a loss of amenity for existing residents of Sunbury and other communities due to more road congestion, which produces more time wastage and uncontrolled costs, and also leads to increased resource consumption and quicker depletion.	Please refer to Sections 8 and 9 of my evidence.
LR10-DB2	Opposes the amount of infrastructure, notes that at peak times traffic congestion is 'bumper to bumper' in and around the shops.	Please refer to Sections 8 and 9 of my evidence.
LR10-DB3	Does not think that two extra train stop will suffice as more trains would be needed to ferry extra people to and from.	Please refer to Sections 8 and 9 of my evidence.
LR10-DB4	Notes that the roads are limited in all directions, including the single bridge in Bulla. Concerned for emergency situations should an evacuation of the township be required.	Please refer to Sections 8 and 9 of my evidence.
LR15-SS3	The Jacksons Creek Southern Link is the most vital link needed to alleviate Sunbury Road traffic, and the submitter has concerns that the role of the collector road may exceed the anticipated traffic volumes anticipated in the PSPs as many residents (as well as Romsey and Lancefield Residents) may utilise it. This may result in congestion around the Vineyard Road intersection, which would be exacerbated when the train station is developed.	Please refer to Sections 7, 8 and 9 of my evidence.
LR15-SS4	Notes that Elizabeth Drive is to complete the "circular loop" road, but given the higher order of Lancefield Road, many commuters north of the Elizabeth Drive intersection are unlikely to veer from Lancefield Road. This is based on daily observation and use of Sunbury's road network.	Please refer to Sections 8 and 9 of my evidence.
LR16-CM3	With so many new houses and no parking for rail and services the effort to look to the future is poor.	This is outside of the scope of my brief.
LR16-CM5	Racecourse Road will be blocked at the High School unless an underpass is built in Riddell Road.	This is outside of the scope of my brief.
LR19-NR110	Submits that the proposed "Northern Link" that forms part of the Orbital Route around Sunbury appears to offer marginal traffic benefits and the greater cost to the cultural landscape, biodiversity and the community that has not been fully assessed in the information provided. Further, the funding of this road appears to be dependent on the development of the land east of Racecourse Road and between Jacksons Creek which is of significant concern.	Noted
LR19-NR111	Requests that, as suggested in the Creek Crossing Options Report, complete a robust, transparent cost-benefit analysis of the northern (and possible southern) creek crossing cognisant of a wide range of inputs prior to any planning amendments and subsequent development.	This is outside of the scope of my brief.
LR19-NR112	Submits that the main road transport issue - getting out of Sunbury and heading to Melbourne - is not well addressed in the PSP.	Please refer to Sections 8 and 9 of my evidence.

Sub#-Item	Issue Raised	Response
LR20-DM1	<i>Car parking needs to be increased at Sunbury Station. This could be achieved by creating multi-level parking at the Sunbury Square with a link walkway to the station facilities, and this could also enable better traffic flow in the square by separating foot traffic from the Sunbury Square entry. Car parking in the Sunbury town centre and at key tourist spots should also be improved. As a minimum, any decision to change the planning overlay of the greater Sunbury area needs to be directly linked and dependent on a large scale parking expansion in the existing Sunbury town centre.</i>	This is outside of the scope of my brief.
LR20-DM4	<i>Does not consider the GTA report to be sufficient to base decisions for rezoning and expanding Sunbury to such an extreme level, as it was based on 2011 data with some tube counts performed in 2015 that were not accurate due to vandalism. Also the surveys were performed when a large percentage of people were still on holidays.</i>	Please refer to Sections 8 and 9 of my evidence.
LR20-DM5	<i>As a minimum, any decision to change the planning overlay of the greater Sunbury area needs be directly linked and dependent on a large scale road projects that need to start before the overlay changes are approved. The VPA need to make VicRoads and the state Government accountable to improve the daily commuter journey before any rezoning is approved.</i>	Please refer to Sections 7, 8 and 9 of my evidence.
LR20-DM7	<i>The intersection at Gap Road and Horne Street often has queues approaching 80m long. Adding more general traffic from any subdivision will only increase queues and delays.</i>	Please refer to Sections 8 and 9 of my evidence.
