eukai

7 April 2026

Briefed by:	Norton Rose Fulbright
Client:	Lara Farms Pty Ltd
Eukai Reference:	25233
Primary Contact:	Tim De Young, Director, Eukai Pty Ltd

Greater Geelong Planning Scheme Amendments C444 & C453 Transport Evidence Statement

Acknowledgement of Country

In the spirit of reconciliation, Eukai acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea, and community. We pay our respect to their Elders past and present, and we extend that respect to all Aboriginal and Torres Strait Islander peoples.

Executive Summary

This expert report has been prepared by **Timothy James De Young** in relation to **Amendments C444 and C453** which seek to rezone land located in Lara and incorporate Schedule 48 to Clause 43.04 and Schedule 55 to Clause 43.02 into the Greater Geelong Planning Scheme.

Based on the analysis and discussion contained in this report, I note the following:

- The subject land is strategically located within an identified urban growth corridor and is proximate to key transport infrastructure, including the Princes Freeway, Geelong Ring Road and established arterial connections.
- The surrounding road network comprises a hierarchy of Collector and Local Access Roads that provide multiple connections to regional and local destinations. Importantly, the existing network currently operates within its theoretical capacity, with demonstrated latent capacity available to accommodate future growth. Notwithstanding this, I acknowledge there are some existing constraints in the vicinity of the site such as the Rennie Street floodway and Nasmyth Street.
- In relation to key transport matters raised through submissions, I am satisfied that these have been appropriately considered and addressed. Specifically:
    - I consider that the surrounding road network, including Rennie Street, Archimedes Avenue and Watt Street, has sufficient capacity to accommodate forecast traffic demands associated with the development.
    - I consider that localised constraints, such as the condition and function of Nasmyth Street and the operation of the Rennie Street floodway, can be effectively managed through typical and implementable mitigation measures and do not represent barriers to development.
    - I consider that the nearby major transport infrastructure at the Avalon Road interchange and Canterbury Road East level crossing (with the provision of a pedestrian crossing as recommended in the ALCAM Risk Assessment) can be expected to operate within acceptable limits under post-development conditions.
- The planning framework accompanying the Amendments require the preparation of additional reports that will help ensure that any outstanding and/or detailed transport matters, such as internal road layouts, intersection treatments, active transport provision and public transport integration, will be resolved through the Development Plan and subsequent planning permit processes.
- The Traffix TIA report prepared to present a cumulative assessment of the Amendments contains reasonable traffic generation rates, distribution assumptions and capacity analysis. This analysis confirms that surrounding intersections are expected to operate at acceptable Levels of Service (LOS C or better) and that midblock capacity limits are not expected to be exceeded under post-development conditions.

In the context of the guidance contained in Planning Practice Note 46 (Strategic Assessment Guidelines), I also consider that the Traffix TIA report, as well as this Evidence Statement, indicate that the Amendments appropriately address the relevant strategic questions. In particular, I consider that the reports confirm that the views of relevant agencies, including the Department of Transport and Planning, have been considered through the preparation of an updated transport assessment and that the proposed development is unlikely to result in a significant impact on the transport system.

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1 Introduction

1.1 Expert Details

This expert report has been prepared by **Timothy James De Young** in relation to **Amendments C444 and C453** which seek to rezone land located in Lara and incorporate Schedule 48 to Clause 43.04 and Schedule 55 to Clause 43.02 into the Greater Geelong Planning Scheme.

I am a Director at Eukai Pty Ltd (Eukai), and my professional offices are located at Level 5, 55 Collins Street, Melbourne, Victora, 3000. I have 25 years of professional experience in transport planning and traffic engineering and my recent employment includes:

- Eukai (2024 to present) – Managing Director
- Stantec Australia (2021 to 2024) – National Operations Lead for Transport Planning & Advisory and National Market Leader – Land Use & Development.
- GTA Consultants (2002 to 2020) – various senior positions including Director, National Business Group Leads for Transport Engineering and Transport Design, and NSW Regional Head.

I hold Bachelor of Engineering (Civil) (Honours) and Bachelor of Commerce degrees from the University of Melbourne as well as a Master of Business Administration from Monash University. I am a chartered professional engineer and have been a Fellow of Engineers Australia since 2022.

My core area of expertise is transport planning and traffic engineering, and the details of my experience are set out in the Curriculum Vitae (CV) appended to this evidence at **Appendix A.** This CV highlights that I have provided transport engineering and planning advice on a wide variety of land use and transport projects over my career. Of specific relevance to this engagement, I note that I have recently provided expert evidence in relation to numerous planning scheme amendments including East of Aberline PSP (Amendment C217warr), Ballarat North PSP (Amendment C256ball), Ballarat West PSP Updated (Amendment C234ball), Bannockburn South East PSP (Amendment C107gplan), Melton East PSP (Amendment C244melt), and the Casey Fields South (Employment) PSP and Devon Meadows PSP (Amendment C295cas).

Prior to preparing this expert evidence, I read PPV Practice Note 1 – Expert Evidence and confirm that I understand my expert witness obligations. In this respect, I also note:

- I have no private or commercial relationship with the Applicant (Lara Farms), other than as it relates to this engagement.
- I was instructed by Norton Rose Fulbright in relation to this matter and include a summary of the instructions in this Evidence Statement.
- I attained assistance from Mr. Andrew Farran (Director, Eukai Pty Ltd) and Miss. Clare Huggins (Principal Consultant, Eukai Pty Ltd) in the preparation of this Evidence Statement. The assistance provided by Mr. Farran and Miss. Huggins included a review of background material and assistance in the preparation of this written report. Notwithstanding this assistance, I confirm that all of the opinions stated in this expert report are those held by myself as an independent expert witness.
- I most recently inspected the site and the surrounding road network on Saturday 4 April 2026. I am also benefited from an additional site inspection undertaken by Andrew Farran on Tuesday 31 March 2026.

I have included a summary of my opinion in relation to this matter at the start of this Evidence Statement.

1.2 Amendment Details

The proposed Amendments include:

- Amendment C444 seeks to incorporate Schedule 48 to Clause 43.04 Development Plan Overlay into the Greater Geelong Planning Scheme.
    - Properties impacted include 76-156 Canterbury Road East & 785-805 Princes Highway, Lara
    - Rezoning the land from Farming Zone to General Residential Zone
- Amendment C453 seeks to incorporate Schedule 55 to Clause 43.02 Design and Development Overlay into the Greater Geelong Planning Scheme
    - Properties impacted include 705-765 Princes Highway and 610 Rennie Sreeet, Lara
    - Rezoning the land from Farming Zone (FZ) to Industrial 1 Zone (IN1Z) and Industrial Zone (IN3Z)

The location of the subject site is shown in **Figure 1.2**.

Figure 1.1 Amendment C444 and C453 Subject Area

1.3 Instructions

In December 2025, I received preliminary instructions on this matter by Norton Rose Fulbright via a written letter. An extract of my preliminary instructions is reproduced as follows:

> 6.1 It is envisaged that your engagement will include:
>
> (1) Review of this memorandum and the background materials in your brief;
>
> (2) Provision of your independent expert opinion in respect of the appropriateness of the proposed Amendments, having regard to relevant matters within the limits of your expertise;
>
> (3) If instructed, preparation of an expert witness statement; and
>
> (4) If instructed, appearance before the Panel, to provide independent expert evidence.
>
> 6.2 You will be provided with further instructions in due course.

(Preliminary Brief from Norton Rose Fulbright, dated 8 December 2025)

In March 2026, I received subsequent instructions from Norton Rose Fulbright via a written letter. An extract of these additional instructions is reproduced as follows:

> You are instructed to:
>
> (1) Undertake a peer review of the Transport Impact Assessment by Traffix Group dated 18 March 2026 to the extent that it relates to key matters, including:
>
> (a) Capacity of the Avalon Rd/Watt St/Princes Freeway interchange;
>
> (b) Rennie Street closure due to intermittent flooding impacts;
>
> (c) Canterbury Road East level crossing upgrade;
>
> (d) Other matters raised in the submissions of Head, Transport for Victoria; and
>
> (e) any other matter you consider to be a "key matter".
>
> (2) If required, appear before the Panel to provide independent expert evidence in the hearing.

(Letter of Instructions from Norton Rose Fulbright, dated 30 March 2026)

1.4 Purpose & Structure of this Evidence Statement

This Evidence Statement sets out of my views and recommendations in relation to the key traffic and transport matters associated with the Amendments following my peer review of the Traffix Group report dated 18 March 2026 and other relevant documentation.

The Evidence Statement contains the following sections:

- **Section 2** outlines the relevant strategic and transport context, including the site location and surrounding road network.
- **Section 3** provides an overview of Amendments C444 and C453, including a discussion regarding the key implications for my assessment.
- **Section 4** presents a summary of my views in relation to the key transport matters raised in submissions, including those from the City of Greater Geelong and the Department of Transport and Planning. I note that this section references relevant observations from my review of the Traffix TIA report as appropriate.
- **Section 5** provides additional commentary on the Traffix TIA report.
- **Section 6** contains a summary of my opinion.

1.5 References

The report has been prepared having reference to the following (amongst other documents):

- Schedule 48 to Clause 43.04 Development Plan Overlay
- Schedule 55 to Clause 43.02 Development Overlay
- Compilation of submission for Amendments C444ggee and C453ggee
- Transport Impact Assessment for Amendments – Proposed Planning Scheme Amendments 76-156 Canterbury Road East, 705-765 Princes Highway, 785 – 805 Princes Highway and 610 Rennie Street, Lara (C444ggee and C453ggee), prepared by Traffix Group, dated March 2026
- Railway Crossing Risk Assessment Report 'Canterbury Road East Level Crossing in Relation to Amendments C444ggee and C453ggee to the Greater Geelong Planning Scheme' prepared by Nelson Furnell, dated 29 March 2026.
- Planning Practice Note 46: Strategic Assessment Guidelines (dated September 2025)
- Other relevant documents as sourced in this Evidence Statement.

I note that whilst I am aware that additional Transport Impact Assessment reports were prepared by Ratio and Traffix that were submitted for the Amendments, neither I nor the colleagues who have assisted me in preparing this Evidence Statement have undertaken a detailed review of these reports. Rather, this Evidence Statement has principally focused on a review of the Traffix report dated March 2026. Notwithstanding this, I acknowledge the following additional reports are referenced in submissions:

- Transport Impact Assessment – Proposed Rezoning 705-765 Princes Highway, 610 Rennie Street & 76-156 Canterbury Road East, Lara, prepared by Ratio, dated 31 October 2024
- Transport Impact Assessment – Proposed Planning Scheme Amendment 76-156 Canterbury Road East and 785 – 805 Princes Highway, Lara, prepared by Traffix Group, dated November 2024

