

Traffix Group

Traffic Engineering Evidence

Sunbury South and Lancefield Road ICP

Amendment C243 to the Hume Planning Scheme

Prepared for
Moremac

Instructed by
Best Hooper Lawyers

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G28365R-01A

STATEMENT TO PLANNING PANELS VICTORIA BY HENRY TURNBULL, TRAFFIC ENGINEER

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1. Executive Summary

1.1. Introduction

I have been retained by Best Hooper Lawyers on behalf of Moremac in July 2020 to undertake traffic engineering assessments and prepare traffic evidence in relation to Amendment C243 to the Hume Planning Scheme, which seeks to replace the interim Infrastructure Contributions Plan (ICP) that applies to land affected by the Sunbury South and Lancefield Road Precinct Structure Plans (PSPs).

In preparing this report, I have relied upon the facts, matters and assumptions detailed in Appendix A.

1.2. Qualifications and Experience

Appendix A contains a statement setting out my qualifications and experience, and the other matters raised by "Planning Panels Victoria – Planning Panels – Expert Evidence".

Appendix B contains my CV.

1.3. Summary of Opinions

Having undertaken traffic engineering assessments of the proposed Amendment C243 to the Hume Planning Scheme, I am of the opinion that:

- a) the designs of interim intersections LR-IN-01 and SS-IN-08 should be amended to include costs within the ICP sufficient to allow for each one to be constructed to taper back to the existing carriageway, independently of each other,
- b) there are significant grounds to warrant a re-visit of the Lancefield Road and Sunbury South PSPs taking into account the substantial cost of major transport-related infrastructure which was not known (or made public) at the time that the PSPs were gazetted,
- c) the recent 2020 GTA traffic modelling indicates that the northern bridge is not required, and in the absence of the bridge, the road network will continue to operate within acceptable limits in the long term (2046),
- d) it is indeterminate whether the northern bridge provides any travel time savings for northern area residents accessing Sunbury Town Centre noting that the alternative route is via arterial roads with an 80km/h speed limit,
- e) there are many examples of adjacent communities that are not well connected by car (e.g. either side of a freeway corridor or waterway corridor), and it would be appropriate and far less costly to provide a cycle/pedestrian crossing to meet connectivity criteria for these modes, and
- f) in the event that the Lancefield Road PSP is not amended with regard to the Jacksons Creek northern bridge crossing, the funding sources (and the ICP) should be revised to allocate a significant proportion of the cost as Council and/or State Government projects.

2. Amendment C243

Amendment C243 to the Hume Planning Scheme has been prepared by the Victorian Planning Authority (VPA) and applies to land within the boundaries of the Sunbury South and Lancefield Road Precinct Structure Plans (PSPs). The PSP boundaries are shown in Figure 1 below.

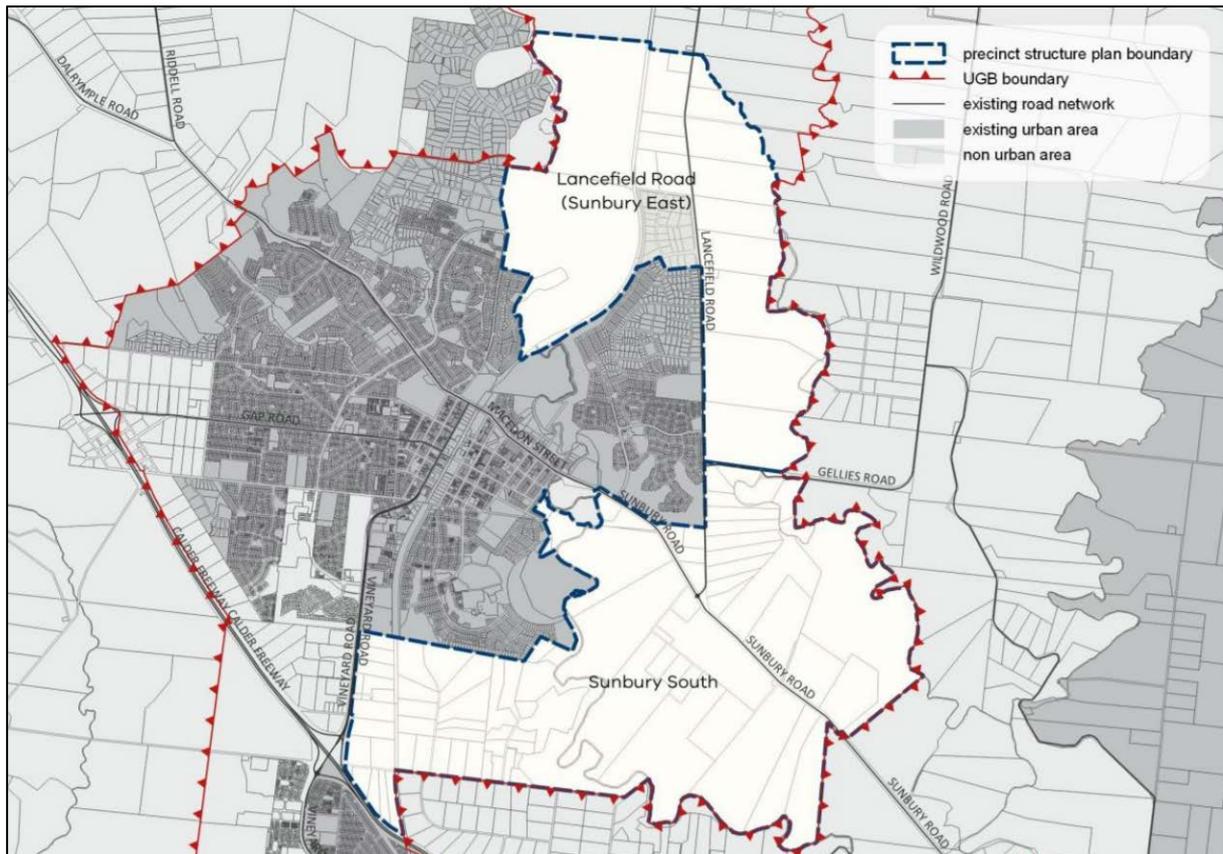


Figure 1: Lancefield Road and Sunbury South PSP Boundaries - Land to which Amendment C243 Applies

The Amendment seeks to introduce an Infrastructure Contributions Plan (ICP) into the Hume Planning Scheme to replace the 'interim' ICP which was approved by the Minister for Planning and gazetted on 5th December 2019 under Hume Planning Scheme Amendment C230.

Specifically, the Amendment proposes to:

- Amend Schedule 1 (IC01) to Clause 45.11 Infrastructure Contributions Overlay.
- Amend the Schedule to Clause 72.04 to delete the existing incorporated document titled *Sunbury South and Lancefield Road Infrastructure Contributions Plan, November 2019* and include a new incorporated document titled *Sunbury South and Lancefield Road Infrastructure contributions Plan, April 2020*.
- Apply the new Public Acquisition Overlay (PA02) in favour of Hume City Council consistent with the extension and widening of Buckland Way between Jacksons Hill precinct to the north and Watsons Road to the south, as shown in the Sunbury South PSP.

- *Delete the existing PA02 in favour of Hume City Council, which is an obsolete alignment of the extension and widening of Buckland Way.*

The Hume Planning Scheme Amendment C243 Explanatory Report states the following in relation to why the Amendment is required:

- *The ICP system has been revised to improve the method for securing land for public purposes. On 2 July 2018, the Planning and Environment (Public Land Contributions) Act 2018 came into operation. This Act requires all public land identified in an ICP to be provided as a direct land contribution, thereby removing a monetary contribution (i.e. the existing public land standard levy amount) from the ICP system. The Act also prescribes the method by which the cost of providing all public land is equalised across all landowners within a PSP area.*
- *An 'interim' Sunbury South and Lancefield Road ICP was approved under section 20(4) of the Planning and Environment Act 1987 to ensure that, following legislative changes, collecting agencies could lawfully collect infrastructure contributions from landowners.*
- *The approval of the interim ICP on 5 December 2019 enabled Hume City Council, as responsible authority, to consider and grant permits within the PSP areas.*
- *A final ICP has now been prepared and is the subject of this amendment and makes the following updates to the interim ICP:*
 - *Standard Levy Rate adjusted to 2019/20 rate and associated changes to the supplementary rate;*
 - *Updated land valuation for property SS-59 and associated changes to land credit and equalisation amounts and rates.*
- *ICPs and the associated planning controls are required to ensure collecting agencies can lawfully collect infrastructure contributions from landowners. This amendment incorporates an interim¹ ICP into the Hume Planning Scheme and applies it to land affected by the Sunbury South and Lancefield Road PSPs, which were approved by the Minister for Planning and were gazetted on 17th January 2019 under Hume Planning Scheme Amendment C207 and C208.*
- *On 5 December 2019, the Minister for Planning approved Hume Amendment C242 which updated the Sunbury South PSP and the Lancefield Road PSP to ensure alignment with the interim Sunbury South Lancefield Road Infrastructure Contribution Plan, November 2019.*
- *The ICP is necessary to deliver all the infrastructure items required within the Sunbury South and Lancefield Road PSP areas. Specifically, the supplementary levy component is included to cover the costs of construction of supplementary OCP transport items.*
- *The ICP provides timeframes (short 0-5 years, medium 10-15 years and long-term 15 years onwards) for the delivery of ICP funded infrastructure projects.*
- *The amendment proposes to delete the existing PA02 that applies to Buckland Way and its future extension and reapply it consistent with the alignment shown in the Sunbury South PSP. The Hume City Council has requested Public Acquisition Overlay is included in their favour the deliver the extension and widening of Buckland Way. The PAO is an appropriate*

¹ This text in the explanatory report appears to be incorrect, as the current Amendment seeks to replace the interim ICP with the final version.

tool in the Victorian Planning Provisions to identify land required for a public purpose and allow for its early acquisition.

- The Hume City Council was the acquiring authority for the existing PAO and will be the acquiring authority for the revised alignment.

3. Subject Site

Best Hooper Lawyers act on behalf of Moremac, which owns land located at 170 Lancefield Road and 45 Gellies Road, Sunbury, within the Lancefield PSP area. The extent of the Moremac land is identified at Figure 2 below.