LR20-DM9	<i>Emu Bottom residents will only have a single path in and out of the area which is dangerous during bushfires. Submits that a better proposal would be to extend Racecourse Road through to Settlement Road.</i>	This is outside of the scope of my brief.
LR20-DM10	<i>Any decision to change the planning overlay of the greater Sunbury area needs be directly linked and dependent on improved safety for existing residence. The VPA need to assess the concerns of residents and whatever is proposed cannot be approved if it increases the risk of existing residence safety</i>	This is outside of the scope of my brief.
LR21-SB4	<i>A second crossing of the railway line in Sunbury is overdue. The people and businesses in the south east of Sunbury are put at risk if the traffic on Gap Rod is blocked at the crossing and emergency services can't get through.</i>	Noted
LR22-MC1	<i>Increased housing development will put a strain on the road and volumes of traffic along Lancefield Road.</i>	Please refer to Sections 8 and 9 of my evidence.
LR22-MC2	<i>The expansion of Balbethan Drive and over the train line will increase traffic volumes and create bottle necks - including increased fire and emergency services access threat.</i>	Please refer to Sections 8 and 9 of my evidence.
LR22-MC8	<i>Concerned about impact on public transport for commuters with limited bus services past Rolling Meadows, impact on vline with increased passenger flow from the growth pushed into Sunbury or up to Clarkefield (under strain from Romsey / Lancefield growth). The proposed Sunbury North station should be built for infrastructure before the housing growth to cater to the growth in stages.</i>	This is outside of the scope of my brief. Nonetheless, additional public transport services will be provided as population & demand for services grows. A new rail upgrade will be subject to state funding and will require more detailed investigation.

Sub#-Item	Issue Raised	Response
LR22-MC9	Concerned about impact on traffic flow from increased volumes on Lancefield Road causing: 1) Increased traffic noise to residents of Rolling Meadows that back onto Lancefield Road. How are you planning to mitigate this? 2) Deterioration of existing roads 3) Increased difficulty accessing Lancefield Road from Rolling Meadows Drive and The Old Stock Run 4) Emu Creek town centre to have impact that the infrastructure cannot cope with. 5) Consideration of 80km/hr zones along Lancefield Road between Rolling Meadows Drive to Raes Road. 6) Often maintenance issues are deferred as a VicRoads issue but they "maintain" once to twice a year in terms of grass cutting and less on maintenance.	Please refer to Sections 8 and 9 of my evidence.
LR23-JR5	Concerned also about the increased volume of traffic that the proposed layout and number of houses will bring to the area, particularly Racecourse Road.	Please refer to Sections 8 and 9 of my evidence.
LR25-JL2	In common with other proposed residential developments, unacceptable additional pressure would be placed on parking within the Sunbury shopping precinct as well as further increased traffic congestion during busy times.	Please refer to Sections 8 and 9 of my evidence.
LR26-EMG2	The proposed extension of Elizabeth Drive is ill-conceived and would disfigure the landscape. Requires demonstration of the need for it and a cost-benefit analysis. All of the GTA options are problematic. It should be the subject of a further full round of community consultations when the VPA is able to describe and justify its alignment precisely.	This is outside of the scope of my brief.
LR26-EMG3	Efforts to boost the population of Sunbury even to 50,000 should be put on hold pending the completion — not just the planning and design — of the Bully Bypass and substantial improvements to rail services.	Please refer to Sections 8 and 9 of my evidence.
LR27-AM7	That Elizabeth Drive be built as a raised roadway across the Jacksons Creek Valley for safety reasons and to minimise the disturbance to the archaeological value of the valley.	This is outside of my area of expertise.
LR32-BL5	The Jacksons Creek valley from Rupertswood to the Wetlands is a very historic area and should be preserved. This area will be destroyed with a road and bridge running right up 60 metre escarpment along Cannon Gully.	This is outside of my area of expertise.
LR32-BL8	Notes that the Bully Bypass construction was 'imminent' in 1978 and has not yet been delivered.	Please refer to Sections 8 and 9 of my evidence.