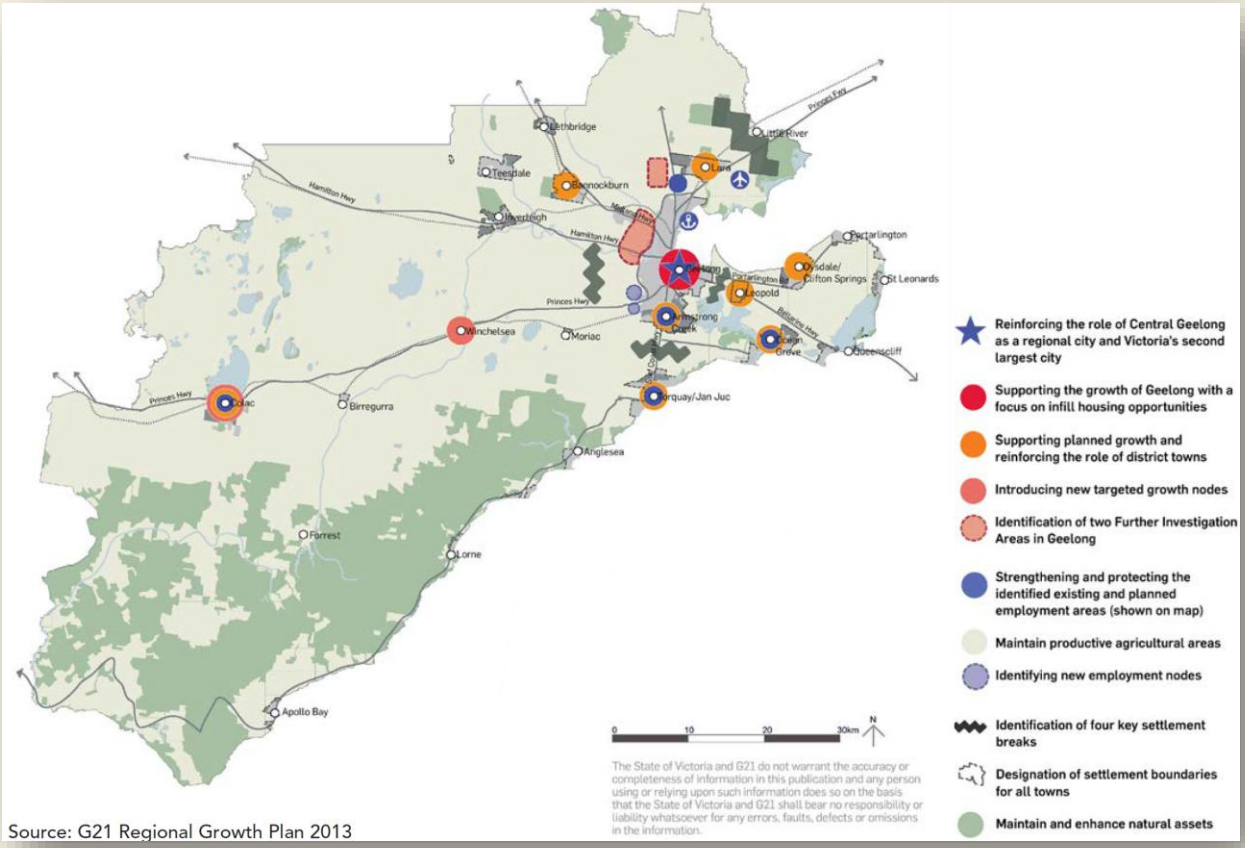
2 Relevant Context

2.1 Site Location

The subject site is located in Lara, approx. 18 km northeast of Geelong and 50km southwest of Melbourne CBD.

Lara is within an area which has been long identified in strategic planning documents for future urban development, including both residential growth areas and employment precincts associated with the Princes Freeway corridor and Avalon Airport (see **Figure 2.1** reproduced from the G21 Regional Growth Plan dating back to 2013).

Figure 2.1 G21 Regional Growth Plan – Settlement and Employment Directions

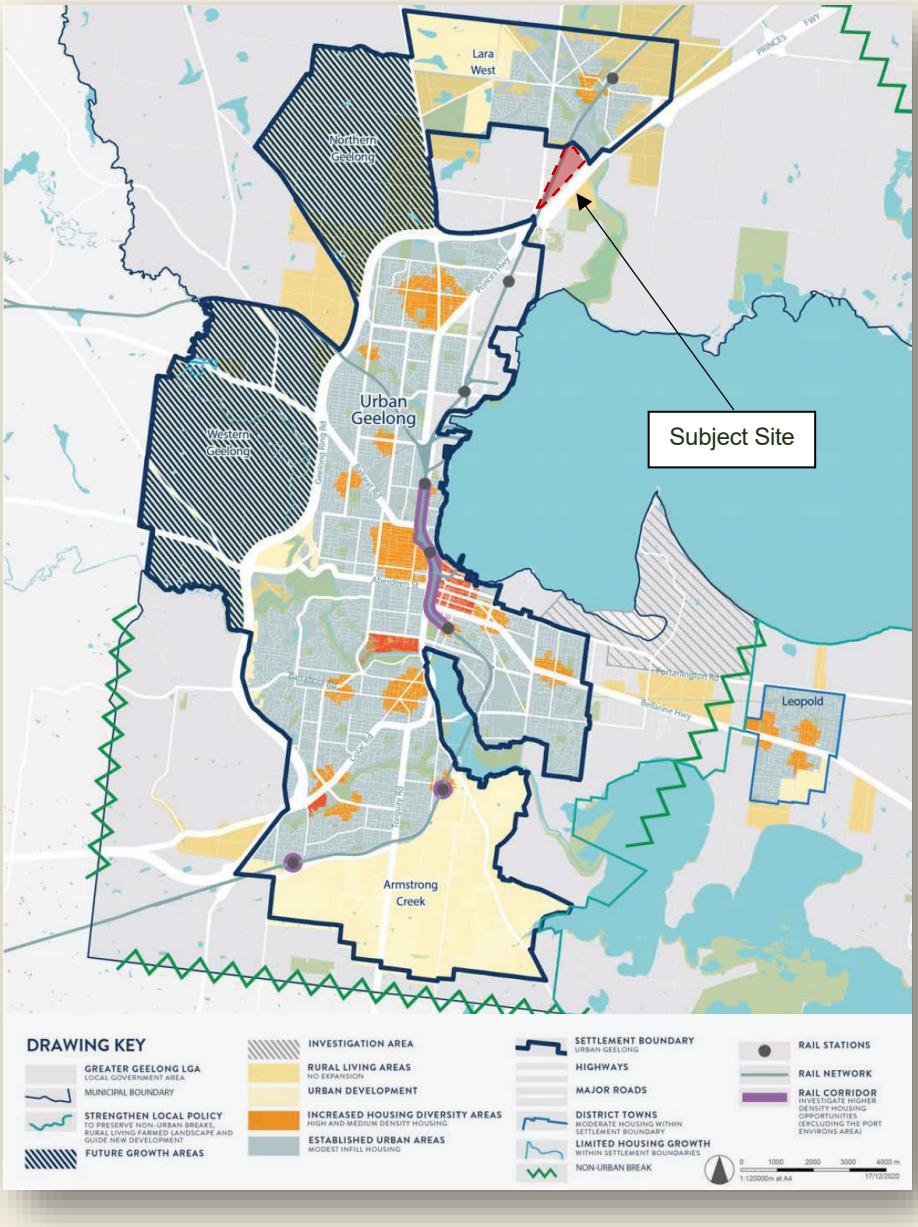


(Source: City of Greater Geelong Settlement Strategy, 2020)

At a regional scale, Geelong is Victoria's second largest city and plays a key role in accommodating population and employment growth outside metropolitan Melbourne. The G21 Regional Growth Plan identifies that the region will continue to grow steadily, with population expected to approach 500,000 over the long term, requiring coordinated planning of housing, employment and infrastructure.

The City of Greater Geelong Settlement Strategy reinforces this role. It directs the majority of future housing growth to urban Geelong, including the northern and western growth areas, while maintaining clear settlement boundaries and managing outward expansion. The strategy also confirms that there is a long-term supply of residential land already identified within planned growth areas.

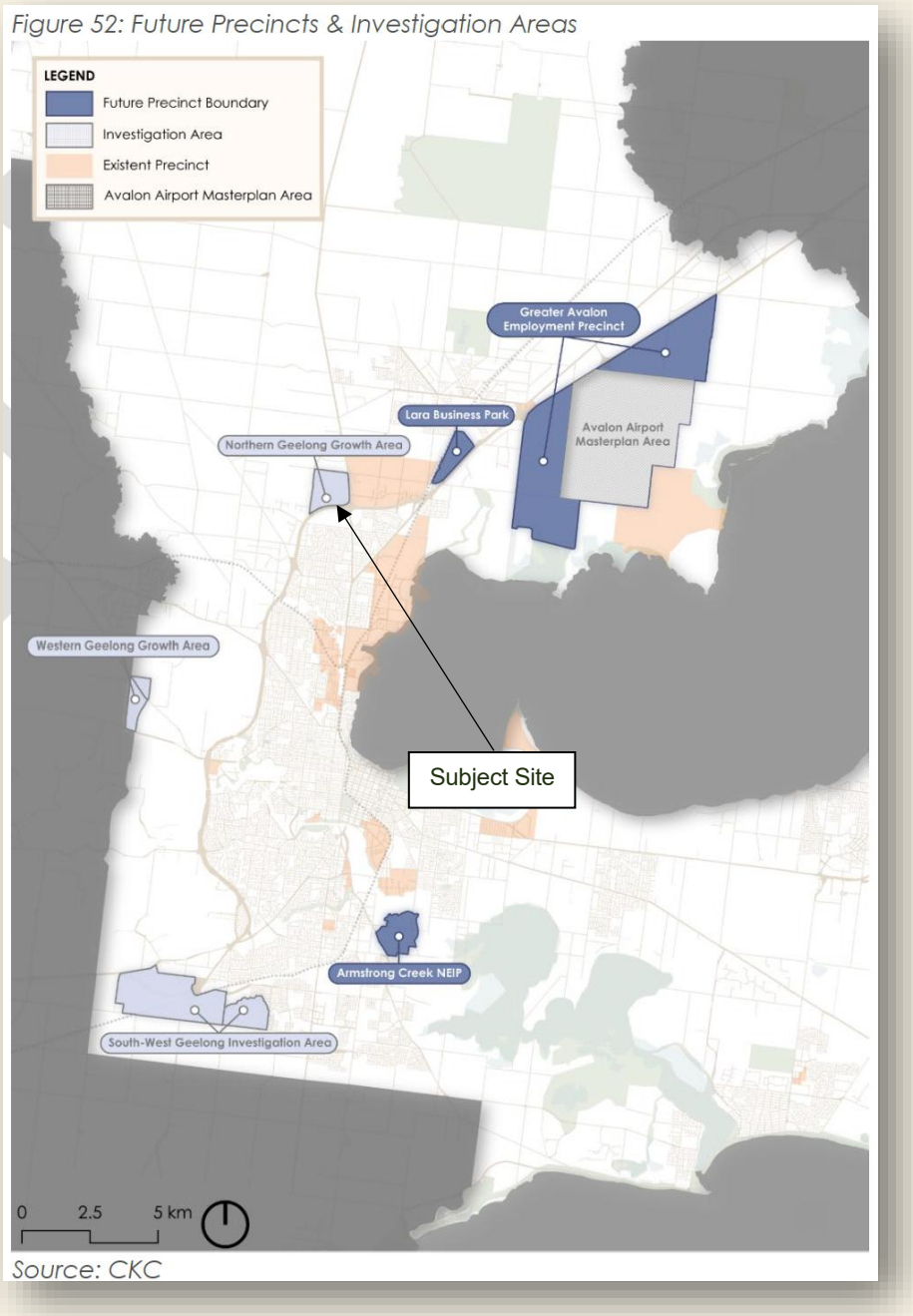
Figure 2.2 Greater Geelong Housing Framework Plan



(Source: City of Greater Geelong Settlement Strategy, 2020)

The City of Greater Geelong Settlement Strategy further highlights Lara West as one of its key growth areas, stating that it *"has the capacity to accommodate 6,000 dwellings…medium and higher density housing is envisaged around the activity centre."* The Draft Greater Geelong industrial Land Review 2025 also identifies that the Lara business park *"has the potential to supply approximately 78 hectares of new industrial land supply"* and will enable *"manufacturing, freight, logistics and service industries to operate in proximity to major transport infrastructure, including Avalon Airport, Lara Train Station as well as the Geelong Ring Road Employment Precinct."*

Figure 2.3 Lara business park identified as a future industrial precinct and investigation area



(Source: Draft Greater Geelong industrial Land Review 2025)

Within this context, I observe that the subject area is located at the interface of several major growth areas, including the Northern and Western Geelong Growth Areas (circa 110,000 new residents), the Lara West growth area, the Lara Business Park, and the Greater Avalon Employment Precinct linked to Avalon Airport.