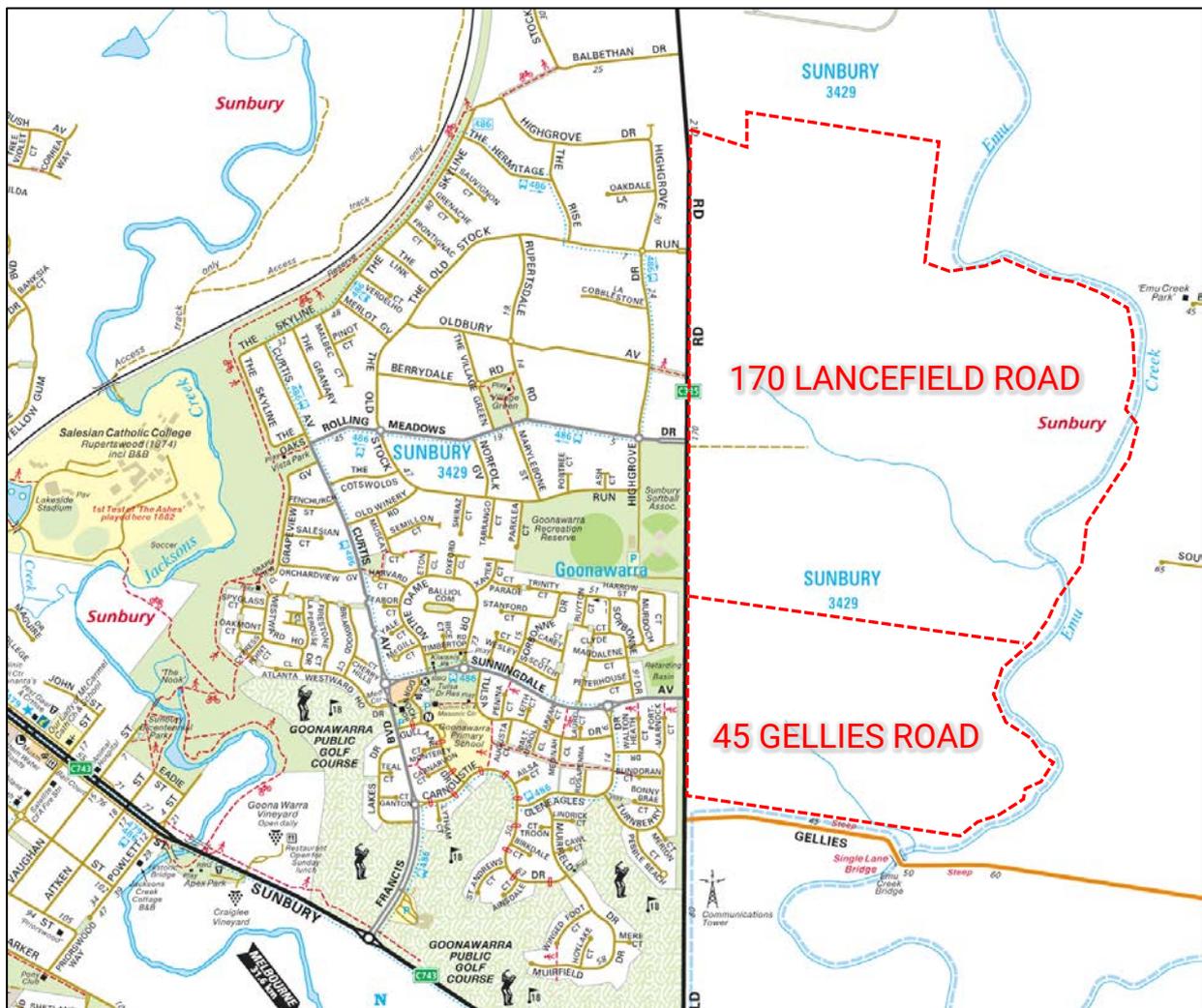


Figure 2: Subject Site

The Moremac land parcels are identified as LR-19, LR-20, LR-22, LR-23 and LR-24 in the ICP. The overall site area is 277.25 hectares of which 131.81 hectares is identified as net developable land.

4. Precinct Structure Plans (PSP)

4.1. Lancefield Road PSP Future Urban Structure

The Lancefield Road PSP was approved by the Minister for Planning in December 2018 and gazetted in January 2019 under Amendment C208 to the Hume Planning Scheme.

Figure 3 below shows the future urban structure.

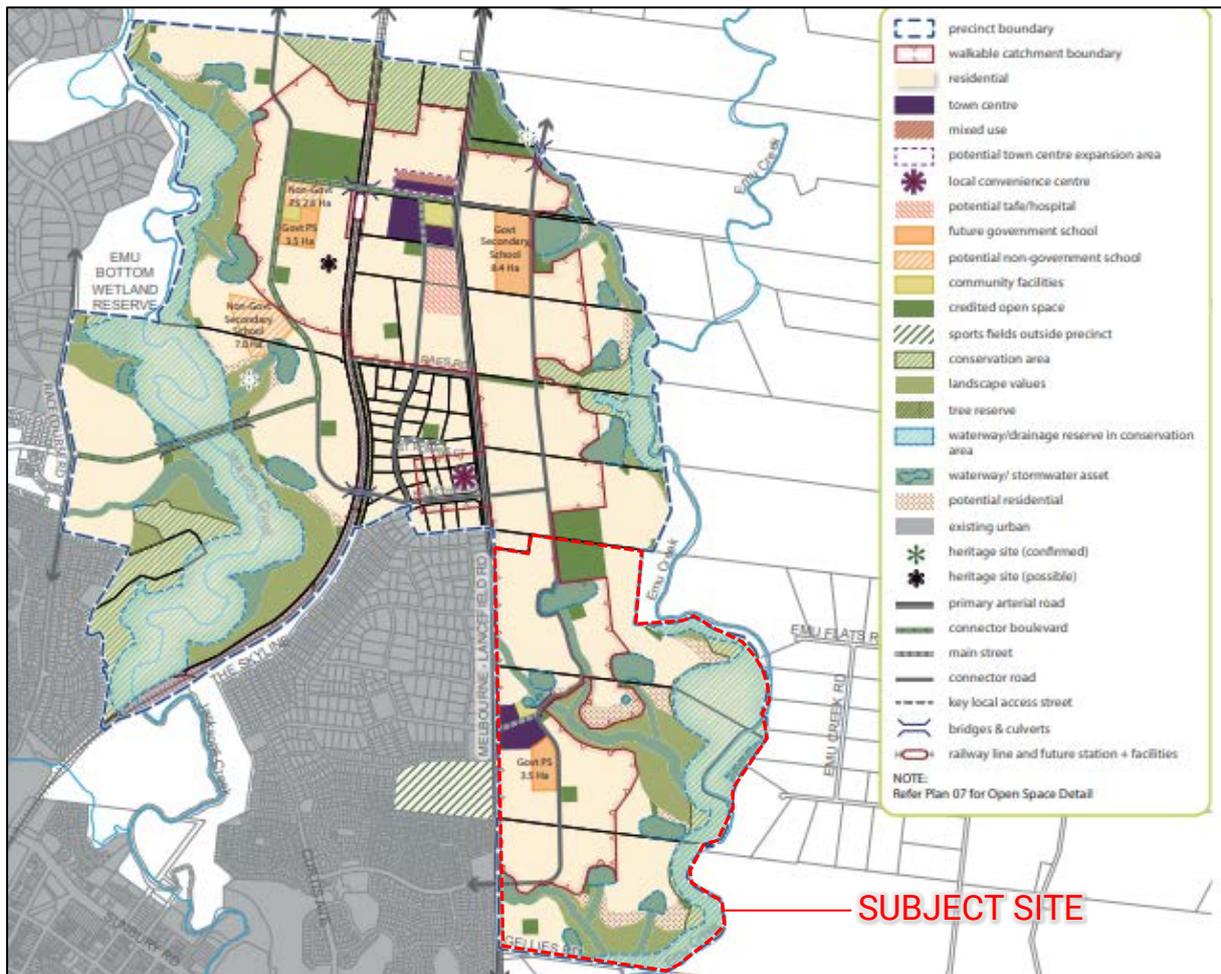


Figure 3: Lancefield PSP – Future Urban Structure

4.2. Lancefield Road PSP Road Network

Figure 4 below shows the road network for the Lancefield Road PSP.

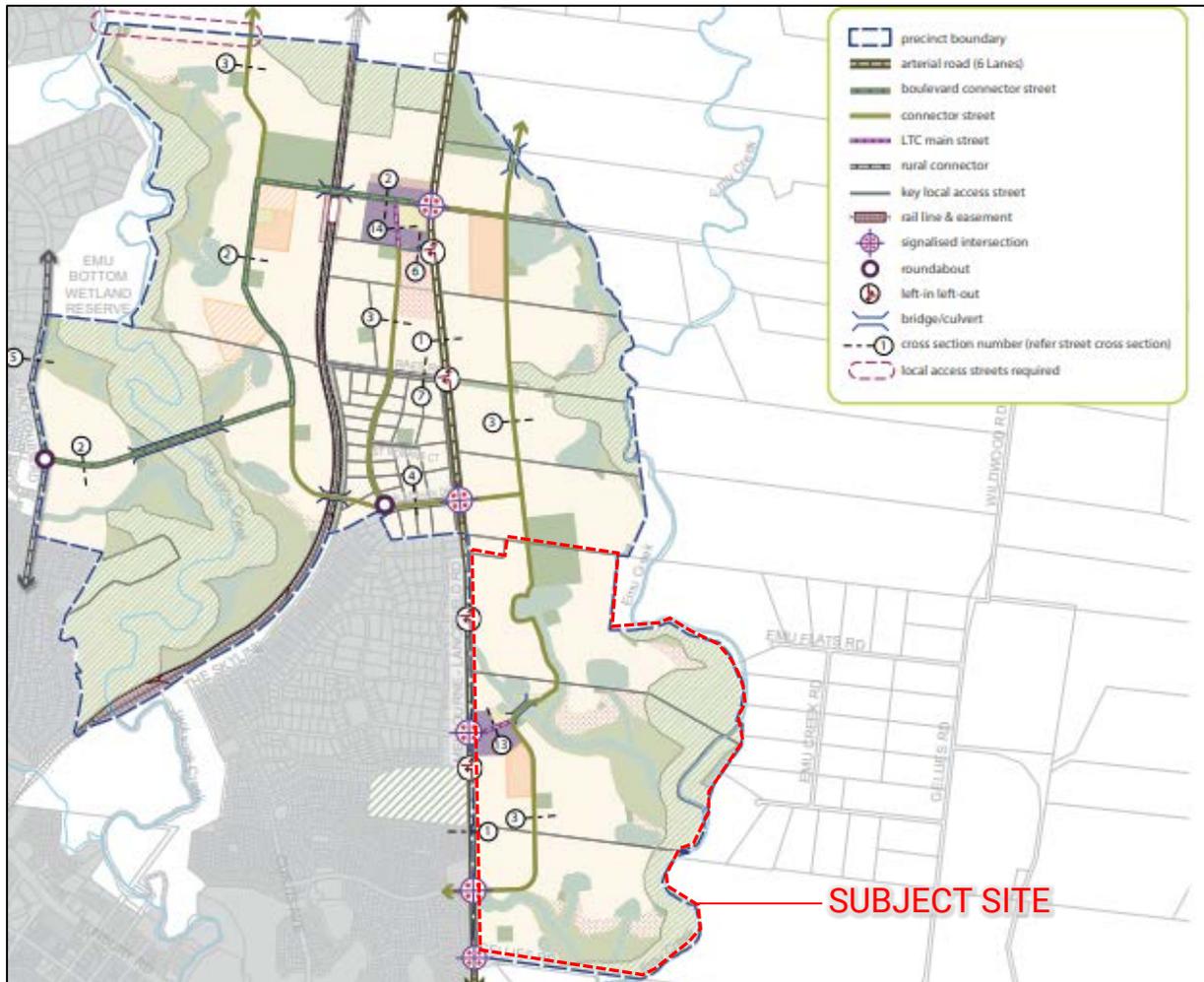


Figure 4: Lancefield PSP – Road Network

Figure 4 shows that Lancefield Road is planned to be a six-lane arterial road. A parallel north-south connector street will extend through the subject site, taking a 90-degree bend and intersecting Lancefield Road at a signalised intersection opposite Sunningdale Avenue, approximately 400m north of Gellies Road.