LR37-JCEN7	Elizabeth Drive extension and bridge across Jacksons Creek - We are not convinced that this road will serve a useful purpose. The bridge, if built, must provide for passage of wild life, including kangaroos, wallabies, possums, echidnas and other smaller creatures, not just Growling Grass frog habitat.	This is outside of my area of expertise.
LR37-JCEN8	It is essential that the new bridge spanning Jacksons Creek provides ample wildlife corridors, not just for Growling Grass frog. A high bridge allowing passage of animals beneath will best cater for needs. The elevated span must be wide enough that animals are not channelled into a trap where they are prey to foxes.	This is outside of my area of expertise.
LR37-JCEN9	Rope overpasses for possums crossing the road should be considered.	This is outside of my area of expertise.
LR37-JCEN10	The design of the bridge must be sympathetic to the surrounding landscape.	This is outside of my area of expertise.
LR37-JCEN11	In the construction of the bridge, disturbance to the environment must be minimized, including disruption to platypus habitat. On completion, restoration must be in sympathy with the surrounding environment and landscape.	This is outside of my area of expertise.

Sub#-Item	Issue Raised	Response
LR37-JCEN12	<i>Any lights in the area must be so designed and baffled to prevent light spill and glare. This is described for Conservation area 21 (R56 ) but apparently not for other susceptible areas. Platypus are particularly susceptible, but other creatures also require dark.</i>	This is outside of my area of expertise.
LR37-JCEN14	<i>A last general concern is that if development goes ahead without an urgent upgrade of Sunbury Road, and the provision of a Bypass of Bulla Township, residents of Greater Sunbury will be faced with significantly worse traffic congestion than currently exists, and it won't matter how many roads you build across sensitive areas.</i>	Please refer to Sections 8 and 9 of my evidence.
LR38-MMc1	<i>It is suggested that prior to finalizing the PSP that a detailed study of the extension of Elizabeth Drive be completed to the extent that a complete alignment be defined and shown on the PSP so that variations resultant from review can be achieved.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
LR39-SCPA1	<i>Duplicated Lancefield Road to Romsey to ensure traffic doesn't bottle neck at the end of the road.</i>	This is outside of the scope of my brief.
LR39-SCPA2	<i>Jacksons Hill &amp; Goonawarra need alternate roads out of town before construction has started to ease the burden of traffic through Sunbury's CBD.</i>	Please refer to Sections 8 and 9 of my evidence.
LR39-SCPA3	<i>Completed Bulla Bypass in early stages of Development to help people get to and from work as well as making it easier for people to gain employment.</i>	Please refer to Sections 8 and 9 of my evidence.
LR39-SCPA5	<i>Better bus connections and more frequent services to cope with the future demand.</i>	This is outside of the scope of my brief.
LR39-SCPA6	<i>Better train services during the day as it is currently 40 minute waits and more people will need to get to the city during the day.</i>	This is outside of the scope of my brief.
LR39-SCPA7	<i>The possibility of Park and Ride to the train station in Sunbury - Will ease the traffic burden in Sunbury's CBD.</i>	Please refer to Sections 8 and 9 of my evidence.
LR39-SCPA8	<i>Better Public Transport parking during early stages (Before the new train stations are built) as it is impossible to get parking in the morning.</i>	This is outside of the scope of my brief.
LR39-SCPA9	<i>Better bus connections to facilities throughout Hume (Craigieburn &amp; Broad meadows).</i>	This is outside of the scope of my brief.
LR41-BS4	<i>3. Road and intersection congestion: Many upgrades are required to address both safety and efficiency - such as the Bulla bypass, Gap Road rail crossing etc.</i>	Please refer to Sections 8 and 9 of my evidence.
LR41-BS5	<i>4. Parking: This is particularly an issue at Sunbury Train Station and already showing signs of becoming an issue at Sunbury Square and on Evens and O'Shannassy Streets.</i>	Please refer to Sections 8 and 9 of my evidence.
LR44-LPK8	<i>Ensure that in making any changes to the exhibited LRPSP (for example in revising the extent of the Conservation Area) that the northern Connector Road continues to provide the most direct possible connection between Bindara and the future Yellow Gum Town Centre.</i>	This is outside of the scope of my brief.