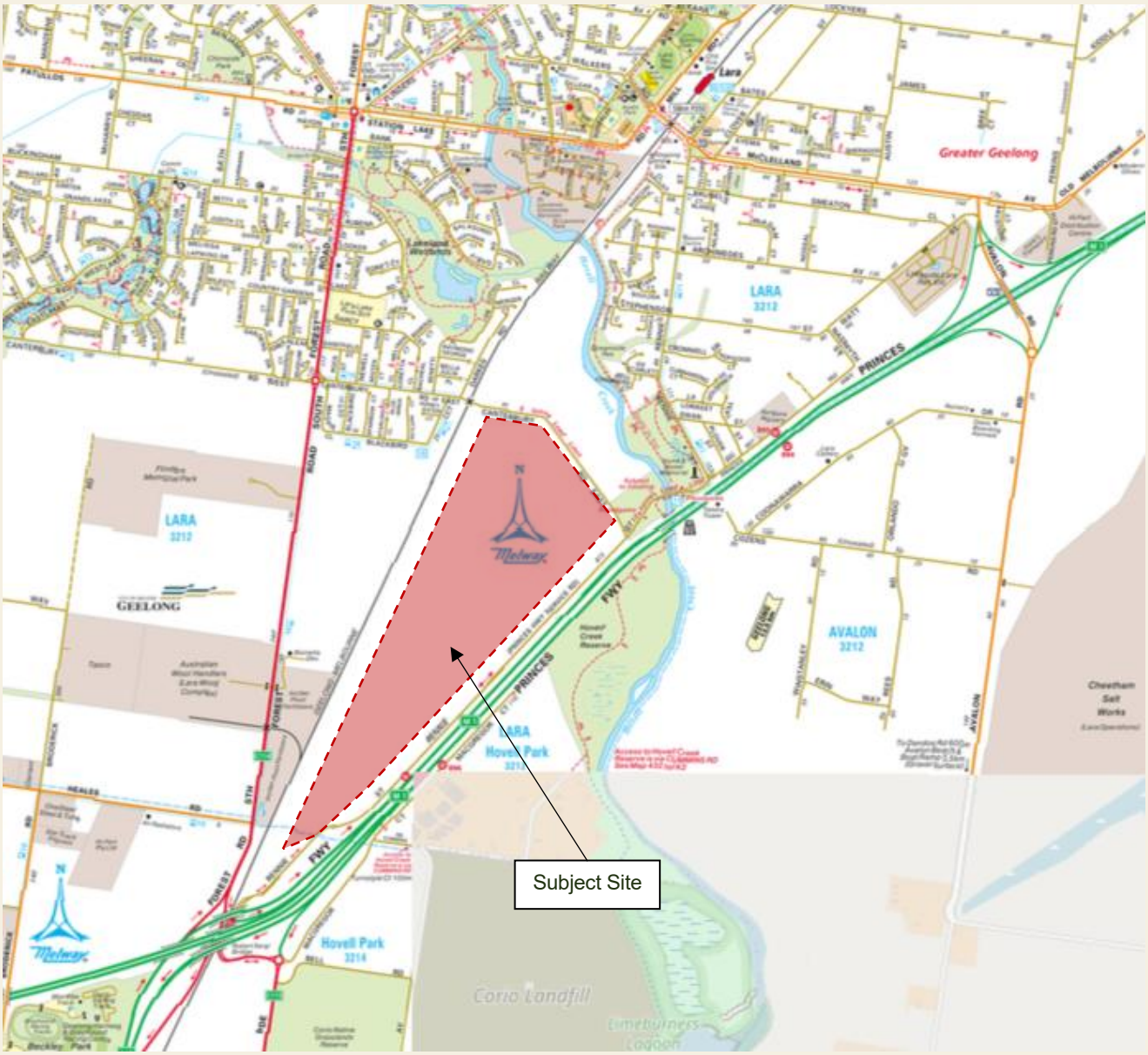
Overall, I note that the subject site is located within a broader growth corridor, adjacent to existing and planned urban areas and with direct access to key transport infrastructure. In this context, I observe that the site forms part of an established and emerging urban growth area rather than an isolated development.

2.2 Road Network

2.2.1 Key Roads

The location of the subject site in the context of the surrounding road network is shown in **Figure 2.4**, with a summary of the local road network servicing the subject site presented in **Table 2.1**

Figure 2.4: Subject Site and Surrounding Transport Network



(Sourced from Melways Online - Melway Online)

.

Table 2.1: Surrounding Local Road Network Overview

Road Name	Classification [1]	Carriageway	Road Reserve	Speed Limit	Footpath Provision	Bus Route
Canterbury Road East (west of railway line)	Urban Collector Road	9.7m sealed with on-street parking permitted	20m	60km/h	1 or 2 sides of the road	Yes
Canterbury Road East (east of railway line)	Urban Local Access Road	6.5m sealed carriageway	20m	80km/h	None	No
Rennie Street (north of Hovells Creek)	Urban Collector Road	7-13m sealed carriageway (varies)	20m	60km/h	On one side only	Yes (part)
Rennie Street (south of Hovells Creek)	Rural Collector Road	6m sealed carriageway	16m	80 to 100km/h	None	No
Nasmyth Street	Urban Local Access Road	6-7m sealed and unsealed carriageway (varies)	16-28m varies	60km/h	None	No
Archimedes Street	Urban Local Access Road	8-12m sealed carriageway (varies)	30m	60km/h	None	Yes
Watt Street	Rural Collector Road	7m sealed carriageway	20m	60km/h	On one side only	Yes (part)

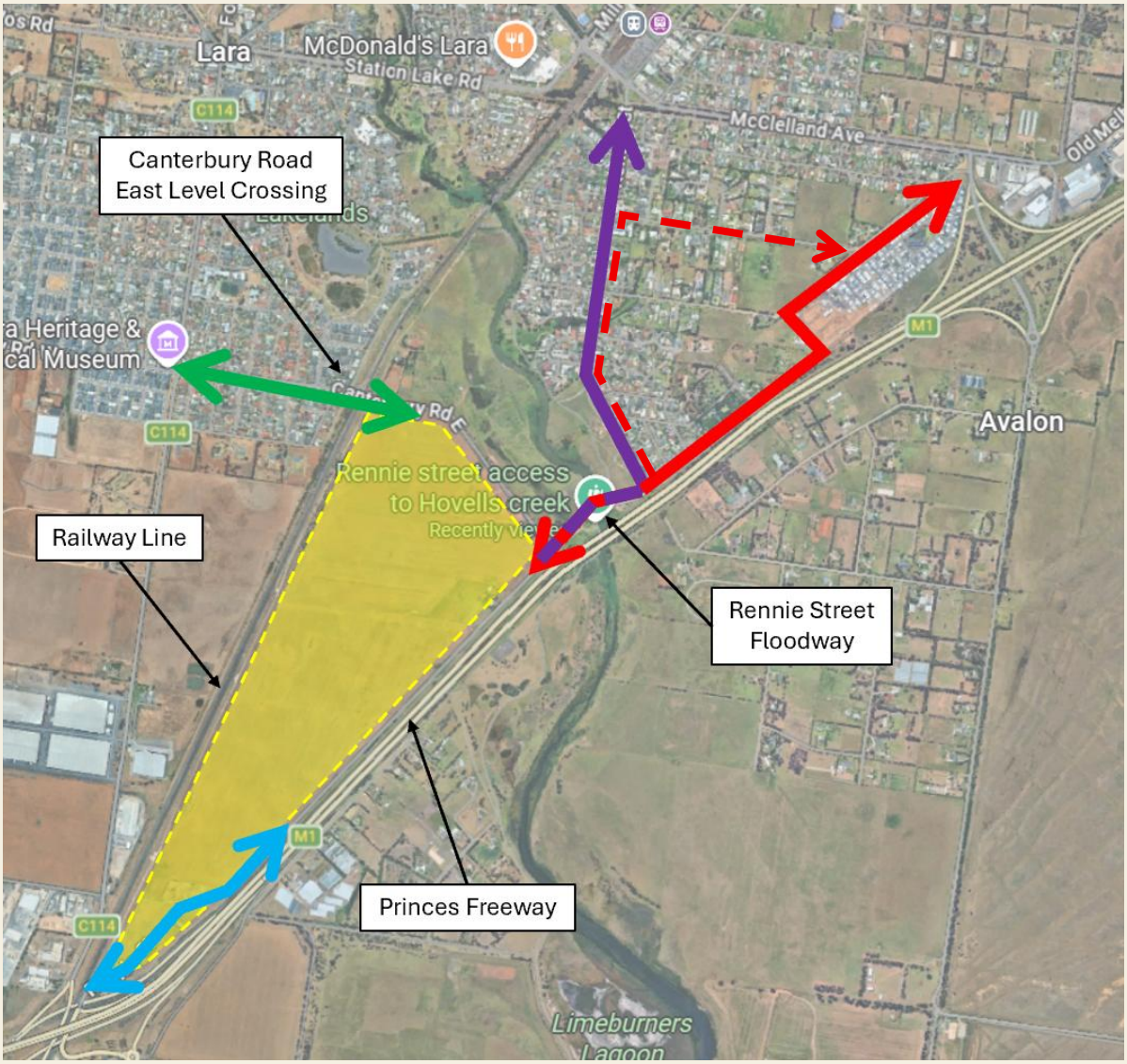
[1] Sourced from the City of Greater Geelong Municipal Public Road Register (dated 8 January 2025).

2.2.2 Key Vehicle Routes

The subject site is located in close proximity to the Princes Freeway and Geelong Ring Road. There are 4 key road corridors which link the site to key land uses and the freeway and arterial road networks, as follows (and as shown in **Figure 2.5**):

1. To/from Princes Freeway via Rennie Street (south) and to/from Geelong via Rennie Street (south) and Shell Parade [shown in blue]
2. To/from Princes Freeway via Rennie Street (north):
    - Via Nasmyth Street, Watt Street and Avalon Road [shown in red], or
    - Via Archimedes Avenue and Watt Street and Avalon Road [shown in red (dashed line)]
3. To/from Forest Road South (to Geelong and Lara) via Canterbury Street East [shown in green]
4. To/from Lara Town Centre via Rennie Street and McLelland Avenue [shown in purple]

Figure 2.5 Key Vehicle Routes Accessing Subject Site



2.2.3 Existing Constraints

Figure 2.5 also identifies unique features of the surrounding road network, which are each discussed below:

- **Rennie Street Floodway** – The existing vehicle crossing of Hovells Creek is subject to flooding and vehicle mass limits (10 tonne). Advice from Council indicates that on average the crossing floods 1 to 2 times per year for 1 to 3 days per flooding event. During closures, vehicles are required to use alternative routes.
- **Canterbury Road East Level Crossing** – An existing level crossing configured with flashing lights, bells and boom gates for vehicles with one traffic lane in each direction is located to the immediate north of the subject site. No formal facilities are provided for pedestrians at the crossing. It is further observed that Canterbury Road East between Forest Road South and the railway line is restricted to vehicles less than 5 tonne.