The Gellies Road/Lancefield Road intersection is also planned to be signalised.

A local town centre main street is proposed opposite Rolling Meadows Drive, and a signalised intersection is also planned at that location.

Other significant infrastructure within the Lancefield Road PSP area includes two grade separated crossings of the railway line to the north-west of the site (both connector streets), and a connector street incorporating the northern bridge crossing of Jacksons Creek.

4.3. Sunbury South PSP Future Urban Structure

The Sunbury South Precinct Structure Plan was approved by the Minister for Planning in December 2018 and gazetted in January 2019 under Amendment C207 to the Hume Planning Scheme.

Figure 5 below shows the future urban structure for Sunbury South.

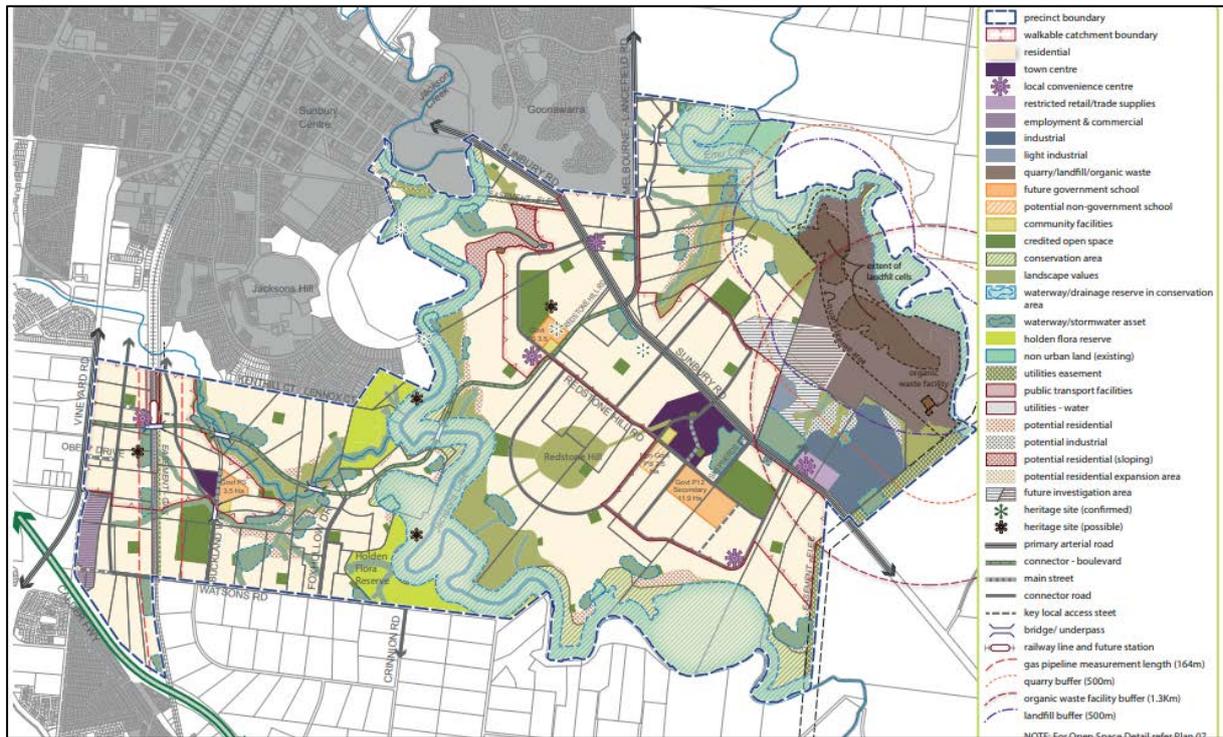


Figure 5: Sunbury South PSP – Future Urban Structure

4.4. Sunbury South PSP Road Network

Figure 6 below shows the road network for the Sunbury South PSP.

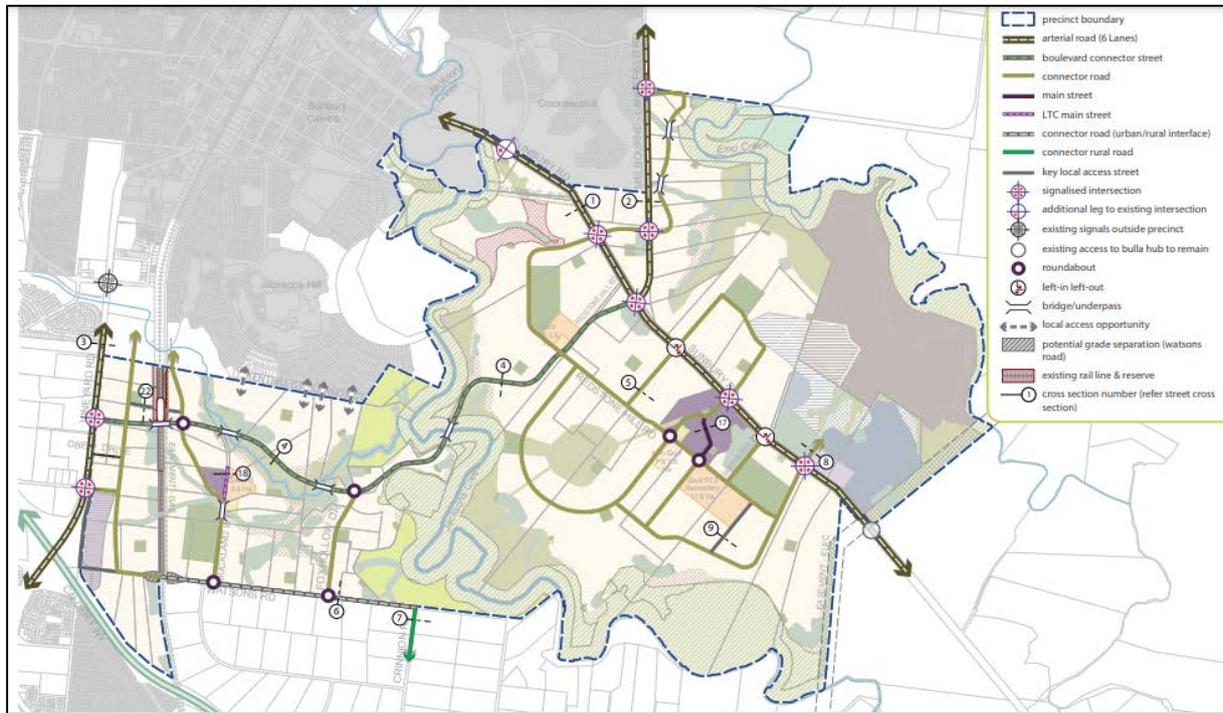


Figure 6: Sunbury South PSP – Road Network

Figure 6 shows that Sunbury Road will be upgraded to a six-lane arterial road.

A future boulevard connector street is planned to extend southwest from the Lancefield Road/Sunbury Road intersection and connect to Vineyard Road in the west, with a number of major infrastructure items required to complete the connection, including a major bridge (Jacksons Creek crossing), three smaller bridges and a grade-separated crossing of the railway line.

5. Infrastructure Contributions Plan (ICP)

The ICP details the costing and apportionment of all the infrastructure items for both the Sunbury South PSP and the Lancefield PSP.

The monetary component of the ICP consists of:

- a standard levy (calculated by multiplying the net developable area (NDA) by the standard levy rate), and
- a supplementary levy (calculated by multiplying the NDA by the supplementary levy rate).

For residential development, the proposed standard levy rate is \$213,862 per net developable hectare, and the proposed supplementary rate is \$151,284.07 per net developable hectare.

For commercial and industrial development, the standard levy rate is \$124,344 per net developable hectare, and the proposed supplementary rate is \$151,284.07 per net developable hectare.

Figures 7 and 8 below show the road infrastructure projects covered by the standard levy, within the Lancefield Road PSP and Sunbury South PSP respectively.