LR44-LPK9	<i>Add a further Requirement to section 3.4.1, requiring any subdivision of Parcel 1 to incorporate multiple north-south future street connections to Bindara.</i>	This is outside of the scope of my brief.
LR44-LPK10	<i>Amend 'Plan 9 – Street Network' to show indicative future street connections to Bindara (refer image below).</i>	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
LR46-WinCity30	<i>With specific regard to the Bulla Bypass, our client supports the VPA and Hume City Council (HCC) in their advocacy of the timing and delivery of the bypass, and is looking forward to seeing it pushed into earlier State budgeting cycles.</i>	This is outside of the scope of my brief.
LR54-HCC17	<i>The intersection of Stockwell/Balbethan Drive doesn't align with that shown on the Aurecon Grade Crossing Report (May, 2015). Amend the concept plan to reflect this work in regards to the intersection, lot design and lot access.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
LR54-HCC31	<i>Gellies Road Concept Plan - The two left-in, left-out intersections on Lancefield Road do not provide access to the concept plan area for people driving north or pedestrians. The first signalised intersection that provides an opportunity for a U-turn is 2km north. At least one of these two intersections needs to be signalised or pedestrian crossing facilities provided together with U turn capacity mid-block. Council's preference is for a signalised intersection at the crossroad with Lancefield Road to the west.</i>	A signalised intersection will provide improved pedestrian connectivity and is supported. I do not consider that this will not alter the transport modelling assessments.
LR54-HCC47	<i>Additional road cross sections are provided for Local Access Streets Level 2 and Connector Roads on sloping land.</i>	Noted
LR54-HCC57	<i>It is Council's preference that the alignment of this crossing avoids the Cannon Gully site. The Post-Contact Heritage Assessment (Context, December 2014) provides a number of recommendations in regards to this site and the proposed creek crossing, including the need for consent from Heritage Victoria, archaeological investigations, detailed construction plans, a landscape assessment, and site interpretation features. It is requested that this work be undertaken prior to approval of the PSP. Council has been involved in discussions to date regarding the alignment of this creek crossing, and requests continued involvement in the resolution of the final alignment of this road. In addition, it is requested that the PSPs and Infrastructure Contributions Plan (ICP) are not approved until the alignment of this road has been resolved. Any change in the alignment of this road will have significant implications on the Future Urban Structure, Sherwood Heights 96A application, and the ICP.</i>	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
LR54-HCC93	<i>Council still has outstanding concerns regarding the access arrangements off Vineyard Road into the employment area. This concern relates to traffic volumes on Moore Road and the potential need to signalise the intersection with Vineyard Road. Requests that further discussions be held with VicRoads regarding the Vineyard Road access arrangements.</i>	Noted. This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment. Notwithstanding, I have reviewed the layout and am comfortable that the proposed left-in/left-out at Moore Road is suitable given that access is provided at the new connection further north on Vineyard Road.
LR54-HCC146	<i>It is unclear from the traffic modelling provided whether the southern creek crossing will assist in reducing traffic volumes on Sunbury Bulla Road. It is of concern that in the absence of this evidence, the southern creek crossing is being prioritised in the short term at the expense of other infrastructure needs. Council seeks clarification from the VPA as to the traffic modelling evidence that supports the need for the early delivery of the creek crossing.</i>	Please refer to Sections 7, 8 and 9 of my evidence.

Sub#-Item	Issue Raised	Response
LR54-HCC147	<i>It is requested that the VPA resolve all outstanding post-contact and Aboriginal cultural heritage concerns in order to confirm the alignment of this bridge prior to any panel hearing. Left unresolved, the alignment of the creek crossing will impact on the urban structure and ability of landowners to develop (including the Sherwood Heights 96A application), and the ICP. Until such point in time that the alignment of this road is confirmed, Council is unable to determine whether the standard levy is sufficient to cover the costs of delivering the crossing, or if a supplementary levy is required.</i>	This is outside of the scope of my brief.