- **Princes Freeway** – The freeway provides the main vehicle link between Melbourne and Geelong (with onward connections to Colac and Portland). In the vicinity of the subject site, it is configured with 3 lanes in each direction. The nearest interchanges to the subject site are at Rennie Street (to the south) and Avalon Road (to the north). Rennie Street runs parallel to the Princes Freeway. It is noted that whilst the Lara Structure Plan identifies a potential future offramp from the Freeway to Rennie Street, it is understood that this link is no longer supported by DTP and will not be delivered.
- **Railway Line** – The railway line includes three tracks and caters for passenger and freight services. On average, there are 114 services across a typical day[1]. In the vicinity of the subject site, the nearest railway crossings are located at:
  - Princes Freeway to the southwest (grade separated)
  - Canterbury Road East at the northern end of the site (level crossing)
  - McClelland Avenue to the northeast (level crossing)

Key roads and constraints within the vicinity of the site are shown in the below figures.

Figure 2.6: Rennie Street Floodway

Figure 2.7: Canterbury Road East

Figure 2.8: Nasmyth Street

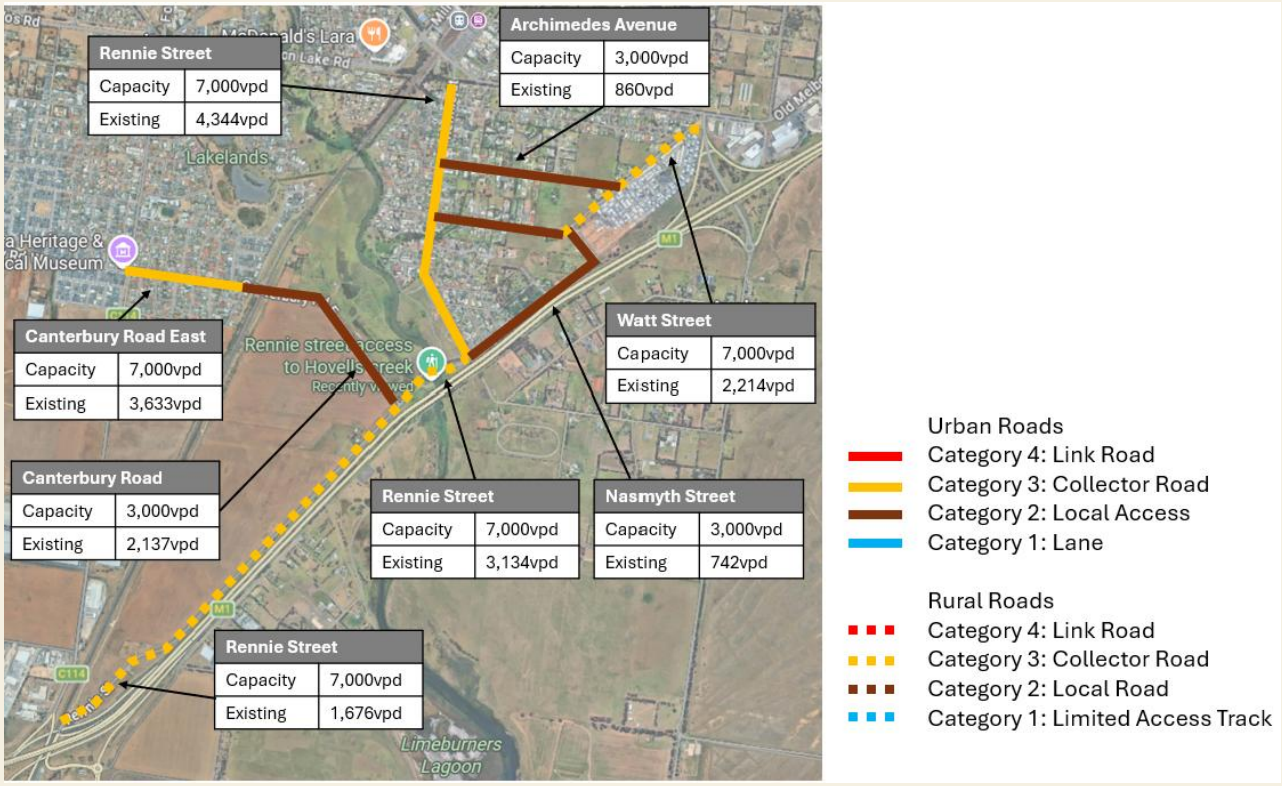
Figure 2.9: Archimedes Street

[1] ALCAM Risk Report prepared by Nelson Furnell (dated 29 March 2026).

2.2.4 Existing Capacity Review

An assessment of the existing midblock capacity of each of the key surrounding local roads has been undertaken using existing traffic volumes sourced from the Traffix Report and the theoretical capacities for Collector Roads and Local Access Roads sourced from Clause 56.06 of the Greater Geelong Planning Scheme[2]. The assessment is presented in **Figure 2.10**.

Figure 2.10 Existing Traffic Volume Midblock Capacity Review



From this assessment, I observe the following:

- The assessed roads operate below their theoretical capacities, noting that there is significant latent capacity on each of the Collector Roads.
- The traffic volumes on Canterbury Road East between the railway line and Rennie Street are nearing their capacity, noting that this section of Canterbury Road is classified as a Local Access Road[3], whereas the section to the west of the railway line is classified as a Collector Road with a higher theoretical capacity.

[2] I note that my assessment differs to the Traffix assessment as we have adopted different theoretical capacity volumes. Specifically, whilst Traffix has sourced these capacities from a superseded version of the City of Greater Geelong Municipal Road Management Plan (dated 25th May 2021), I observe that the more recent version of the Plan (2025) does not include daily traffic volume thresholds. I consider it appropriate to use Clause 56.06 capacities. The differences include:

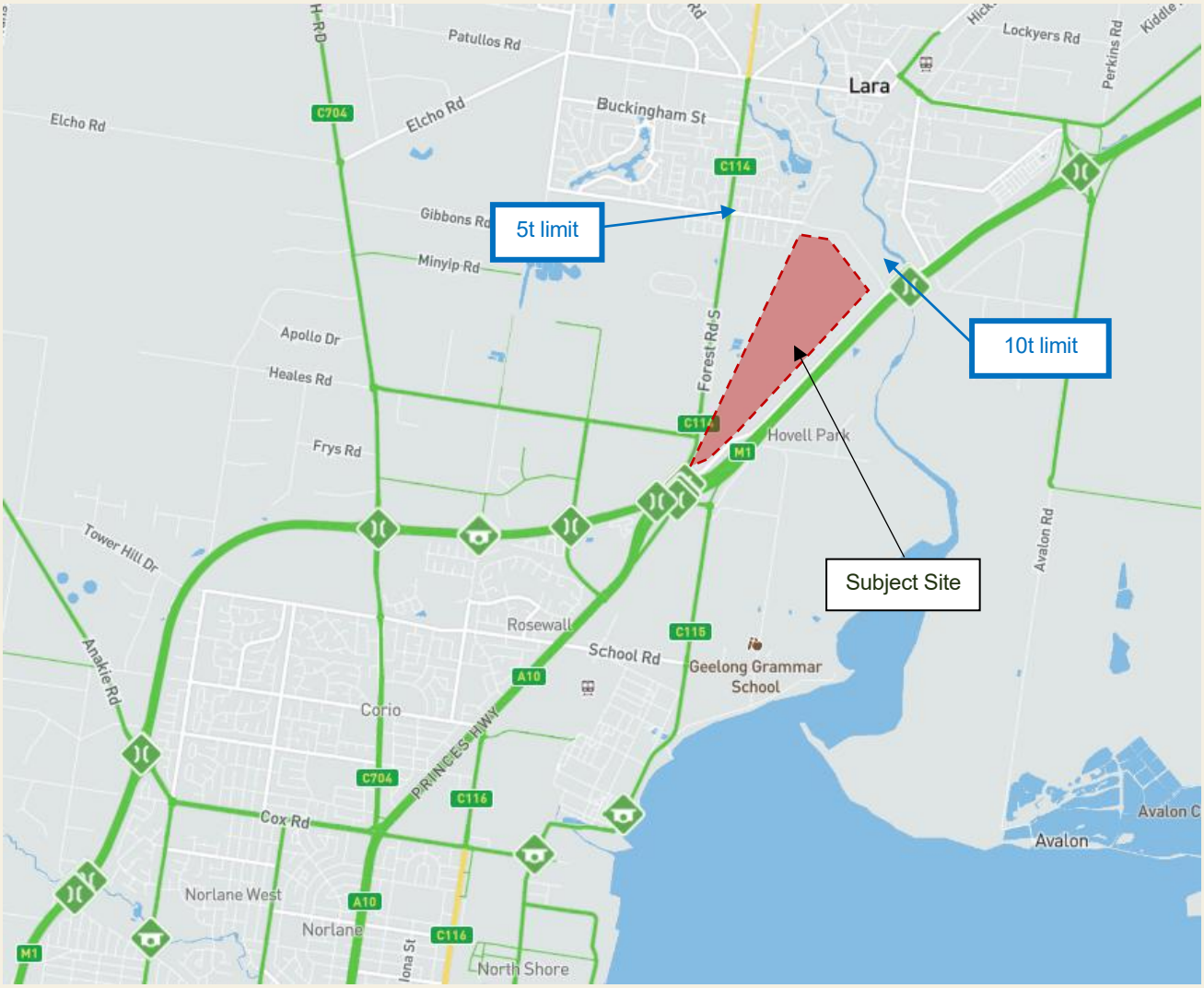
- For Local roads, I have adopted a capacity of 3,000vpd (whereas Traffix adopt 2,000vpd)
- For Connector Roads, I have adopted a capacity of 7,000vpd (whereas Traffix adopt 5,000vpd)

[3] I consider it conservative to assess this road section as a Local Access Road in this context.

2.2.5 Heavy Vehicle Access

Reference to the National Heavy Vehicle Regulator (NHVR) Network Maps indicates that Princes Freeway, Geelong Ring Road, Princes Highway, Forest Road South, Shell Parade and Cox Road in the vicinity of the site all form part of the gazetted B-double network. The permitted B-double network is shown in **Figure 2.11** (with the permitted routes shown in green). In addition, I note that load limit restrictions also apply to Canterbury Road East (up to 5 tonnes) and at the Rennie Street floodway (up to 10 tonnes). These routes are also shown in the below figure in blue.

Figure 2.11 Gazetted B-Double Network



(Source: NHVR website: https://maps.nhvr.gov.au/information)