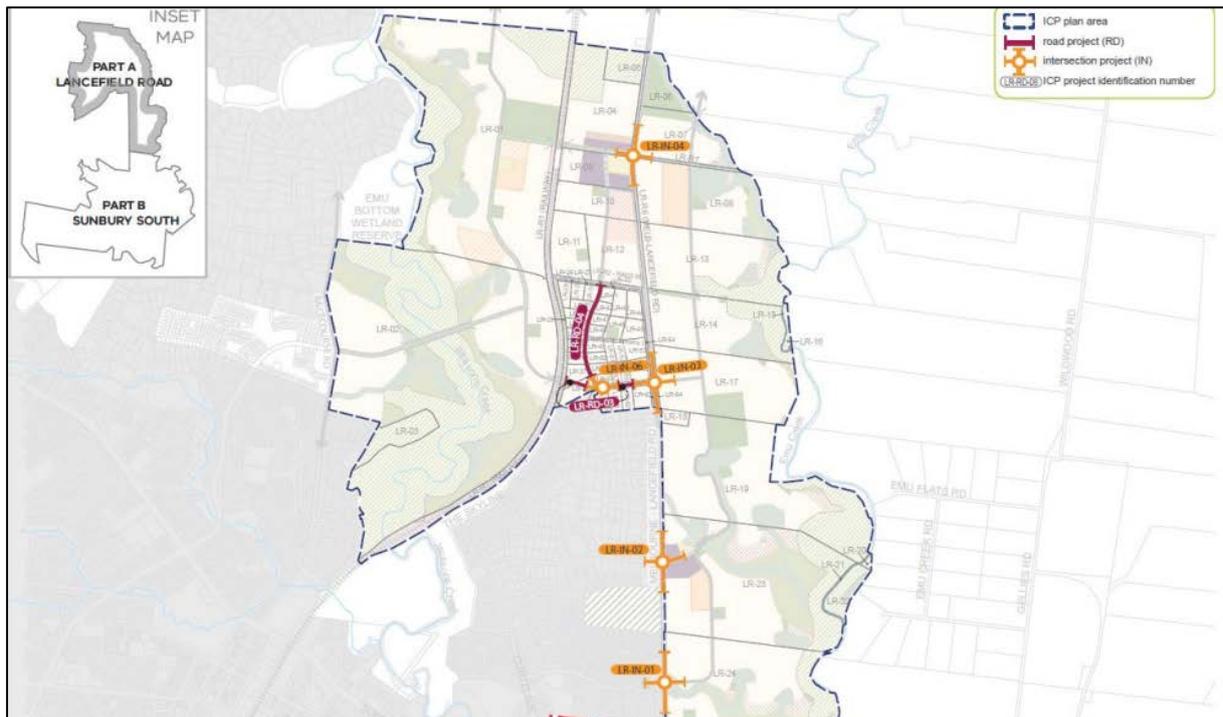


Figure 7: Lancefield Road PSP – Standard Levy Transport ICP Items

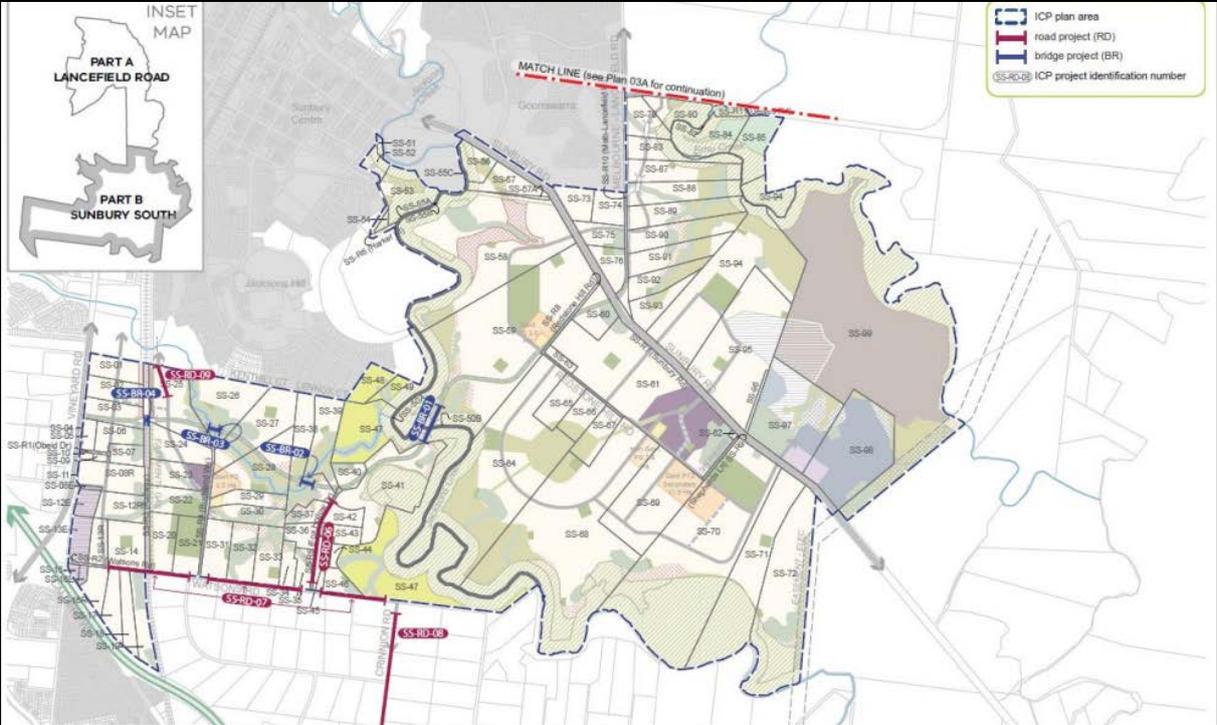


Figure 10: Sunbury South PSP – Supplementary Levy Transport ICP Items

There are two major infrastructure items which contribute to the significant cost of the supplementary levy, being a northern and a southern bridge crossing of Jacksons Creek. These items are described in more detail below.

5.1. Northern Bridge

Infrastructure items LR-BR-01, LR-RD-02-01B and LR-RD-02-02A are “supplementary levy” items relating to a northern bridge crossing of Jacksons Creek within the Lancefield Road PSP area, including bridge approach roads, and have a combined cost of \$134.7 million for a two-lane “boulevard connector street”. At the western end, the bridge will connect to Elizabeth Drive. At the eastern end, the bridge will intersect a north-south connector street at a T-intersection.

The bridge has a total length of 490m (excluding the approach roads) and is 35.5m above the natural ground level at its highest point, as shown in Figure 11 below. I understand that the length and height of the bridge is not due to flood levels, but rather environmental, biodiversity values, challenging terrain and cultural heritage impacts.

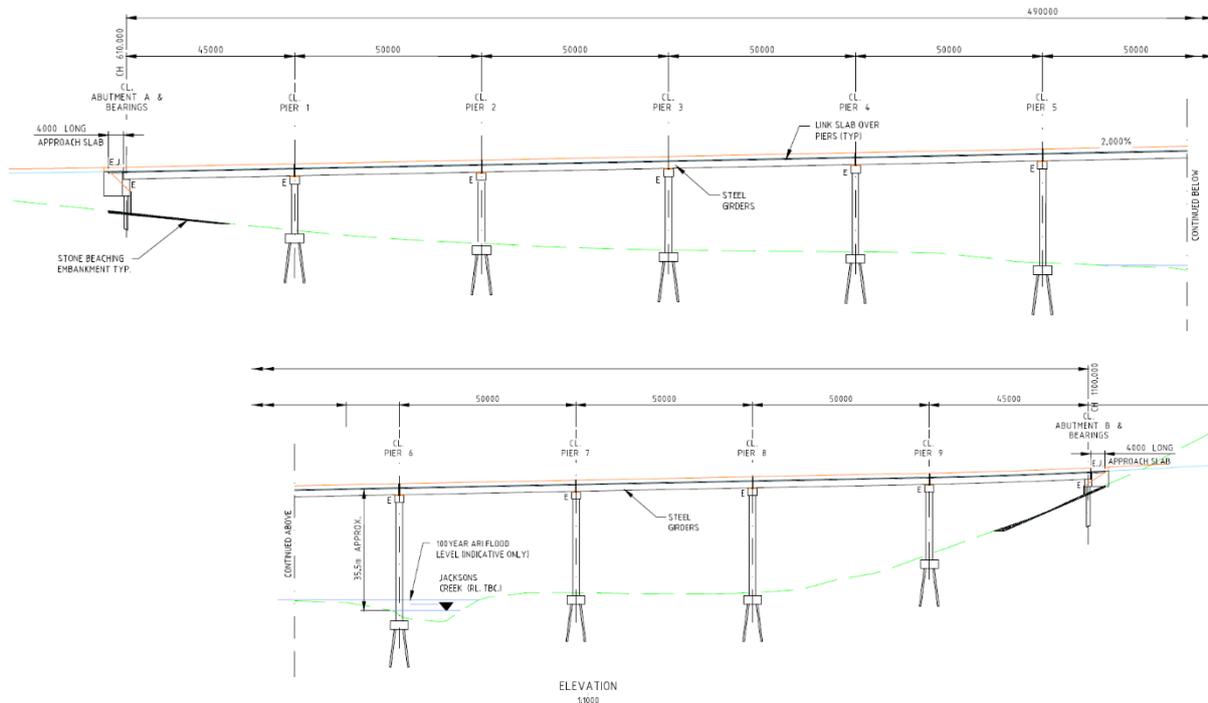


Figure 11: Jacksons Creek Northern Bridge Crossing – Lancefield Road PSP

A total of 74% of the bridge cost and 100% of the approach road cost is apportioned to the two PSPs (Sunbury South and Lancefield Road), i.e. a total cost of \$107.7 million allocated to the ICP.

The balance is to be apportioned to the Sunbury North and Sunbury West PSPs which have not yet commenced.

5.2. Southern Bridge

Infrastructure item SS-BR-01 is a “supplementary levy” item relating to a southern bridge crossing of Jacksons Creek within the Sunbury South PSP area, with a cost of \$41.7 million for a two-lane “boulevard connector street”. The boulevard connector street is proposed to extend from the Sunbury Road/Lancefield Road intersection generally in an east-west direction across Jacksons Creek and the railway line to Vineyard Road and includes three bridges/culverts and a road underpass of the railway line, all of which are supplementary items.

The full extent of the road, bridges, underpass and a number of key intersections are included in the ICP.

The Jacksons Creek southern bridge crossing has a total length of 315m and is 43m above the natural ground level at its highest point, as shown in Figure 12 below.

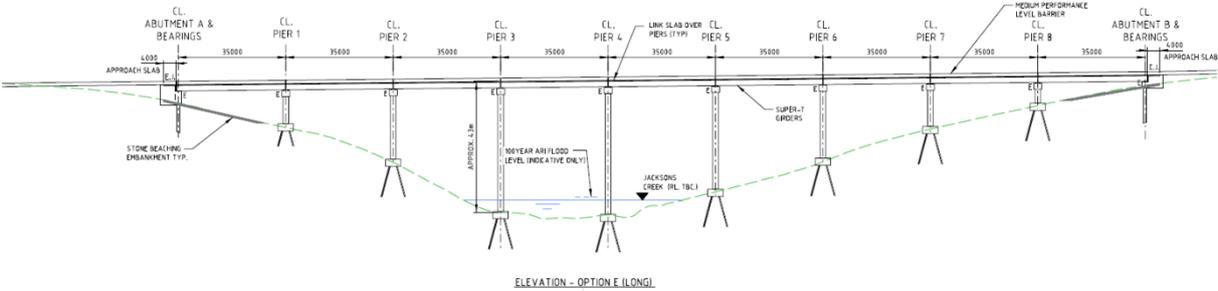


Figure 12: Jacksons Creek Southern Bridge Crossing – Sunbury South PSP

A total of 74% of the bridge cost is apportioned to the two PSPs (Sunbury South and Lancefield Road), i.e. a total cost of \$30.9 million allocated to the ICP.

The balance is to be apportioned to the Sunbury North and Sunbury West PSPs which have not yet commenced.

6. Submission

Best Hooper Lawyers, acting for 170 Lancefield Road and 45 Gellies Road, Sunbury (Moremac land) made a submission in response to the exhibited ICP.

The issues are broadly summarised as follows:

- Need to further consider the merits and strategic need for high-cost infrastructure items.
- Decoupling of the PSP and the ICP process is inappropriate in this instance.
- High cost of supplementary levy.
- Consideration of alternative designs.
- Calculation of land equalisation rate is not clear.
- Community infrastructure cost concerns.
- Intersection project costs (LR-IN-02 and LR-IN-03) do not consider cost for relocating and protecting assets.

The transport related submission items and VPA’s responses (dated 5th August 2020) are provided in Table 1 below.