LR54-HCC148	<i>It is noted that the PSP proposes a connection to the Jacksons Hill Estate as a future ICP item. The provision of a road connection from the Jacksons Hill Estate to Vineyard Road is also an obligation of the developer of the Jacksons Hill Estate (Places Victoria) as outlined in the Jacksons Hill Local Structure Plan. Two different road alignments are proposed, with the PSP assuming that the Place Victoria connection has been delivered prior to the delivery of the PSP connection. It is requested that the PSP and ICP not be approved until Places Victoria deliver or enter into an arrangement for the delivery of the connection.</i>	This is outside of the scope of my brief.
LR54-HCC151	<i>That the VPA work with Council, VicRoads and the servicing authorities to ensure that the cross sections met VicRoads clear zone requirements and that adequate land is set aside for servicing.</i>	This is outside of the scope of my brief.
LR54-HCC159	<i>Amend Plan 10 to show: o The designation of the cross sections and associated bike lane and shared path network. o Inclusion/extension of a number of off road shared paths as shown on Attachments 3 and 4.</i>	This is outside of the scope of my brief.
LR54-HCC160	<i>G76 (Sunbury South) and G63 (Lancefield Road) should be deleted. Off-road shared paths are intended for recreational cycling, and are shared paths for use by both pedestrians and cyclists. Cyclists using these paths should not be encouraged to travel at 30km/hr. Fast travelling cyclists should use the road network or on-road cycle paths.</i>	This is outside of the scope of my brief.
LR56-LRJV11	<i>Plan 9 of the PSP shows a Boulevard Connector Street extending along the southern boundary of the subject site, through the town centre. Cross Section 8 is provided for a Boulevard Connector at Appendix 4.2 to the PSP and includes separate off-road bike lanes and pedestrian paths (no shared paths). Plan 10 shows this road as having on-road bike lanes, and off road shared paths, which is inconsistent with the cross sections. This requires amending for consistency.</i>	This is outside of the scope of my brief.
LR56-LRJV12	<i>R68 refers to 'edge streets with landscape buffers'. This is inconsistent with R58 and R65 which refers to 'frontage streets' and the cross section at Appendix 4.2 which refers to 'Local Access Street Interface with Rail Reserve'. This should be consistent throughout the PSP to ensure that expectations are clear.</i>	This is outside of the scope of my brief.
LR57-JOK2	<i>The northern crossing will destroy the appeal of the area.</i>	This is outside of the scope of my brief.
LR57-JOK4	<i>Traffic increase along Racecourse Road and Elizabeth Drive will result in these roads needing to be main arterial roads. The increase in traffic along the proposed bridge and Racecourse road will detrimentally impact the lifestyles of residents along Racecourse Road.</i>	Please refer to Sections 8 and 9 of my evidence.
LR58-AW1	<i>Issues of car parking, level crossings and traffic congestion need to be addressed by new infrastructure now. The plan does not address the issues, particularly car parking, in the short term.</i>	This is outside of the scope of my brief.
LR58-AW4	<i>Requests a review of the northern crossing, second station and high density housing, as it will destroy the Sunbury Wetlands reserve.</i>	This is outside of my area of expertise.
LR60-SPI8	<i>Identify a LI/LO access to 280 Lancefield Road.</i>	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
LR61-NTA4	We have significant concerns regarding the proposed location of the Jacksons Creek Crossing, which is indicated in the Precinct Structure Plan November 2016 as connecting with Elizabeth Drive. The construction of any crossing within the National Trust classified Sunbury Rings Cultural Landscape would have an adverse effect on the ability to read the landscape as a whole. North-south views along the creek and valley, which connect the significant elements of the SRCL including the Aboriginal Earth Rings, Rupertswood, Canon Gully, and Emu Bottom, would also be adversely impacted.	This is outside of my area of expertise.