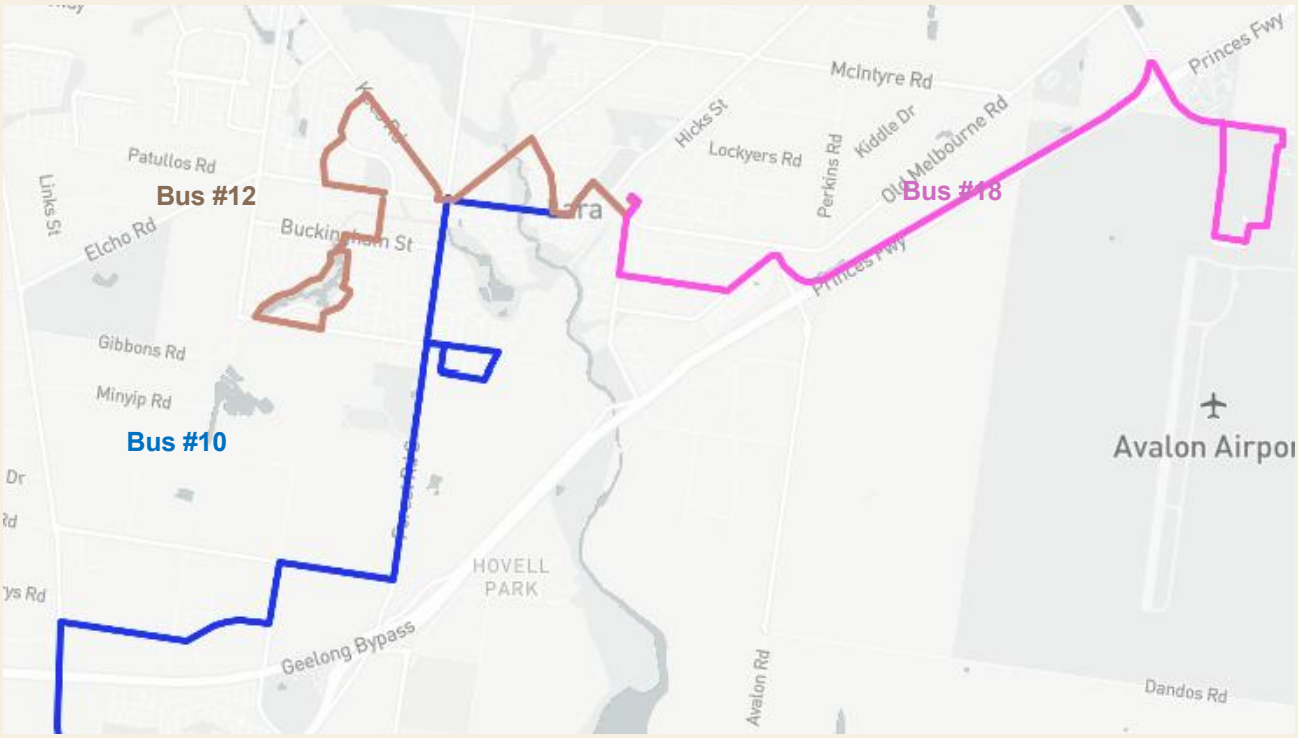
2.3 Public Transport

The site is located adjacent to the Geelong-Melbourne railway line and midway between stations at Lara and Corio. Lara Station is located approximately 3km walk, cycle or drive to the north of the site. Trains operate at 20 minute headways toward Melbourne (45 to 50 minute travel time) and Geelong (15 minute travel time) throughout the day and on weekends.

The following bus services operate in Lara (and are shown in **Figure 2.12**):

- Bus #10 – Lara Station to Corio Village via Lara South. The nearest stop is located on Canterbury Road East (between Loretta Close and Rachael Close).
- Bus #12 – Lara Station to Lara West. The nearest stops are located at Canterbury Road West and Lara Station. This bus service does not provide convenient access to the subject site.
- Bus #18 – Lara to Avalon Airport. The nearest stops are located at Rennie Street (immediately north of Archimedes Street) and at Watt Street (north of Archimedes Street).

Figure 2.12: Existing Bus Services



(Source DTP website)

2.4 Summary

Based on the above review of the existing context, I observe the following:

- The site is located between Lara township and the northern suburbs of Geelong.
- The future development of the subject site has been identified in the City of Greater Geelong Settlement Strategy (residential), Lara Structure Plan (residential) and Draft Greater Geelong Industrial Land Review 2025 (industrial).
- The site is located proximate to key arterial roads, including the Princes Freeway, Princes Highway and Geelong Ring Road. It is benefited by a half diamond interchange to the Princes Freeway which is located at the southern end of the site and provides direct access to and from Melbourne.
- A network of existing Collector Roads (Rennie Street and Canterbury Road East) provides vehicle access to Lara town centre and railway station (to the north), to Forest Road South (to the west), to Shell Parade and to Geelong (to the south) and to the Princes Freeway / Avalon Road interchange (to the northwest).
- There is a railway level crossing on Canterbury Road East to the north of the site. The level crossing includes lights, bells and boom gates for vehicles. However, no pedestrian facilities are currently provided at the level crossing.
- There are existing bus services that operate to the west of the site and north of the site with the nearest stops on Rennie Street and Canterbury Road East.

3 Overview of Amendment

3.1 Amendment C444 – Northern Precinct (Residential)

Overview

Amendment C444 applies to land within the northern precinct. The amendment proposes to rezone land from the Farming Zone (FZ) to the General Residential Zone (GRZ) and apply a Development Plan Overlay (DPO) to the land. The amendment will facilitate development of a new residential community, yielding approximately 6,700 dwellings, on the subject site.

Schedule 48 to Clause 43.04 Development Plan Overlay (DPO48) Controls

DPO48 applies to the South East Lara Residential Growth Area. The objectives related to transport include:

> *"To create a safe and integrated road network that minimised road connection on to Canterbury Road East."*
>
> *"To provide a shared pathway network that establishes safe and interconnected walking and cycling routes that link to nearby destinations."*

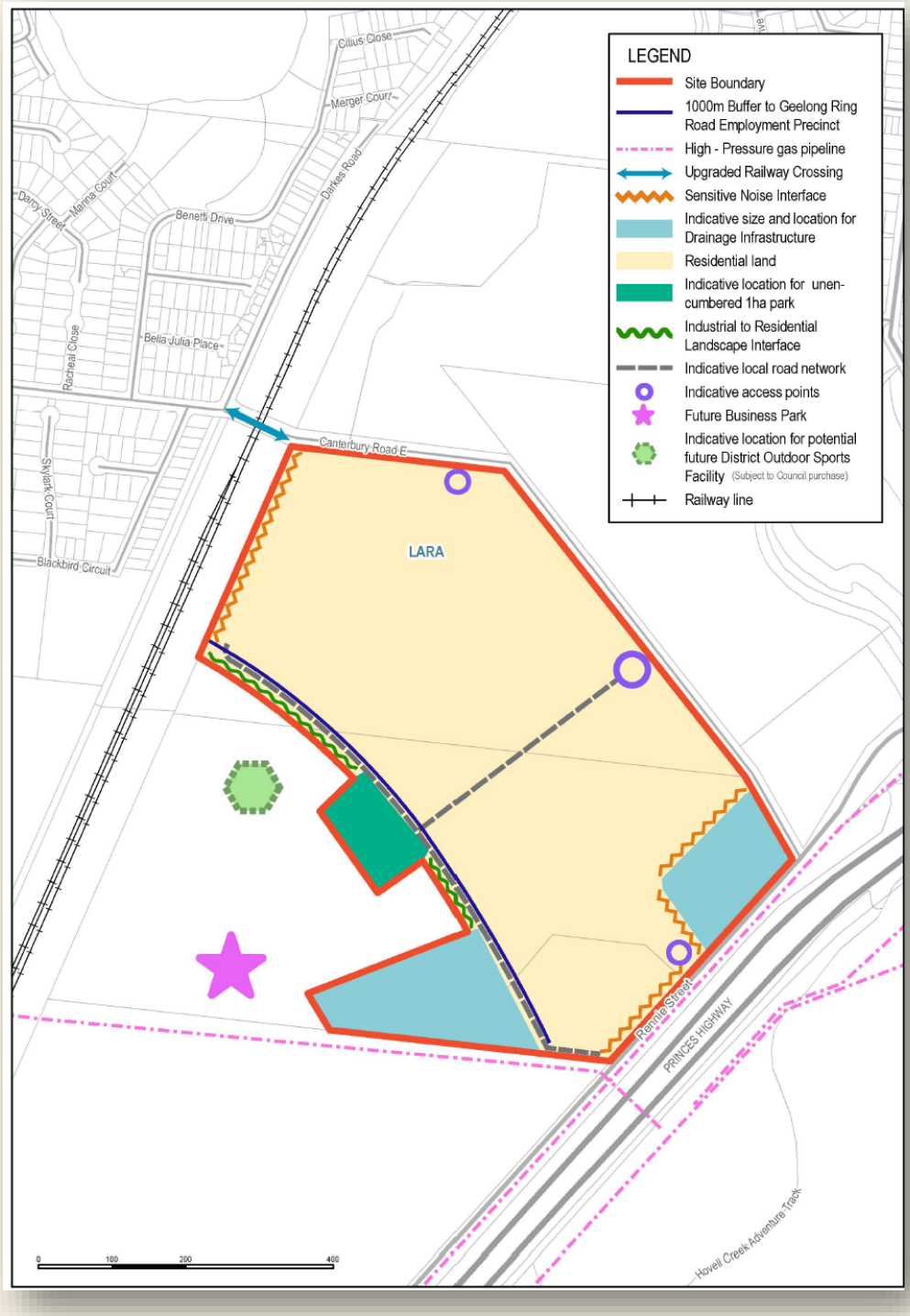
DPO48 requires the preparation and approval of a Development Plan prior to subdivision and development. With regard to transport, the requirements for the development plan include "A Road Network and Traffic Management Plan that has regard to the *Traffic Impact Assessment G33105R-03B prepared by Traffix Group dated November 2024".*

The Road Network and Traffic Management Plan is to include:

- *"An internal road network with a high level of access for all vehicular and non-vehicular traffic and which responds to the topography."*
- *"Details of all necessary upgrades to the surrounding road network to urban standards including any required upgraded intersection treatments or level crossings informed by a Traffic Impact Assessment".*
- *"Identification of locations where separate paths for pedestrians and cyclists are required to connect to the wider movement network including along Canterbury Road East."*
- *"The provisions of safe egress routes during a 1% AEP flood event."*

The South East Lara Residential Growth Area Framework Plan (**Figure 3.1**) shows indicative access points to the site via a main entrance on Canterbury Road East and two secondary access points on Canterbury Road East and Rennie Street.

Figure 3.1 South East Lara Residential Growth Area Framework Plan



3.2 Amendment C453 – Southern Precinct (Industrial)

Overview

Amendment C453 applies to land within the southern precinct. The amendment proposes to rezone land from the Farming Zone (FZ) to the Industrial 1 Zone (IN1Z) and Industrial 3 Zone (IN3Z) and apply a Design and Development Overlay (DDO) to the land. The amendment will facilitate industrial and employment development on the subject site.

Schedule 55 to Clause 43.02 Design and Development Overlay (DDO55) Controls

DDO55 applies to Lara Business Park. The design objectives related to transport include:

> *"To ensure development achieves a high-quality, site responsive design that enhances visual amenity from major transport routes and surrounding non industrial land."*

DDO55 provides guidance on built form and development outcomes.