Table 1: Moremac Submission and VPA Response

Submission	VPA Response
Any suggestion by the VPA that “... the current ICP Amendment will not further consider the merits or strategic need of each infrastructure item...” is a denial of natural justice and procedural fairness. This is particularly in circumstances where cost implications of particular infrastructure items would have significant bearing on the merits/utility of such an item and in the absence of such costings, alternate options were not explored/means tested.	Noted. No change required. Unresolved.
The absence of a full cost analysis and review of the financial implications of particular infrastructure items contemplated by the PSP is a fundamental flaw in the process, which has the potential to undermine the delivery of development outcomes contemplated by the PSP.	Noted. Unresolved.
The decoupling of the PSP and ICP process in this instance is not appropriate as it is necessary to fully understand the cost implications of major infrastructure items when deciding on their merits.	Noted. No change required. Unresolved.

Submission	VPA Response
<p>The Transport Construction Supplementary Levy is more expensive than the Transport Construction Standard Levy and raises the cost to the point where development of the land becomes unviable.</p>	<p>Noted. No change required. Unresolved.</p>
<p>SS-BR-01 and LR-BR-01 should not be included in the ICP as:</p> <ul style="list-style-type: none"> • The need for the bridges has not been demonstrated • They are of significant cost that bring into question their justification on a cost benefit basis. • The bridges will not be constructed until the four apportioned PSP areas are largely built out, at this stage, the community will have established alternative travel patterns, negating the need for the bridges. • Both bridges are nominated as connector roads rather than arterial roads; this is unprecedented for projects of such cost and scale. • Had the cost been known at the time that the PSPs were being prepared, the PSPs may have been modified with alternative land-use arrangements. • There is no environmental or traffic consideration which justifies a bridge of the scale/cost proposed. 	<p>The Sunbury South Precinct Structure Plan and Lancefield Road Precinct Structure Plans have been incorporated into the Scheme.</p> <p>The Urban Growth Zone requires that a permit granted must be generally in accordance with the PSPs.</p> <p>The PSPs define the items of infrastructure for each precinct, and whether they are funded by the ICP. The strategic justification for the inclusion / exclusion of items in the ICP was therefore determined by the gazettal of Amendments C207 and 208.</p> <p>Accordingly, the panel should reject submissions that are inconsistent with the PSPs on the basis that they are contrary to the planning scheme.</p>
<p>Alternate designs for the bridge have not been made available for review/costing/consideration of whether they provide an acceptable alternative to the design put forward as part of the ICP.</p>	<p>The exhibited ICP represents that VPA's preferred option and does not include alternative options. These designs are not required to be exhibited.</p>
<p>If LR-BR-01 and SS-BR-01 are removed from the ICP, a number of other supplementary infrastructure projects become unnecessary and should be removed. These include SS-RD-06, SS-RD-07 and SS-RD-06.</p>	<p>The Sunbury South Precinct Structure Plan and Lancefield Road Precinct Structure Plans have been incorporated into the Scheme.</p> <p>The Urban Growth Zone requires that a permit granted must be generally in accordance with the PSPs.</p> <p>The PSPs define the items of infrastructure for each precinct, and whether they are funded by the ICP. The strategic justification for the inclusion / exclusion of items in the ICP was therefore determined by the gazettal of Amendments C207 and 208.</p>

Submission	VPA Response
	Accordingly, the panel should reject submissions that are inconsistent with the PSPs on the basis that they are contrary to the planning scheme.
The intersection project costs for signalized intersections LR-IN-02 and LR-IN-03 do not include an allowance for the relocation of overhead electrical poles and cables at each intersection, as well as protection of the Nextgen fibre optic cable that runs along Lancefield Road. These costs should be included.	Agreed. The VPA will ensure the relocation of overhead electrical poles and cables are included in the costs for intersections LR-IN-02 and LR-IN-03 as well as any other intersections omitting these costs.
SS-BR-04 should not be included in the ICP. The relocation costs associated with the APA gas transmission main are significant and bring into question whether the bridge is essential to the development of the land on the west side of the railway line.	<p>The Sunbury South Precinct Structure Plan and Lancefield Road Precinct Structure Plans have been incorporated into the Scheme.</p> <p>The Urban Growth Zone requires that a permit granted must be generally in accordance with the PSPs.</p> <p>The PSPs define the items of infrastructure for each precinct, and whether they are funded by the ICP. The strategic justification for the inclusion / exclusion of items in the ICP was therefore determined by the gazettal of Amendments C207 and 208.</p> <p>Accordingly, the panel should reject submissions that are inconsistent with the PSPs on the basis that they are contrary to the planning scheme.</p>
<p>The information our client continues to seek to inform its further detailed submission is as follows:</p> <ul style="list-style-type: none"> Alternative designs that were considered during the preparation of the PSP/ICP in respect of the bridge designs, noting that the current bridge drawing included in the exhibited material is titled "Alternative Long Option". 	During the preparation of the exhibition documents, alternative designs were considered. The exhibited ICP represents that VPA's preferred option and does not include the alternative options. These designs are not required to be exhibited. The VPA note that the current bridge is incorrectly titled 'Alternative Long Option' and will rename it to "Jacksons Creek Bridge (LR-BR-01) General Arrangement".

7. Traffic Engineering Opinion – LR-IN-01

Figure 13 below shows the Lancefield Road/Gellies Road “interim” intersection configuration which has been costed for ICP purposes, and Figure 14 shows the Lancefield Road/Sunningdale Avenue signalised cross-intersection which has been costed for ICP purposes.

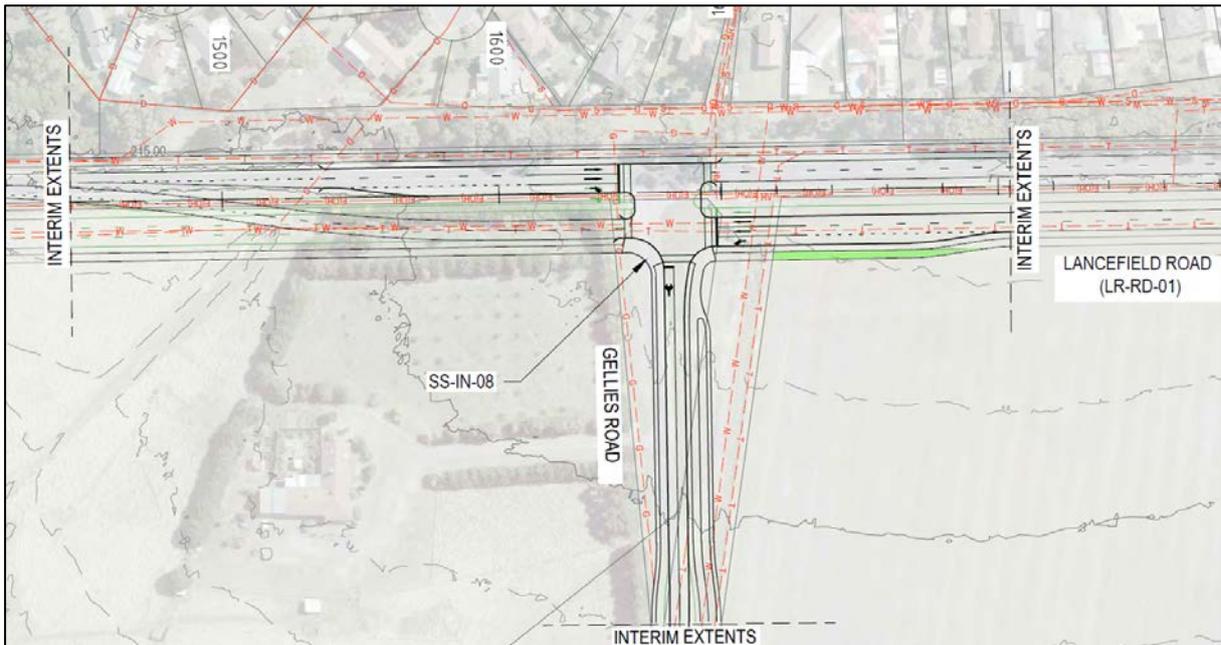


Figure 13: Lancefield Road/Gellies Road Interim Signalised Intersection – SS-IN-08

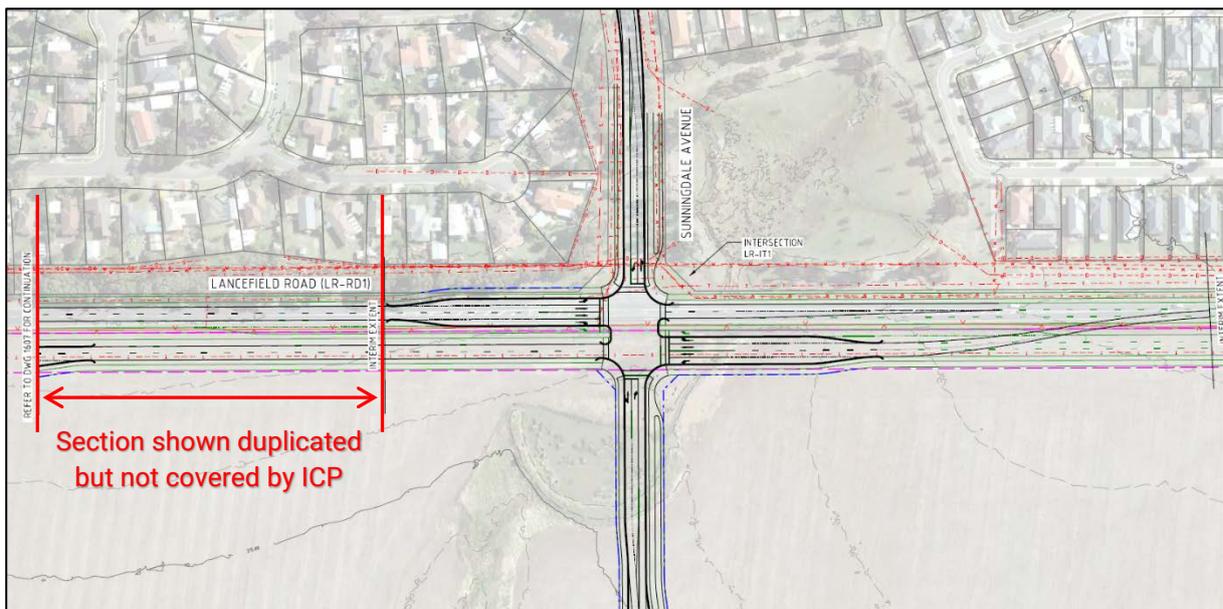


Figure 14: Lancefield Road/Sunningdale Avenue Interim Signalised Intersection – LR-IN-01

Figure 13 shows that to the south of Gellies Road, the costed ICP Intersection Item (SS-IN-08) includes the taper of the southbound carriageway of Lancefield Road to meet the existing carriageway.

However to the north of Gellies Road, the costed ICP Intersection Item (SS-IN-08) abruptly terminates with an assumption that Lancefield Road is duplicated.