LR61-NTA6	Oppose the construction of a crossing within the SRLC, but if a crossing in this location is found to be unavoidable, we advocate for a sympathetic and high quality design response which responds to the significant values of the landscape and mitigates impacts on views along the Jacksons Creek corridor as much as possible.	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
LR64-JJW6	The proposed five additional intersections for Lancefield Road will mean that the ever expanding municipalities of Romsey and Lancefield will have their main commuter link to Sunbury and Melbourne severely restricted. There will be calls for an expensive bypass road in the future because of poor foresight/design now.	Please refer to Sections 8 and 9 of my evidence.
LR68-DEDJTRT1	The proposed bus network for the Lancefield Road PSP is generally satisfactory.	This is outside of the scope of my brief.
LR68-DEDJTRT2	Cross sections as submitted in the Lancefield PSP for the arterial and connector roads are considered satisfactory. Cycling and shared paths have been adequately considered, arterial and connector roads will also adequately allow for buses.	This is outside of the scope of my brief.
LR71-VW1	Villawood seek to engage with VPA and Hume about the cross-section for Elizabeth Drive, and its connections to the Racecourse Road roundabout and Jacksons Creek crossing. Key aspects include: <ul style="list-style-type: none"> <li>the size of the median, noting: <ul style="list-style-type: none"> <li>that the road is no longer planned to be duplicated; and</li> <li>Hume's maintenance requirements relating to landscaping in medians,</li> </ul> </li> <li>parking lane widths,</li> <li>bike path location, and</li> <li>trees in kerb outstands.</li> </ul>	This is outside of the scope of my brief.
LR71-VW7	Villawood requests that the PSP provide more specific direction in relation to implementation of streetscape diversity, having specific regard to likely maintenance-based responses. Key concerns are about: <ul style="list-style-type: none"> <li>Interpretation and implementation of these objectives at the permit stage (for example, when maintenance considerations are overlaid); and</li> <li>The conflicting nature of these objectives with a number of other objectives contained within the PSP (refer to submission table in relation to R5, R43,R59, Plan 10, Table 8 and submissions in relation to Condition 1 of the Planning Permit).</li> </ul>	This is outside of the scope of my brief.
LR71-VW19	Request information to what is driving the alignment of Elizabeth Drive, and flexibility to minor realignment noting roundabout calls for duplicated Elizabeth Drive is unlikely to be required in the interim. Refer to notes regarding cross section 8.	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.
LR71-VW23	O2 - Amend objective or add additional objective to be specific about using connector roads as being opportunities for high-amenity landscape outcomes through street tree planting and varied cross-sections.	This is outside of the scope of my brief.
LR71-VW28	O31 - Amend objective to include reference to connector roads and key local character roads.	This is outside of the scope of my brief.
LR71-VW48	Plan 9 - Villawood request further details about the proposed Jackson Creek crossing alignment (e.g. 3D modelling) in order to make submissions on this matter.	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
LR71-VW49	<i>R49 - This requirement is supported in principle, however actual implementation can be challenging in the context of Council's requirements, particularly in relation to landscape restrictions and maintenance. Refer to written submission (Strategic Issues)</i>	This is outside of the scope of my brief.
LR71-VW55	<i>Table 8 - Amend table to provide additional information regarding potential streetscape variations. Amend table to reflect any revised cross-sections (i.e. Boulevard Connector alternate proposal if adopted), or provide for localised variations for existing services, etc.</i>	This is outside of the scope of my brief.
LR71-VW62	<i>Table 10 - Amend table: RD02 - includes an asterisk on timeframe. Definition of the asterisk is not provided. BR-01 - unclear what the U timeframe means BR-03 - States a medium timeframe. Villawood request that this be amended to short term to provide flexibility in bringing forward this item to facilitate delivery of the Salesian College site (refer to written submission). IN-05 - A significantly upgraded Racecourse Road intersection is already nearing completion. Given it appears that new section of Elizabeth Drive to the east is now never to be duplicated (the cross-section appears not to provide for it?), it is unclear why IN-05 is included in the PIP and the ICP. • Add a new short term item to cover the connector road between BR-03 and RD-02 - this link is critical to early delivery of a new campus for the Salesian College, which is currently at capacity (and as such delivery of a new campus early will significantly reduce pressure on delivery of community infrastructure elsewhere). It is also noted that it will likely be many years until BR-02 is delivered, meaning this link could perform a significant function for many years. Refer to separate submission on Infrastructure Delivery Strategy</i>	This is outside of the scope of my brief.