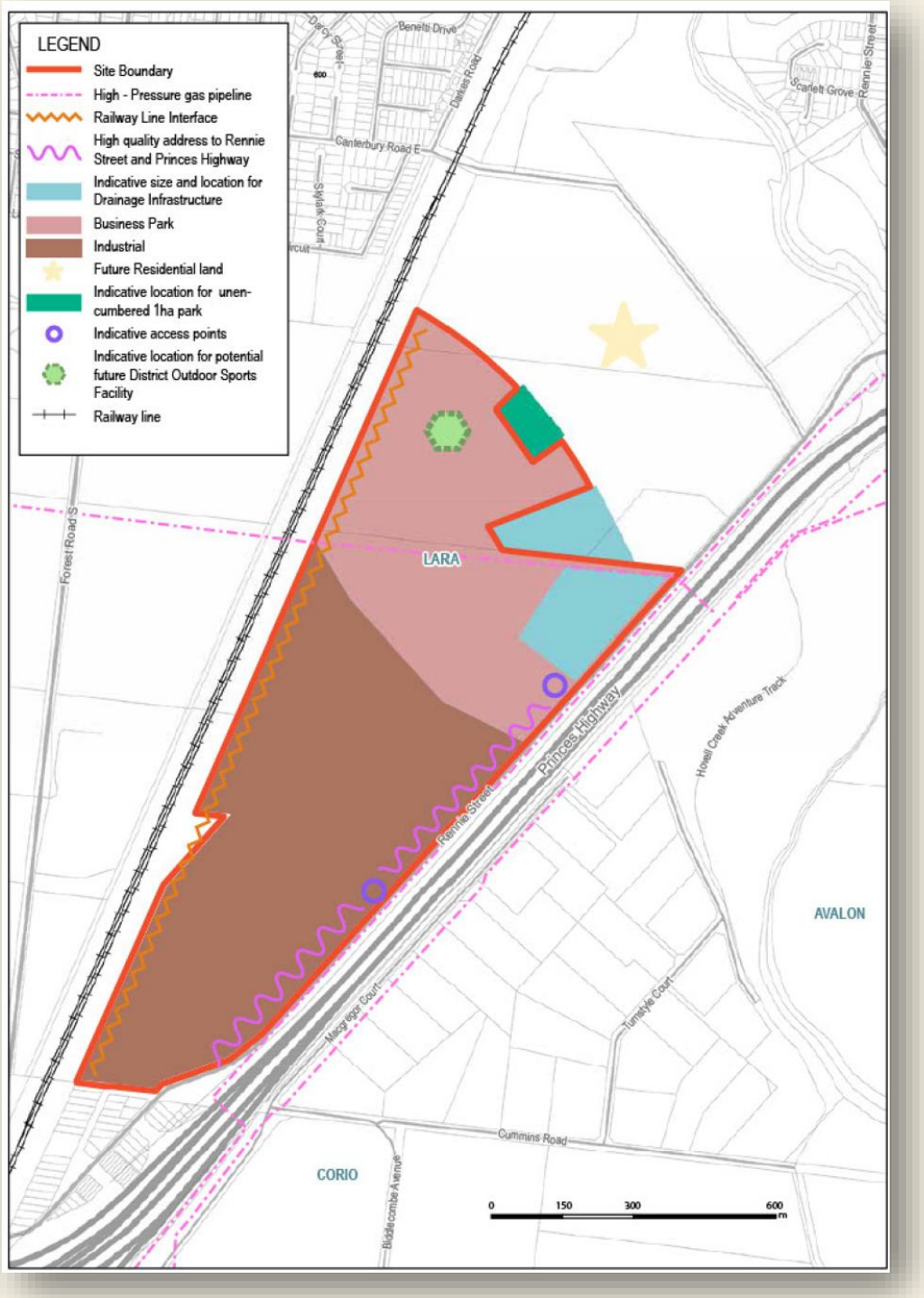
> *"Car parking and Access*
>
> *Avoid potential conflict between pedestrian and vehicle movements including through provision of pedestrian links through car parking areas.*
>
> *Car parking should be provided at the front of the site.*
>
> *All vehicle crossings, accessways and parking areas should be sealed with an all weather coat.*
>
> *Lighting should be provided to car parking areas where relevant.*
>
> *If more than 10 car spaces are provided the design should incorporate landscaped island beds to break up the hard surface area and improve visual amenity."*

Subdivision requirements related to transport include:

> *"Traffic and Pedestrian Movements*
>
> *Subdivision design should provide a movement network that:*
>
> - *has regard to the Traffic Impact Assessment – Proposed Rezoning by Ratio (705-765 Princes Highway, 710 Rennie Stret & 76-156 Canterbury Road East, Lara) – dated 31 October 2024 or an alternative Traffic Impact Assessment approved by the Responsible Authority.*
> - *minimises the number of road crossings of the high pressure gas pipeline and ensure they are at 90 degrees to the pipeline.*
> - *promotes a high degree of internal permeability including the provision of at least two entry roads off Rennie Street.*
> - *prevents vehicle connection to the future residential land to the north.*
> - *delivers road widths and cross-sections that are suitable for industrial vehicle movements and consistent with the Infrastructure Design Manual.*
> - *provides an integrated network of safe and convenient footpaths on both sides of every street.*
> - *provides shared pathways to facilitate future active transport connections between the future residential area and park as well as connecting the business park to the surrounding shared trail network, particularly the Hovells Creek Shared Path and any future shared path and/or bike lane along Canterbury Road East."*

The Lara Business Park Outline Development Plan (**Figure 3.2)** shows initiative access to the site via two access points on Rennie Street.

Figure 3.2 Lara Business Park Outline Development Plan



3.3 Implications

I note that Amendment C444 and C453 are seeking approval to rezone the subject site to cater for future residential and industrial land uses, respectively and that the planning controls associated with each site include:

- For Amendment C444 (residential), the DPO requires the preparation of a Development Plan which includes a requirement for the preparation of a Road Network and Traffic Management Plan which details *"all necessary upgrades to the surrounding road network to urban standards including any required upgraded intersection treatments or level crossings informed by a Traffic Impact Assessment*".
- For Amendment C453 (industrial), the DDO includes specific planning controls, including controls relating to "car parking and access" and "traffic and pedestrian movements" for the subdivision. I note that these controls stipulate that the subdivision should provide a movement network that "*has regard to the Traffic Impact Assessment – Proposed Rezoning by Ratio (705-765 Princes Highway, 710 Rennie Stret & 76-156 Canterbury Road East, Lara) – dated 31 October 2024 or an alternative Traffic Impact Assessment approved by the Responsible Authority".*

In my view, it is evident that the DPO and DDO controls will necessitate the further consideration and assessment of traffic and transport matters prior to the development of the site. Accordingly, I note that the transport impact assessment that is accompanying the Amendments ought not need to resolve every matter. Rather, and having reference to the Planning Practice Note 46 'Strategic Assessment Guidelines', I consider it appropriate that the transport impact assessment for the Amendments principally focus on the following critical questions:

> *"Question 11 – How does the amendment address the views of relevant agencies?"*
>
> *"Question 12 – Does the amendment address the requirements of the Transport Integration Act 2010?"*

In assessing the second of these questions, I further note that the Practice Note outlines two important matters are to be considered:

> *"Is the amendment likely to have a significant impact on the transport system, as defined by section 3 of the TIA?"*
>
> *"If so, explain how the amendment addresses the transport system objectives and decision-making principles set out in Part 2, Divisions 2 and 3 of the TIA"*

I note that **Section 6** of this report includes a conclusion which provides my views regarding the extent to which these questions and matters have been addressed for the Amendments.

4 Review of Key Transport Matters

4.1 Preamble

The following sections outline my views regarding the various submissions received in the exhibition period that relate to traffic and transport matters. The responses have been grouped by Council, DTP and other submissions, with a summary presented in Section 4.5.

4.2 Geelong City Council

4.2.1 Rennie Street Floodway

> "It is noted that the applicants have indicated that all heavy vehicle traffic will use Rennie St to the south for access to the freeway, however, it should be noted that this does not align with any validated operators likely to establish in the area.
>
> It is considered more reasonable that desire lines for transport to Melbourne or northern and western parts of the state will see operators seeking to use Rennie St to the north or networks west of the rail crossing on Canterbury Road East".

As outlined earlier in this report (Section 2.2), I note that there are three key traffic routes servicing the subject site, including:

1. To/from Princes Freeway via Rennie Street (south) and to/from Geelong via Rennie Street (south) and Shell Parade
2. To/from Princes Freeway via Rennie Street (north):
    - Via Nasmyth Street, Watt Street and Avalon Road, or
    - Via Archimedes Avenue and Watt Street and Avalon Road
3. To/from Forest Road South (to Geelong and Lara) via Canterbury Street East
4. To/from Lara Town Centre via Rennie Street and McLelland Avenue

Of these routes, I further note that Canterbury Road East currently has a maximum gross load limit of 5 tonne with Rennie Street (north) over the floodway having a maximum gross load limit of 10 tonne.

I observe that whilst the Rennie Street (north) route provides the shortest route to Melbourne, the route with the shortest travel time, as evidenced by Google travel time data analysis[4], to/from Melbourne from the industrial land area is via Rennie Street (south). I expect the southern route has the quickest travel time due to the comparatively higher speeds on the route, including 100km/h on Princes Freeway, and its less circuitous nature.

In the context that the southern route provides the fastest travel times to/from Melbourne and noting my expectation that the vast majority of industrial truck traffic will seek to access the arterial road network (including the approved B-double routes), I am satisfied that truck movements to/from the industrial land which have an origin or destination north of the Subject Land will predominantly utilise Rennie Street (south). **I observe this conclusion is consistent with the views presented in the Traffix TIA report.**

[4] The travel time data analysis is presented in Section 5 of this report where I present my views regarding the appropriateness of the Traffix TIA report.

4.2.2 Serviceability of Nasmyth Street / Princes Highway Service Road

"Nasmyth Street was constructed with a trial GATT seal surface in 2021 as part of addressing issue with a high pressure gas/oil transfer line located in very close proximity to the road which prevents reasonable maintenance access being available for the City. The treatment was determined based on traffic volumes of the time and did not consider increases associated with further subdivision of land. It is considered that use of this road by subdivision traffic will not be sustainable and result in a negative financial impact to the City. Upgrades to the road, including safety treatments would be required to address these impacts."

I note that Nasmyth Street is identified as a Local Access Street under Council's Municipal Road Management Plan, which would typically have a daily midblock capacity of 2,000 to 3,000 vehicles per day (vpd). At present, this road carries approximately 750vpd (source: Traffix TIA report).

I observe that the traffic generation and distribution assessment detailed in the Traffix TIA indicates that the development of the Subject Land is expected to generate approximately 780vpd to/from the Princes Freeway / Avalon Road interchange. I have undertaken a review of this assessment in preparing my Evidence Statement and consider it to be in the right order of magnitude[5].

Assuming 100% of the traffic travelling to/from the above interchanges uses Nasmyth Street (which I consider is possible albeit highly conservative given the availability of alternate routes), it follows that a post-development traffic volume of up to approximately 1,530vpd could be expected on this road. This volume would be well less than the daily capacity of 3,000vpd.

Notwithstanding this capacity assessment, I appreciate that there are constraints regarding the pavement condition which cannot be easily resolved and therefore accept that the 'effective' midblock capacity of the road is likely to be less than that of a typical Local Access Street. Due to this constraint, I observe that Traffix TIA report includes an updated assessment assuming that all traffic accessing the northern interchange would use Rennie Street, Archimedes Avenue and Watt Street. The assessment identifies that there is also adequate midblock capacity and intersection capacity along this route to accommodate the forecast traffic demands.

However, as Nasmyth Street provides the shortest route to the northern interchange, I envisage that there will need to be mitigation measures implemented along its length to discourage or potentially preclude its use. I consider the mitigation measures are best developed in consultation with Council, but that they could include:

- Lowering the signposted speed to deter vehicles from using Nasmyth Street
- Providing Local Area Traffic Management (LATM) measures such as speed humps along Nasmyth Street to reduce vehicle speeds.
- Changing vehicle priority at the Watt Street / Archimedes Street intersection to encourage through vehicle movements to use Archimedes Street rather than continuing on Watt Street
- Removing the right turn lane from Rennie Street into Nasmyth Street and banning the right turn movement to reduce demand for this movement.

In my experience, these mitigation measures are typical for residential areas adjacent urban renewal areas and can be expected to be sufficient to encourage the use of Rennie Street, Archimedes Avenue and Watt Street as a preferred route over Nasmyth Street.

[5] My comments on the traffic generation and distribution assessment detailed in the Traffix TIA report is presented in Section 5 of this report.

In the context of the Traffix TIA assessment, I am satisfied that the existing road network located to the north of the Subject Land has sufficient capacity to accommodate the anticipated increase in traffic volumes generated by the development of the subject site. **I observe this conclusion is consistent with the views presented in the Traffix TIA report.**

4.2.3 Watt Street and alternative routes

"Watt Street is currently only sealed to partial width with further construction allocated to rezoning and development of allotments on the western side of the road. Preliminary estimates place the cost of required work at approximately $1m. Alternatives to the Nasmyth Watt Street route have not been constructed for use as through connectors and retain lower service standards, excluding Rennie Street. Rennie St as a travel path is outside of the desire line for traffic heading towards/returning from Melbourne and planning for future grade separation of the rail line at McClelland Avenue does not support it being a higher order connector route."