Figure 14 indicates that to the north of Sunningdale Avenue, the costed ICP Intersection Item (LR-IN-01) includes the taper of the southbound carriageway of Lancefield Road to meet the existing carriageway.

However to the south of Sunningdale Avenue, the costed ICP Intersection Item (LR-IN-01) abruptly terminates with an assumption that Lancefield Road is duplicated between Sunningdale Avenue and Gellies Road.

There is a 175m (approx.) stretch of Lancefield Road between SS-IN-08 and LR-IN-01 which is shown as being duplicated but is not included in the costings for the ICP.

Duplication of arterial roads is not able to be included in the ICP, and accordingly, the ICP intersections should be designed to so that the extents of the intersection match with the existing Lancefield Road carriageway.

Figure 15 below demonstrates the necessary change to LR-IN-01.

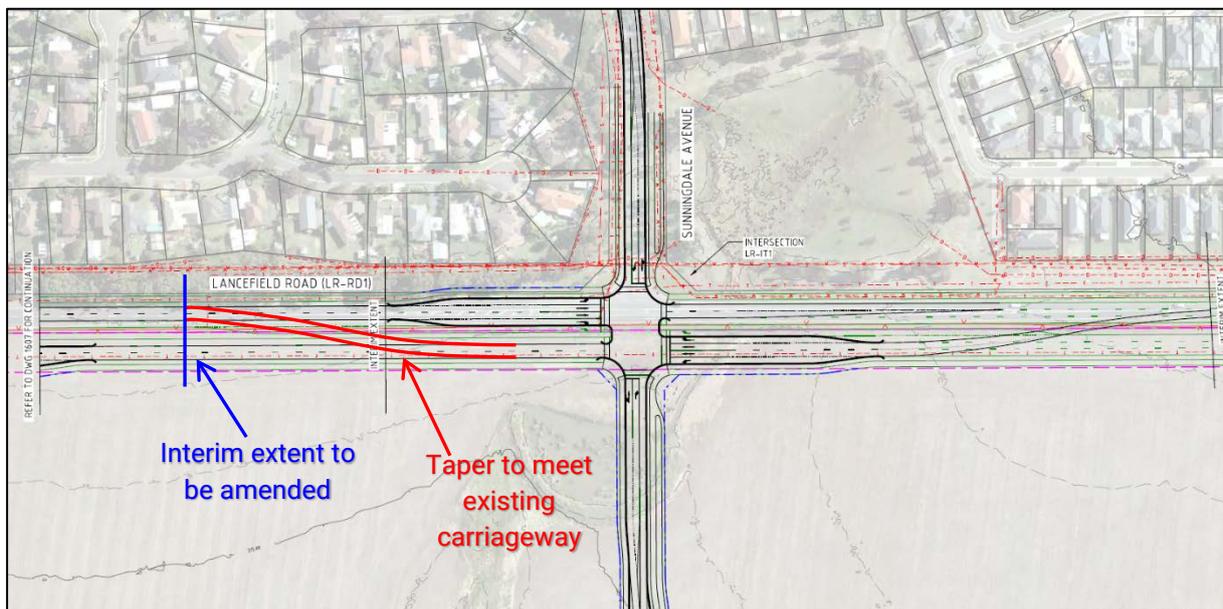


Figure 15: Lancefield Road/Sunningdale Avenue Interim Signalised Intersection Modified with Taper (LR-IN-01)

8. Traffic Engineering Opinion – Bridges

8.1. Bridge Merits

The VPA website states that ... *“the merits and designs of the infrastructure items have been included in the PSP and have been subject to a publicly deliberated and resolved process in accordance with the Planning & Environment Act 1987. Therefore, the current ICP amendment will not further consider the merits nor strategic need for each infrastructure item as this was resolved through the Precinct Structure Plan process”*.

There are significant grounds to revisit this position having regard to the vast difference between the assumed cost of the bridge projects at the time of the PSP gazettal and the actual costs now known.

The VPA fact sheet #4 on Infrastructure Contributions Plans states that ... *“the standard levy is designed to provide a fair and reasonable budget for funding the infrastructure that is basic and essential for new urban development ... a supplementary levy is only intended to be used in limited circumstances”*.

The decoupling of the PSP and ICP process in this instance, where there is a substantial component of potentially expensive infrastructure that will not fall within the “standard levy” (i.e. bridge crossings of escarpments and railway overpasses and underpasses) is not appropriate, as it is necessary to fully understand the cost implications of major infrastructure items when deciding on their merits.

In this case, the Transport Construction Supplementary Levy is more expensive than the Transport Construction Standard Levy.

The SS and LR Traffic Modelling Report (GTA – October 2015) which tested a number of scenarios to determine the suitability and necessity of the Jacksons Creek crossings for an interim and ultimate scenario, concluded that the bridges ... *“provide more flexibility in the network and reduce volumes in the town centre. Notwithstanding, the results [of the modelling] demonstrate from a transport perspective that the two PSPs are able to function regardless of the introduction of the river crossings”*.

8.2. Ring Road Concept

The Northern Jacksons Creek Crossing – Supplementary Information (VPA – September 2017) states that ... *“the southern and northern crossings of the Jacksons Creek are necessary to realise an ultimate ring road”*.

The “Ring Road” concept is introduced at Clause 21.07 (Transport Connectivity and Infrastructure) of the Hume Planning Scheme.

The “ring road” as envisaged at Clause 21.07 is not realised by the PSPs, particularly given that the roads will provide a connector (single lane each way) function and not an arterial function.

The eastern end of the northern crossing terminates at a T-intersection instead of continuing to Lancefield Road.

Elizabeth Drive, which is intended to be part of the ring road, has direct property access and is also not designed to function with the level of service required of a “strategic transport corridor”.

I note that GTA’s most recent modelling shows the northern bridge carrying 15,700 vpd in 2046.

The Ring Road concept was introduced in the Planning Scheme well before the PSP’s were gazetted as part of the Sunbury Hume Integrated Growth Area Plan in 2012. It is therefore questionable that a recognised “community infrastructure project” should be somehow separated from said community and given over to a small developing area to fund.

8.3. Timing

The bridges are not likely to be built for a number of decades, by which time communities will be used to not having them.

While the supporting documentation suggests that it is desirable to build the bridges at the beginning of development, the high cost of the bridge infrastructure items means that Council would not be in a financial position to construct the bridges until the entire PSP areas of Lancefield Road, Sunbury South, Sunbury North and Sunbury West were substantially built-out in order for the bulk of the funding to be available.

I would not expect developers to construct the bridges as works in kind, given their high cost.

By the time the bridges were open to traffic, the surrounding communities will have established travel patterns, alternative routes (including the Bulla Bypass and Sunbury Road duplication) will have been established/completed, and the need for the bridges will not be there.

8.4. Design

Both bridge plans in the GHD ICP Infrastructure Design and Costings Report (November 2019) refer to the “alternative long option” which has been adopted as the costed design. It is not clear why the short option has been discounted, or why steeper grades would not be appropriate on a local connector road.

The Northern Jacksons Creek Crossing – Supplementary Information (VPA – September 2017) refers to a design for the northern bridge which reduces the bridge to 455m long with a 23m maximum height (stated to previously be 550m long with a 33m height) and uses a grade of 5% for the bridge structure itself (2% previously), with limited sections (approximately 100m) of 10% grade from the eastern and western abutments.

If the bridges are indeed local (connector road) infrastructure and not arterial routes, I expect that steeper grades would be acceptable in the interests of reducing costs to make the structures viable and not so prohibitive in terms of the cost implications for the whole PSP development.

8.5. Apportionment

A significant proportion of the PSP area is contributing towards very expensive item(s) that they are unlikely to use, and despite the justification for bridges being based in part on regional significance (ring road opportunity), 100% is apportioned to PSPs (including the future Sunbury West PSP which has minimal likelihood of utilising either bridge) and no proportion is state-funded (e.g. MRPV or GAIC).

VPA justification for the northern bridge (2017 document) indicates the importance of the connection in relation to benefiting existing Sunbury residents by increasing the population with good access to Sunbury Town Centre and thereby encouraging increased services, regional retail, entertainment, commercial and civic uses, etc., to be developed in the existing town centre.

A number of these types of day-to-day services, retail, medical, community facilities, etc., will be or can be included within the Sunbury South, Emu Creek and Yellow Gum Town Centres to service the new communities without the need to cross Jacksons Creek, and a new railway station is also proposed within the Lancefield Road PSP which would further reduce demand for northern PSP residents to cross Jacksons Creek and head to Sunbury Town Centre.

If there is seen to be a broader strategic reason to encourage new residents to cross Jacksons Creek to come to the existing Sunbury Town Centre on a day-to-day basis (rather than occasionally), then the link(s) should be designated arterial road(s) particularly given the justification relates to the strategic context as a ring road for Sunbury, and the bridges should be state-funded infrastructure, or at least significantly subsidised with external apportionment.

With regard to nexus, the VPA justification for the northern bridge (2017 document) shows a travel distance comparison which incorrectly shows the existing available route between Emu Creek Town Centre and Sunbury Town Centre via the existing Lancefield Road/Sunbury Road intersection and ignores the travel-time-saving link facilitated by SS-IN-04 and SS-IN-12 (controlled intersections which connect Lancefield Road to Sunbury Road further north), or alternatively the Sunningdale Avenue/Francis Avenue link which is a connector status and would provide an attractive alternative particularly for the new residential community connecting at the east leg of LR-IN-01 (opposite Sunningdale Avenue).

Figure 16 shows the revised travel distances accounting for the new link between Sunbury Road and Lancefield Road.