LR71-VW63	<i>Sunbury Ring Road - Elizabeth Drive Extension Connector Road - Racecourse Road Local Access Street (all sloping cross-sections) - Villawood propose to present an alternative cross-section for discussion with VPA/Hume.</i>	This is outside of the scope of my brief.
LR73-DF7	<i>The current parking situation in the CBD, particularly for train commuters, is critically inadequate. Even with two planned new stations and their associated parking facilities the current CBD/commuter parking will be overwhelmed. It is highly probable that the new houses will be built before the new stations which will exacerbate the problem in the short to medium term.</i>	This is outside of the scope of my brief.
LR73-DF8	<i>Queries whether the PSPs consider the need for improvements in existing roads and infrastructure before the development of new areas, or if they treat the new areas in isolation. Notes that many upgrades are required to address both safety and efficiency of existing roads, such as the Bulla bypass and Gap Road rail crossing.</i>	Please refer to Sections 8 and 9 of my evidence.
LR74-MW11	<i>R54 - "Road crossings of waterways must respond sensitively to landform, environment and the amenity of the waterway subject to Melbourne Water approval".</i>	This is outside of the scope of my brief.
LR77-MNG10	<i>Concerned about safety issues on Lancefield Road as subdivision generally will occur in the Lancefield Rd area before a significant road upgrade. This is an issue not just for Sunbury residents but those who live in the developing north.</i>	This is outside of the scope of my brief.
LR78-HJA3	<i>The Creek crossing must take full account of local wildlife. Requests a wildlife corridor is needed.</i>	This is outside of the scope of my brief.
LR78-HJA4	<i>Cannon Gully must not be disturbed.</i>	This is outside of my area of expertise.
LR79-KJG10	<i>Concerned about safety issues on Lancefield Road as subdivision generally will occur in the Lancefield Rd area before a significant road upgrade. This is an issue not just for Sunbury residents but those who live in the developing north.</i>	This is outside of the scope of my brief.

Sub#-Item	Issue Raised	Response
LR81-MRSC1	1. There is a need to review the capacity to increase passenger services via the Metro and V/Line network. Discussions with relevant transport organisations are needed to better understand how the metro/regional public transport system can respond to the growth in_ population without impacting adversely on the existing arterial road networks.	This is outside of the scope of my brief.
LR81-MRSC2	2. Council seeks commitment in the PSP documentation that additional capacity will be provided on the existing metropolitan and V/Line network (i.e. train passenger capacity and frequency of service) to meet the demands of this growing commuter population.	This is outside of the scope of my brief.
LR81-MRSC3	Discussions with VicRoads must consider road safety infrastructure investments to improve the safety of all types of road users using the Melbourne to Lancefield Rd (rural and planned urban stretches of this road). This road is already well-recognised as a dangerous stretch of high speed, rural road. Vic Roads are currently planning road safety upgrade treatments along this rural road. Increasing population to this area, would require review and coordination of metropolitan and regional road safety treatments.	This is outside of the scope of my brief.
LR81-MRSC4	4. As traffic volumes increase on the Calder Hwy, Council needs further information regarding what treatments for existing infrastructure are planned to be in place to manage the increase in vehicle traffic demand, and increased demand at the Calder Highway and Diggers/Bulla Rd interchange.	Please refer to Sections 8 and 9 of my evidence.
LR81-MRSC5	Currently traffic volumes from Keilor Park Drive and Kings Rd are increasing at levels which are already causing significant congestion in this area - e.g. during peak times, travel speeds currently decrease substantially to 20-40km, and sometimes traffic stops at a standstill. Ramp metering has been recently installed at Keilor Park Drive as part of the City Tullamarine Widening project.	This is outside of the scope of my brief.
LR81-MRSC6	Seek certainty in the delivery of the Bulla Bypass. Asserts that it is needed now, and notes that there is uncertainty that it will be undertaken in 2025 as projected.	Please refer to Sections 8 and 9 of my evidence.