As identified above, an updated midblock traffic capacity assessment has been undertaken which assumes traffic accessing the Princes Freeway / Avalon Road interchange uses Rennie Street, Archimedes Avenue and Watt Street. I observe the appropriateness of the alternative streets below:

- **Rennie Street** is identified as a Collector Road (Urban) under Council Municipal Road Management Plan, and is described as:

  "These carry significant volumes of traffic and provide access, by linking residential areas to arterial roads. They also provide links between the various collector roads."

  The midblock capacity assessment presented in Section 5.4 indicates that Rennie Street (between Canterbury Road East and McClelland Avenue) is forecast to carry between 4,700 and 5,300vpd. The forecast future traffic volumes are less than daily threshold of 7,000vpd[6].

  As such, I consider the use of Rennie Street by vehicles accessing the subject site (excluding heavy vehicles) is appropriate.

- **Archimedes Avenue** is identified as a Local Access Road (Urban) under Council Municipal Road Management Plan, and is described as:

  "These carry only local traffic. The primary function is to provide access to private properties."

  The midblock capacity assessment presented in Section 5.4 indicates that Archimedes Avenue is forecast to carry 1,600vpd. The forecast future traffic volumes are less than daily threshold of 3,000vpd[6].

  I further note that whilst Archimedes Avenue is defined as a Local Access Street, it has a number of features which are more akin to a Collector Road, including higher speed limit (60km/h as opposed to 50km/h), it accommodates a bus route (Bus #18), and it is set within a wider road reserve (30m compared to 20m). I note that such features would typically result in it having a higher capacity of up to 7,000vpd[6], instead of 3,000vpd.

  As such, I consider the use of Archimedes Avenue by vehicles accessing the subject site (excluding heavy vehicles) is appropriate.

[6] Capacity based on Clause 56.06 guidance.

- **Watt Street** is identified as a Collector Road (Rural) under Council Municipal Road Management Plan, and is described as:

  "These carry significant volumes of traffic and provide access, by linking residential areas to arterial roads. They also provide links between the various collector roads."

  The midblock capacity assessment presented in Section 5.4, indicates that Watt Street is forecast to carry up to 3,000vpd. The forecast future traffic volumes are less than daily threshold of 7,000vpd[7].

  As such, I consider the use of Watt Street by vehicles accessing the subject site (excluding heavy vehicles) is appropriate.

Overall, I am satisfied that the use of the Rennie Street, Archimedes Avenue and Watt Street corridor represents an appropriate transport planning outcome for vehicles travelling between the subject site and the Princes Freeway / Avalon Road interchange. As previously identified, I also note that there are a number of mitigation options that could be considered to manage traffic demands on the surrounding local road network to reduce traffic demands on Nasmyth Street. **I observe this conclusion is consistent with the views presented in the Traffix TIA report.**

4.2.4 Rennie Street Closure

"Rennie St closure due to flooding of Hovells Creek. Closed once or twice per year on average and duration of closure can be anywhere from 1-3 days."

The Traffix TIA report indicates that approximately +1,800vpd are forecast to use Rennie Street (crossing the floodway), including approximately 1,000vpd to Lara town centre and 800vpd to the Princes Freeway / Avalon Road interchange. During any flood events, I note that these vehicles would be required to reroute to alternative routes, as follows:

- Lara town centre (≈1,000vpd) – I expect that these vehicles would likely use the Canterbury Road East and Forest Road South route.
- Princes Freeway / Avalon Road (≈800vpd) – I expect these vehicles would likely use the Rennie Street (south) route to access the Princes Freeway.

An assessment of the midblock capacities of Canterbury Road East and Rennie Street (south) during these short-term events is presented in **Table 4.1**. This table indicates that the alternate routes would still be operating within their daily traffic volume thresholds during any Rennie Street floodway closures.

Table 4.1: Midblock Capacity Assessment During Flood Events

Road Link	Daily Traffic Volume (vpd)			Daily Midblock Capacity Threshold
	Existing	Post Development	Post Development (Flood Event)	
Canterbury Road East (east of Forest Road South)	3,633	5,013 (+1,380)	6,053 (+1,040)	7,000vpd
Rennie Street (north of Princes Freeway Interchange)	1,676	3,966 (+2,290)	4,746 (+780)	7,000vpd

[7] Capacity based on Clause 56.06 guidance.

Whilst I observe that the Traffic TIA report does not include intersection modelling for conditions during closure events, I note the following:

- I observe that the Traffix TIA report indicates that the Forest Road South / Canterbury Road East intersection is forecast to operate with a LOS A during the AM peak hour and LOS C during the PM peak hour (assuming the scenario with the regional sports facility). I note that the additional forecast traffic through the intersection would represent an approximate 5% increase over existing volumes. I note this additional traffic volume could not be expected to materially increase the average delays or 95th percentile queues at the intersection during closure periods.
- I observe that the Traffix TIA report indicates that the Rennie Street / Princes Freeway interchange intersections are forecast to operate with a LOS A (assuming the scenario with the regional sports facility). I would expect that the additional traffic through the intersections during closure periods would only have a minor impact to the operation of the intersections.

Overall, I am satisfied that latent capacity will existing in the surrounding road network to cater for rerouted traffic during Rennie Street floodway closure periods. Moreover, I note that flooding events are understood to occur once or twice a year and only last for 1 to 3 days (i.e. approx. 1% of the time) and, as such, do not represent a typical design scenario. **I observe this conclusion is consistent with the views presented in the Traffix TIA report.**

4.3 Department of Transport and Planning

4.3.1 Traffic Impact Assessment

"Planning for the Greater Avalon Employment Precinct (GAEP) is currently underway which will require significant reliance on the Avalon Road interchange."

The GAEP incorporates land surrounding Avalon Airport and is forecast to include 8,000 additional jobs for the precinct. It is located on the south side of the Princes Freeway and is primarily accessed via the Beach Road and Avalon Road interchanges with the Princes Freeway.

I note that traffic modelling completed by Jacobs (dated November 2025) as part of the GAEP indicates that traffic volumes at the Princes Freeway / Avalon Road interchange are forecast to increase by 15,000 to 17,000vpd in 2051. In comparison, I note that the proposed development of the subject site is expected to result in an increase of 780vpd at the interchange. In this context, I consider that the additional traffic at this interchange associated with the development of the site will be modest in the context of the additional GAEP traffic.

I also understand that there are commitments within the draft planning controls requiring further and analysis and potential upgrades of the interchange as part of the GAEP project. In this context and noting that traffic is not a referred matter for the upcoming GAEP Panel Hearing, I infer that the capacity of the interchange is not seen as an issue that will not be able to be resolved.

"A cumulative impact assessment of the Amendment and the adjacent Lara Business Park to the south (Amendment C453ggee) is required to address; the potential capacity of the Avalon Road interchange to cater for future traffic demand, the performance of the Watt Street and Avalon Road intersection, and potential 'rat-running' on the local road network including Nasmyth and Watt streets."

I note that an updated assessment has been completed by Traffix and am satisfied that it represents an appropriate assessment of the combined traffic impacts for the reasons outlined in Section 5 of this report.

I note that the Traffix TIA report includes traffic generation from the residential and industrial lands and considers background traffic growth of 2% per annum for 10 years at the interchange. The SIDRA Intersection modelling completed by Traffix indicates that the Avalon Road intersections with McClelland Avenue, Watt Street and the on and offramps with Princes Freeway are forecast to operate with a LOS B or better for each of the peak periods assessed.

Overall, I am satisfied that the additional traffic generated by the development of the site is unlikely to result in unacceptable impacts at the Avalon Road intersections with McClelland Avenue, Watt Street and the on and offramps with Princes Freeway. Notwithstanding this, I note that mitigating road works will undoubtedly be required at freeway interchange to accommodate the traffic generated by the full development of GAEP.

"The Head, TfV requires further work to be undertaken as part of a revised traffic impact assessment, to determine any potential upgrades to the Canterbury Road East level crossing, due to combined traffic impacts of this amendment and C453ggee Lara Business Park and to determine the potential need for contributions towards upgrades from both these developments."

I note that the updated cumulative assessment of the level crossing has been completed by Traffix and indicates that adequate capacity exists at the level crossing to cater for the forecast traffic demands.

For completeness, I have also undertaken an independent first-principles assessment of the capacity of the level crossing under existing and post development conditions, with the assessment summarised in **Table 4.**.

Table 4.2: Canterbury Road East Level Crossing Capacity Assessment

Scenario	Vehicle Direction	Demand [1]	Capacity [2]	Degree of Saturation (DOS)
AM Peak Hour				
Existing	Eastbound	136vph	1,260vpd	0.11
	Westbound	81vph		0.06
Post Development	Eastbound	267vph		0.21
	Westbound	268vph		0.21
PM Peak Hour				
Existing	Eastbound	93vph	1,260vpd	0.07
	Westbound	147vph		0.12
Post Development	Eastbound	252vph		0.20
	Westbound	295vph		0.23

[1] Peak hour traffic volumes sourced from Figures 25, 48 and 49 and Section 4.8 of the Traffix ITA report.

[2] Assuming 1800vph base capacity and reduced to reflect the number of train events during a peak hour (i.e. 7 passenger services (current timetable) and conservatively assuming 120 seconds boom gate closure as per observed closure extents and conservatively 1 freight train assuming 230 second boom gate closure as observed).

Table 3.1 indicates that the level crossing is expected to continue operate with an acceptable DOS following the development of the subject site.

In addition, I note that I have also reviewed the ALCAM[8] Risk Assessment Report prepared by Nelson Furnell which includes key conclusions regarding the vehicle and pedestrian crossing facilities as reproduced below:

Traffix Group have suggested that the existing road crossing controls and environment are adequate for the level of traffic increase[9]. We agree with this view based on the following:

- While the level of train traffic at the site is relatively high and poses hazards relating to the speed of the trains, these risks are well controlled by the crossing infrastructure.
- There are no significant factors related to the road environment, nearby intersections or other control points which might lead to vehicle congestion in the vicinity of the crossing, even with the proposed traffic increase.
- The crossing has the highest level of control applied to level crossings in Australia and would not benefit from any additional secondary controls.
- The final proposed traffic levels and the ALCAM risk score are not extreme for boom-barrier controlled crossings. They fall well short of any known threshold for upgrading to grade separation.

It is therefore recommended that active gates with latched emergency egress are provided at this pedestrian crossing.

It is recommended that corridor fencing be provided running from the eastern pedestrian maze back along the rail corridor for sufficient distance that it is easier for users to use the crossing than it is to attempt to bypass it and climb over the tracks. This fencing must be high enough and of the type of construction that it is difficult to climb. Typically this is 1.8m pool style mesh fencing.

It is also recommended that wing fencing be provided on the southern side of the western access path to keep pedestrians from straying into the rail corridor. Figure 11 shows this area.

Overall, I am satisfied that adequate vehicle capacity is provided at the level crossing to acceptable accommodate post development traffic volumes. This finding is consistent with the conclusions of the Traffix Report and the Nelson Furnell ALCAM Risk Assessment. However, I observe and support the provision of a new pedestrian crossing at the level crossing in accordance with the recommendations of the Traffix and Nelson Furnell reports.

"Amendment C444

Attachment A provides detailed comments on the Traffic Impact Assessment which should be implemented to ensure appropriate development outcomes for the State transport network. "

The Traffix TIA report has been updated to address the detailed comments from DTP, including:

- The cumulative traffic impact assessment considering both Amendment areas.
- The assessment of the Canterbury Road East level crossing under post-development conditions.
- The confirmation that there will not be a future off ramp from Princes Freeway to Rennie Street.