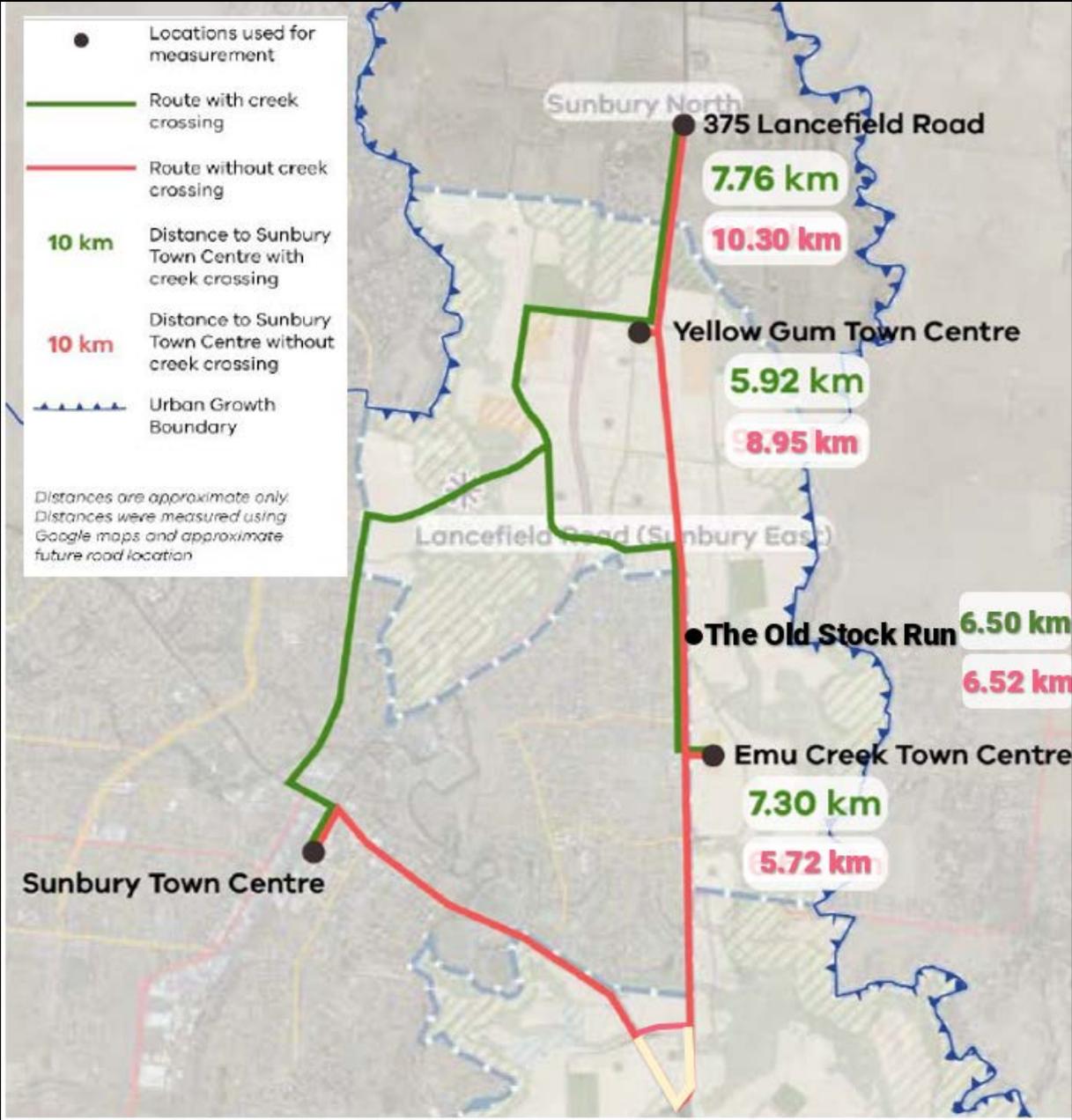


Figure 16: Travel Time Comparison Diagram

Figure 16 shows that the “neutral” location in terms of travel distance to Sunbury Town Centre via the alternative routes is at the Lancefield Road/The Old Stock Run intersection.

Everything south of The Old Stock Run gets no benefit from the proposed northern bridge crossing of Jacksons Creek in terms of a travel distance saving.

Additionally, the “red” route (without the northern creek crossing) is via six-lane arterial roads with an 80kph posted speed limit, while the majority of the “green” route (using the northern bridge) winds its way through residential communities via connector roads, typically with a posted speed limit of 50kph to 60kph.

Taking into account delays (congestion, intersections, etc.), the following travel speeds have been assumed for the purpose of analysis:

- the six-lane arterial roads (Lancefield Road/Sunbury Road) will have an average travel speed of 60km/h, and
- the connector roads will have an average travel speed of 40km/h.

Based on these assumptions, travelling from the northern extent (375 Lancefield Road) to Sunbury Town Centre would take 10.3 minutes via the red route, and 10.7 minutes via the green route (taking into account that 1.84km of the “green” route is on an arterial road with the higher travel speed adopted for that section).

This assessment indicates that there is actually no travel time saving via the northern bridge for any part of the Lancefield PSP when accessing the Sunbury Town Centre.

There is also a clear inequity in terms of who is required to pay for the bridge and who will use it.

If say two-thirds of the Lancefield Road PSP residents utilise the northern Jacksons Creek bridge to access the Sunbury town centre (GTA modelling report adopted a population of 21,580 persons for Lancefield Road PSP, so two-thirds would be 14,390 persons) and all of Sunbury North PSP residents will benefit in terms of travel time savings to the Sunbury Town Centre (GTA modelling report estimates 17,370 persons in Sunbury North), then this suggests that the Lancefield Road PSP will contribute only about 45% of the usage, so apportioning 74% to the subject ICP doesn't stack up.

Sunbury South PSP is also required to contribute to the high-cost northern bridge, and it is unlikely that any Sunbury South residents would have a need to use the bridge.

8.6. Benefit to Cost Ratio

Had the cost of the Jacksons Creek bridge crossings been known at the time of the PSP preparation and gazettal process, there is a high likelihood that they would never have been included.

The cost is disproportionate to the value that it brings to the community that is required to pay for it.

In the absence of costings, the bridge crossing(s) may seem to be a “nice to have”, but from a network perspective it is not required, as concluded by the GTA modelling.

The SS and LR Traffic Modelling Report (GTA – October 2015) summarises that the bridges are not necessary, but if they are built, each bridge is likely to carry up to 15,000vpd, and the PSP nominates both routes as connectors, not arterial roads.

I am not aware of any precedent whereby local connector roads have required a bridge in excess of \$130 million to be entirely privately funded through a DCP or ICP.

Had the cost been known at the time that the PSPs were being prepared, the PSPs may have been modified to make the east side of Jacksons Creek as self-sustainable as possible in terms of day-to-day needs, so as to reduce the reliance on the existing Sunbury Town Centre. As it stands, grocery shopping, community facilities, schools and access to fixed rail do not

require a trip across Jacksons Creek, and Sunbury Road with the Bulla Bypass provides a good link towards Melbourne, again without crossing Jacksons Creek.

There are many examples of adjacent communities that are not well connected by car (e.g. either side of a freeway corridor or waterway corridor), and it would be far less expensive to provide a cycle/pedestrian crossing to meet connectivity criteria for these modes.

For example, there isn't a single local/connector road crossing of Moonee Ponds Creek between Pascoe Vale Road in Pascoe Vale (arterial) and the Western Ring Road (freeway), a distance of 5.5km, separating (by road) the communities of Oak Park and Glenroy from Strathmore and Gowanbrae, while the stretch of creek has six footbridge crossings along that length to maintain pedestrian/cycle connectivity between the communities.

8.7. Updated Modelling

The traffic modelling which provided the basis for the PSP's was dated October 2015.

An addendum report was prepared by GTA dated 9th September 2020. The addendum report stated that ... *"the 2015 assessment estimated that at full development of the two PSP's metropolitan Melbourne would have a population in the order of 6.46 million people. Recent forecasts provided from the Department of Planning now estimate Melbourne will reach a population of some eight million people in the same time period. This increase has the potential to impact on travel behaviour in Sunbury and specifically the two bridges"*.

I note that in the addendum report, the Sunbury Growth Corridor is estimated to have a total population of just over 88,000 people, which is noted by GTA to be approximately 33,000 less people than the figures used in the 2015 report.

This is a significant reduction in population forecast for the Sunbury corridor, which has the potential to significantly improve the operation of the road network adopted for the Sunbury area.

Despite this, page 6 of the addendum report states that ... *"in the interests of maintaining consistency with the previous work the land use estimates for Sunbury have not been updated"*, and Table 3.2 of the addendum report shows that the updated model has assumed a 2046 population of 121,394 people for the Sunbury area (including Sunbury South, Lancefield Road, Sunbury West and Sunbury North PSP areas), being 38% higher than the current VIF projection of 88,000 persons.

I have concerns that this assumption will skew the modelling results in favour of supporting retention of the bridges.

In accordance with the directions of the Panel, VPA circulated the updated traffic modelling reports prepared by GTA on 25th September 2020.

The updated report (addendum #2) further updated land use and population assumptions. The updated model has assumed a 2046 population of 137,915 persons. Only the "PSP" case was tested, i.e. assuming that all infrastructure shown on the PSPs is in place, as well as the Outer Metropolitan Ring Road (OMR).

The addendum #3 report re-ran the traffic model without LR-BR-01 (Northern Jacksons Creek Crossing).

GTA summarised the findings of the “No Northern Bridge” run as follows:

- *Without the northern bridge there will be a variable change to traffic volumes in and around Sunbury Town Centre.*
- *Racecourse Road will reduce its traffic in the order of 6,000 vehicles per day without the northern bridge.*
- *When compared to Option 5 [with the northern bridge constructed], the largest increase in volumes will be on Sunbury Road, which will experience in the order of 42,900 vehicles per day in the town centre and Lancefield Road which will experience in the order of 50,100 vehicles per day.*

I note that in the model, both Lancefield Road and Sunbury Road have been coded as six-lane arterial roads.

The capacity of a two-lane two-way road is in the range of 18,000 – 20,000 vehicles per day, and the capacity of a six-lane arterial road is in the range of 54,000 – 60,000 vehicles per day.

Accordingly, while the “no northern bridge” case may increase the traffic volumes on Sunbury Road and Lancefield Road accessing the town centre, the ultimate (2046) volumes remain within the capacity of these roads.

Any potential works which may be required to accommodate the increased volumes, such as possible increased turn lane lengths at key intersections, would be significantly less costly than the \$130million bridge.

It is unfortunate that the modeling reports do not provide all the information necessary to assess the basis of the modelling. In particular I note there is no way establish the catchment area or to understand where the zone connectors are located which is critical to understand where traffic is loaded into the road network.

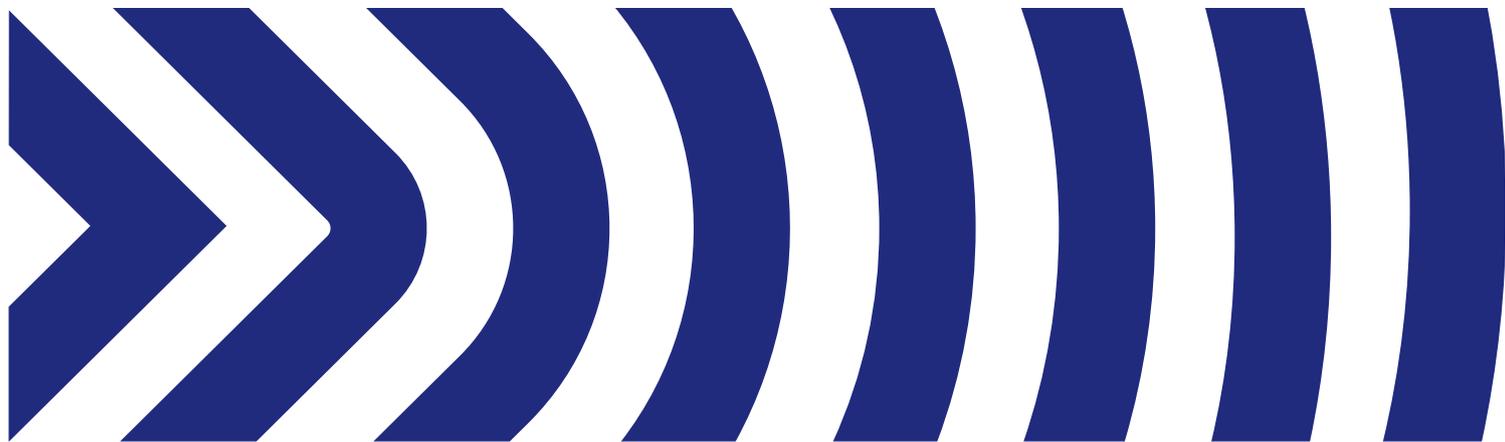
I am also unable to tell from the modeling reports the link characteristics of the various roads, for example:

- Sunningdale Avenue/Francis Boulevard appears strangely unattractive as a short-cut between Macedon Street and Lancefield Road and I would expect the model to show it carrying more traffic if coded as a standard two-lane connector link. Additionally, the daily “difference” plot indicates a significant imbalance in traffic flows along this route.
- It would be useful to know the various characteristics attributed to Elizabeth Drive which may contribute to the congestion the model is showing particularly in the PM peak. I note that congestion on Elizabeth Drive will be exacerbated by a northern bridge connection.