LR81-MRSC7	Requests the traffic modelling data be reviewed to include regional traffic volume data for state arterial road networks.	Please refer to Sections 8 and 9 of my evidence.
LR81-MRSC8	The interim (southern access road) option to the Bulla Bypass is reasonable but must be conditional on the PSP amendments specifying the programming and committed funding for the Sunbury Bulla By Pass by a defined date. Without this, there is a risk in further delay in the delivery of the Sunbury Rd / Bulla By Pass Rd and an interim option becoming a long term result.	Please refer to Sections 7, 8 and 9 of my evidence.
LR84-TDA3	There is a need for a third railway crossing, and the one planned by the VPA will not solve the traffic issue. This has implications for emergency service access.	This is outside of the scope of my brief.
LR84-TDA5	Bulla Bypass is required and is not scheduled for in these plans.	Please refer to Sections 7, 8 and 9 of my evidence.
LR84-TDA6	Concerned about car parking in the Sunbury town centre / railway station.	This is outside of the scope of my brief.
LR84-TDA14	There is already a creek crossing north of Sunbury, on Settlement Road, outside the UGB.	Noted
LR84-TDA15	Requests all traffic studies done for Elizabeth Drive, Racecourse Road, Lancefield Road and Riddell Road (from Council).	This is outside of the scope of my brief.
LR84-TDA18	The northern creek crossing cannot be allowed to occur (historical reasons provided).	This is outside of the scope of my brief.
LR84-TDA19	Concerned that there has been inadequate consultation on the bridge alignment for the northern creek crossing.	This is a detailed design matter and does not impact on the outcomes of the transport modelling assessment.

Sub#-Item	Issue Raised	Response
LR84-TDA21	<i>Request aesthetic treatment of creek crossing bridge.</i>	This is outside of my area of expertise.
LR84-TDA27	<i>Cannon Gully Heritage - planned road through the Heritage Overlay can not be allowed.</i>	This is outside of my area of expertise.
LR84-TDA36	<i>The panel should, based on these examples of misrepresentation of the facts and errors or deliberate errors, simply ignore this whole report from GTA.</i>	This is outside of the scope of my brief.
LR85-KM10	<i>Concerned about safety issues on Lancefield Road as subdivision generally will occur in the Lancefield Rd area before a significant road upgrade. This is an issue not just for Sunbury residents but those who live in the developing north.</i>	This is outside of the scope of my brief.
LR89-KP1	<i>Opposes the development of the northern crossing.</i>	This is outside of the scope of my brief.

Melbourne  
A Level 25, 55 Collins Street  
PO Box 24055  
MELBOURNE VIC 3000  
P +613 9851 9600  
E melbourne@gta.com.au

Sydney  
A Level 6, 15 Help Street  
CHATSWOOD NSW 2067  
PO Box 5254  
WEST CHATSWOOD NSW 1515  
P +612 8448 1800  
E sydney@gta.com.au

Brisbane  
A Ground Floor, 283 Elizabeth Street  
BRISBANE QLD 4000  
GPO Box 115  
BRISBANE QLD 4001  
P +617 3113 5000  
E brisbane@gta.com.au

Canberra  
A Tower A, Level 5,  
7 London Circuit  
Canberra ACT 2600  
P +612 6243 4826  
E canberra@gta.com.au

Adelaide  
A Suite 4, Level 1, 136 The Parade  
PO Box 3421  
NORWOOD SA 5067  
P +618 8334 3600  
E adelaide@gta.com.au

Gold Coast  
A Level 9, Corporate Centre 2  
Box 37, 1 Corporate Court  
BUNDALL QLD 4217  
P +617 5510 4800  
F +617 5510 4814  
E goldcoast@gta.com.au

Townsville  
A Level 1, 25 Sturt Street  
PO Box 1064  
TOWNSVILLE QLD 4810  
P +617 4722 2765  
E townsville@gta.com.au

Perth  
A Level 2, 5 Mill Street  
PERTH WA 6000  
PO Box 7025, Cloisters Square  
PERTH WA 6850  
P +618 6169 1000  
E perth@gta.com.au