9. Conclusions

Having undertaken traffic engineering assessments of the proposed Amendment C243 to the Hume Planning Scheme, I am of the opinion that:

- a) the designs of interim intersections LR-IN-01 and SS-IN-08 should be amended to include costs within the PSP sufficient to allow for each one to be constructed to taper back to the existing carriageway, independently of each other,
- b) there are significant grounds to warrant a re-visit of the Lancefield Road and Sunbury South PSPs taking into account the substantial cost of major transport-related infrastructure which was not known (or made public) at the time that the PSPs were gazetted,
- c) the recent 2020 GTA traffic modelling indicates that the northern bridge is not required, and in the absence of the bridge, the road network will continue to operate within acceptable limits in the long term (2046),
- d) it is indeterminate whether the northern bridge provides any travel time savings for northern area residents accessing Sunbury Town Centre noting that the alternative route is via arterial roads with an 80km/h speed limit,
- e) there are many examples of adjacent communities that are not well connected by car (e.g. either side of a freeway corridor or waterway corridor), and it would be appropriate and far less costly to provide a cycle/pedestrian crossing to meet connectivity criteria for these modes, and
- f) in the event that the Lancefield Road PSP is not amended with regard to the Jacksons Creek northern bridge crossing, the funding sources (and the ICP) should be revised to allocate a significant proportion of the cost as Council and/or State Government projects.



Appendix A

Practice Note – PNVCAT2 Expert Evidence

Statement of Witness

Name

Henry Hume Turnbull

Position

Principal Consultant, Traffix Group

Address

Level 28, 459 Collins Street
MELBOURNE
VICTORIA 3000

Qualifications

My qualifications and membership of professional associations are as follows:-

- Bachelor of Civil Engineering, University of Melbourne
- Life Member, Institute of Transportation Engineers
- Member, Institution of Engineers, Australia
- Life Fellow, Victorian Planning & Environmental Law Association

Experience

I have approximately 44 years' experience in Engineering including:

- ten years Country Roads Board of Victoria,
- two years with TTM Consulting, and
- thirty two years with Turnbull Fenner Pty Ltd/Traffix Group Pty Ltd.

Additional activities and appointments include:-

- Sessional member, Planning Panels Victoria (1982-2017)
- Member, Priority Development Panel (2004 - 2010)
- Councillor, Shire of Euroa (1980-1983)
Shire President (1982-1983)
- President, Victorian Planning and Environmental Law Association (1999-2002)
Life Fellow, Victorian Planning and Environmental Law Association (2003)
- Bail Justice (Victoria)

Area of Expertise

I have substantial experience and expertise in major road design and construction, contract administration, road construction material and construction methods, development impact assessment, including traffic generation and parking generation characteristics, traffic management and general traffic engineering, road safety and transportation planning.

I was a member of the former Ministers for Planning Advisory Committees making a review of Clause 52.06 (Car Parking) that led to changes being incorporated into the scheme on 5th June, 2012.

Disclosure of Interests

Neither Henry Turnbull or Traffix Group have any private relationship with any parties involved in this Amendment. Both have worked with the various consultants and the City of Hume on a number of other projects in the past.

These involvements have not impacted on my ability to provide impartial Expert Evidence to the Panel.

Engagement and Scope of Report

I have been retained by Best Hooper Lawyers on behalf of Moremac in July 2020 to undertake traffic engineering assessments and prepare traffic evidence in relation to Amendment C243 to the Hume Planning Scheme, which seeks to replace the interim Infrastructure Contributions Plan (ICP) that applies to land affected by the Sunbury South and Lancefield Road Precinct Structure Plans (PSPs).

Facts and Assumptions

As detailed in evidence.

Reference Documents

I have reviewed the following documents as part of my assessment:

- Exhibited documentation for Amendment C243 including the ICP and associated designs and costings,
- Lancefield Road and Sunbury South PSPs,
- VPA response to submission,
- Traffic modelling prepared by GTA (2015),
- GTA addendum modelling reports prepared in September 2020,
- Relevant sections of the Hume Planning Scheme, and
- Relevant experience.

Summary of Opinions

See Conclusions section of the evidence statement.

Provisional Opinions

Not applicable.

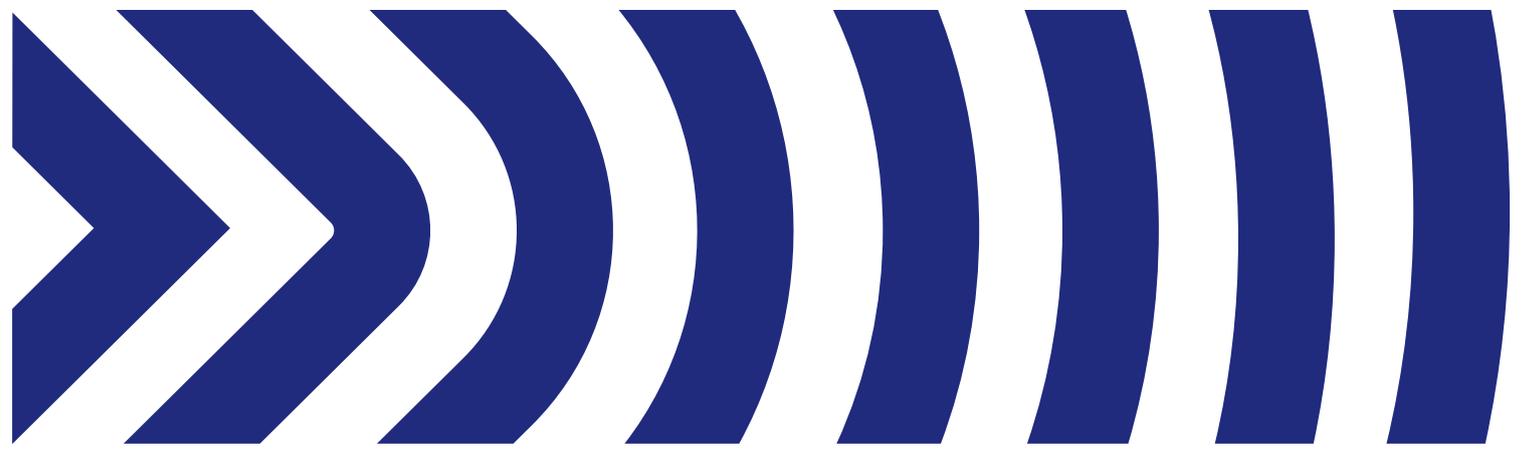
Identity of Persons Undertaking Work

Henry H Turnbull as per the evidence statement.

Jodie Place (Associate, Traffix Group) assisted with preparation of the evidence report.

Report Completeness

Final report.



Appendix B

CV

Henry Turnbull

Principal Consultant



Henry Turnbull is the founding principal of Traffix Group.

Henry is highly regarded in the transport planning and traffic management industry for his specialist expertise and substantial experience. This includes metropolitan and regional traffic engineering, as well as transport planning at the strategic and development levels.

His experience and expertise in planning projects puts him in demand as an expert witness at the Victorian Civil Appeals Tribunal and Planning Panels.

Professional History

Traffix Group	Since 1988
TTM Consulting Pty Ltd	1986 to 1988
Miller Huthwaite Ltd/ Peat Marwick Hungerfords	1982 to 1986
Country Roads Board	1972 to 1982

Qualifications

Bachelor of Civil Engineering,
Melbourne University

Affiliations

Life Member, Institute of Transportation
Engineers Australia

Member, institution of Engineers Australia

Life Fellow, Victorian Planning and
Environmental Law Association (VPELA)

Significant Appointments

Sessional Member Planning Panels Victoria
(1982 – 2017)

Member Priority Development Panel
(2004 – 2010)

Member Growth Areas Authority Expert Panels
for Urban Planning and Urban Design
(Appointed 2010)

Key Activities

Councillor, Shire of Euroa (1980 – 1983) (Shire
President, 1982 – 1983)

President, VPELA (1999 – 2002)

Bail Justice (Victoria)

Areas of Expertise

Transport Planning (Traffic Impact Assessments):

- Preparation of Traffic Impact Assessment Reports (TIAR) and Evidence for presentation at VCAT and Planning Panels for a range of land-use developments.
- Other significant commissions include co-ordination of a development contribution plan for the City of Maribyrnong including extensive traffic investigations and assessments, preparation of Parking Precinct Plans, and TAC funding strategies and priority assessment for VicRoads – Northern Region.
- Preparation of transport planning studies and Integrated Travel Plans including consideration of sustainable transport modes and green travel plans, pedestrian access, bicycle paths, parking and access to public transport.
- Provision of advice on traffic engineering and transport planning issues for major infrastructure projects for government and private clients.
- Extensive stakeholder interaction and consultation with community bodies on technical transport issues and project planning issues.
- Management of numerous other projects including local and district management studies, heavy vehicle route assessments, pedestrians safety research, public transport passenger surveys and route studies, property rezoning and health care projects.

Strategic Planning & Statutory Planning

- Regularly appointed as a Planning Panel member by the Minister for Planning with over thirty years' experience as a sessional Planning Panel member. Relevant major Panels and Advisory Committees include Armstrong Creek Urban Framework Plan, Armstrong Creek North East Industrial Precinct Structure Plan, Traralgon Bypass, Webb Dock EES and Melbourne Airport Rail Link.
- Served successive Governments on Advisory Committees to assist with policy development, including the Priority Development Panel Steering Committee on the development of Practice Notes for Parking Precinct Plans, and the Advisory Committee reviewing Clause 52.06 Carparking in the VPPs.
- Significant experience and expertise in the provision of traffic engineering and transport planning advice to support the development of structure plans, site/precinct plans and development contributions plans.