[8] Australian Level Crossing Assessment Model (ALCAM)

I also observe that the DPO requirements for Amendment C444 require the preparation of a Development Plan which includes the preparation of a Road Network and Traffic Management Plan with an updated transport impact assessment. Following this, I expect that transport impact assessment reports will also be required to accompany each subdivision stage and/or planning permit application. In this regard, I expect that detailed transport matters such as internal road network layout, mitigation works, shared path alignments within the site and bicycling parking facilities will be determined as part of future planning requirements. I do not consider it appropriate or reasonable to resolve these matters at the Amendment stage.

"Amendment C453

Attachment A provides detailed comments relating to the Traffic Impact Assessment as well as other impacts on transport infrastructure which should be implemented to ensure appropriate development outcomes for the State transport network."

As outlined above, I note that the Traffix TIA report has been updated to reflect the relevant transport comments, and I expect that matters of detailed development planning will be addressed in the future associated with each subdivision and/or planning permit application.

Consistent with the DTP comments, I agree that should a regional sports precinct be delivered in the industrial land, appropriate internal transport links should be provided to connect the precinct to the external network. At a minimum, I expect this will need to include a shared use path to cater for cyclist movements and a bus capable road to/from the precinct.

4.3.2 Development Plan Overlay (DPO48)

"Section 4.0 of the schedule to DPO48 outlines the future Development Plan requirements. The Urban Design Masterplan should include identification of land at the Canterbury Road East level crossing, required for any potential upgrades that may be identified in the revised traffic impact assessment."

As outlined above, I note that the updated Traffix TIA report and Nelson Furnell ALCAM Risk Assessment Report identify that an updated pedestrian crossing should be provided at the level crossing as a result of the proposed development. I consider it reasonable that the Urban Design Masterplan set aside sufficient land to enable the completion of these upgrade works.

"The Head, TfV requests further information on how the noise objectives proposed in the schedule to DPO48 have been arrived at."

This matter is beyond my area of expertise.

The use of a Memorandum of Common Provisions as the instrument for applying the noise attenuation measures is not supported. A review of other Development Plan Overlays in the Greater Geelong Planning Scheme indicates that a Section 173 Agreement is the standard instrument for applying noise attenuation measures.

This matter is beyond my area of expertise.

"Modal conflicts between walking/riding networks and general traffic across the developable area must be mitigated through the future development plan process. This is of particular importance considering the location of the future Lara Business Park and associated freight traffic generation from it."

I agree and consider this matter is best addressed via the Road Network and Traffic Management Plan which is required to be prepared as part of the Development Plan process.

"The Development plan should make provision for a bus capable road network within the subject site to enable future public transport services to the regional sports facility that also achieve adequate coverage of the residential area."

I agree and consider this matter is best addressed via the Road Network and Traffic Management Plan which is required to be prepared as part of the Development Plan process.

4.3.3 Design and Development Overlay (DDO55)

"Required changes to the schedule to the Design and Development Overlay (DDO55) are provided in Attachment B. The changes are required to address the following;

a. *The 'General' subdivision requirements need to facilitate the early delivery of public and active transport infrastructure.*
b. *The Traffic and Pedestrian requirements must include a provision that ensures conflicts between future shared pathways and high-volume traffic corridors are avoided.*
c. *A future Stormwater Management Plan must be developed in consultation with the Head, TfV, as drainage of the subject site relies on the existing culvert under the Princes Freeway as a legal point of discharge."*

These changes are noted and I expect they will be addressed by planning experts.

4.4 Other Submissions

I observe that numerous third party submissions were received by Council in relation to the Amendments. These submissions generally related to the following matters:

- Concern regarding the general traffic capacity in nearby residential streets.
- Concern regarding the level crossing capacity at Canterbury Road East and McClelland Avenue
- Concern regarding traffic impacts during Rennie Street floodway closure
- Concern regarding the capacity of Nasmyth Street which is unsealed in parts.
- Concern regarding the traffic capacity at the "6-ways" intersection to the north and traffic capacity at the existing Lara Lakes Primary School
- Concern regarding the capacity of the Avalon Road / Princes Freeway interchange.
- Concern regarding the traffic data used in previous traffic impact assessment.

I observe that the majority of these matters have been assessed in the previous response to the Council and DTP submissions. In response to the new matters, I observe the following:

- The updated transport impact assessment used data from updated traffic surveys which were completed in February 2026.
- The existing congestion at the McClelland Avenue level crossing is acknowledged and it is accepted that this may increase as Lara continues to grow. However, I do not consider that the development of the site has sufficient nexus with this level crossing. Moreover, as McClelland Avenue is a Major Council Road located in a Transport Zone 3, I consider that the capacity at the crossing is best addressed by the State Government as part of the Level Crossing Removal Program.
- The operation the “6-ways” intersection in the Lara township is similarly not considered to have sufficient nexus with the development of the site.

4.5 Summary

I consider that the key transport issues raised by Council, the Department of Transport and Planning and third parties have been appropriately considered and, where necessary, addressed through the updated Traffix TIA report and other supporting analysis contained in this report.

In particular, I am satisfied that the surrounding road network, including key corridors such as Rennie Street, Archimedes Avenue and Watt Street have sufficient capacity to accommodate the forecast traffic demands associated with the proposed residential and industrial development. While localised constraints have been identified (including Nasmyth Street conditions and the Rennie Street floodway), I consider these can be effectively managed through appropriate mitigation measures and do not represent fundamental barriers to development.

Furthermore, I consider that the nearby major transport infrastructure at the Avalon Road interchange and Canterbury Road East level crossing (with the provision of a pedestrian crossing as recommended in the ALCAM Risk Assessment) can be expected to operate within acceptable limits under post-development conditions

In this context, I hold the view the proposed residential and industrial development of the subject site is unlikely to result in a “*significant impact on the transport system”.*

5 Additional Commentary on Traffix Report

5.1 Preamble

I have undertaken a review of the key assumptions and inputs that have informed the updated traffic impact assessment presented in the Traffix Report (March 2026). The following sets out a review of the traffic generation assumptions, traffic distribution assumptions and the key traffic capacity findings.

5.2 Traffic Generation

5.2.1 Industrial

The Ratio Report and subsequent Traffix Report both determined the forecast traffic generation for the industrial land based on assumptions relating to site coverage (i.e. floor area / site area) and applied applicable traffic generation rates to the assumed floor areas.

A summary of the traffic generation assumptions and resultant forecast traffic generation from both reports is presented in **Table 5.1**.

Table 5.1: Ratio and Traffix Traffic Generation Estimates

Item	Ratio Report			Traffix Report		
Site Area	38.79ha			80.12ha		
Assumed Development Site Coverage	41.85%			41.85%		
Assessed Floor Area	162,300sqm			335,290sqm		
Traffic Generation Rate (movements per 100sqm)	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
	0.50	0.50	5.05	0.14	0.14	1.94
Forecast Traffic Generation	812vph	812vph	8,115vpd	469vph	469vph	6,504vpd

I observe that there are significant discrepancies between the various assumptions and inputs from the traffic generation calculations in the two reports. As such, I have undertaken an independent review of the forecast industrial traffic generation. My assessment is set out as follows.

Site Area

I presume that the Ratio Report adopts an incorrect site area for their assessment. I have undertaken an updated assessment below adopting a site area of 80.12ha.

Site Coverage

The Ratio Report adopted a site coverage estimate sourced from a single estate in Truganina. The site had an area of 92.2ha and floor area of 385,840sqm which equated to site coverage of 41.85%. I assume that the remaining 58.15% of land is used for roads, car parking, loading, landscaping, drainage, etc.

In comparison, the Traffix TIA report outlines a view, based on historical data, that a site coverage of 40% is typically adopted for industrial land uses. Notwithstanding this, the Traffix ITA continues to adopt the 41.85% presented by Ratio. I presume this approach was adopted by Traffix to maintain a conservative assessment.

For my assessment, I have opted to draw guidance from data contained in the 'Large Format Warehousing Data and analysis note' prepared by Transport for NSW (TfNSW) dated September 2024). I have used this source as it is the basis of the traffic generation rate adopted by Traffix in their assessment (as discussed below) which I support. I note that the TfNSW document includes survey data for 11 industrial estates throughout metropolitan Sydney and NSW. However, I have specifically referred to data presented for the 5 largest estates (greater than 100,000sqm floor area) which are most comparable to the proposed site. The relevant site coverage data is reproduced in **Table 5.2**.

Table 5.2: Large Format Warehousing Site Coverage - TfNSW

Site Location	Floor Area	Site Area	Site Coverage
First Estate	173,552sqm	37.5ha	46%
Horsley Drive Business Park	100,836sqm	21.4ha	47%
Oakdale South	331,657sqm	117.1ha	28%
Calibre Estate	109,906sqm	21.8ha	50%
Quarry Industrial Estate	127,922sqm	23.7ha	54%
Average (All Sites)			45%
Average (excluding Oakdale South)			49%

To adopt a conservative approach, I have excluded the Oakdale South site from my analysis as I understand that this site was encumbered by significant areas of biodiversity and non-developable land. Excluding this data point, the survey data indicates that a site coverage range of 46% to 54% and an average site coverage of 49%. In this context, I have undertaken an updated assessment below adopting a site coverage of 49%.

Traffic Generation Rate

The Ratio Report adopts traffic generation rates sourced from traffic surveys of a single industrial estate located in Truganina. The surveyed rates have then been benchmarked against traffic generation rates contained in the RMS Guide to Traffic Generating Developments (2002).

The Traffix Report adopts traffic generation rates from the most recent RMS Guide and Analysis Note (both dated 2024). The updated data indicates lower traffic generation rates which I consider is more reflective of the changed nature of industrial and warehouse uses in Australia over the past 2 to 3 decades (i.e. increased automation, greater emphasis on distribution compared to manufacturing, lower employee densities, etc.). The updated dataset also recognises that larger estates (greater than 100,000sqm of floor area) generate at lower rates compared to smaller estates.

I am satisfied that the adoption of the network peak traffic generation rate from the more recent RMS Guide is appropriate in this instance (as has been adopted in the Traffix TIA report). Specifically, I have assumed traffic generation rates of 0.14 movements per 100sqm for the peak hours and 1.94 daily movements per 100sqm.

Forecast Traffic Generation

An updated assessment of the forecast traffic generation from the proposed industrial land uses, adopting the above assumptions, is presented in **Table 5.3**.

Table 5.3: Updated Forecast Traffic Generation Estimate

Item	Eukai		
Site Area	80.12ha		
Assumed Development Site Coverage	49%		
Assessed Floor Area	392,588sqm		
Traffic Generation Rate (movements per 100sqm)	AM Peak	PM Peak	Daily
	0.14	0.14	1.94
Forecast Traffic Generation	550vph	550vph	7,616vpd

Table 5.3 indicates that the industrial development of the site can be expected to generate a peak hour traffic generation of 550vph and a daily traffic generation of approximately 7,620vpd. I observe that these estimates sit between the Ratio (812vph & 8,115vpd) and Traffix (469vph & 6.504vpd) estimates.

5.2.2 Residential

The Traffix Report adopted a peak hour and daily traffic generation rate of 0.8 and 8 movements per dwelling, respectively. The rates were adopted from the updated RMS Guide (2024). The Ratio Report also adopted these rates for its cumulative assessment of traffic generation from the combined rezonings.

I observe that the rates are slightly higher than those typically adopted by many metropolitan and regional PSPs (approximately 0.7vph and 7vpd per dwelling). Notwithstanding this, I am supportive of the adopted residential traffic generation rates given the subject site will likely have limited access to public transport services in the near future.

Application of the above rate to the proposed residential yield of 666 residential dwellings indicates a forecast peak hour traffic generation of approximately 530vph and a daily traffic generation of approximately 5,330vpd.

5.2.3 Regional Sports Reserve (possible)

I understand that a possible regional sports reserve comprising football, cricket, soccer and tennis facilities is being considered to occupy 11.21ha of the industrial precinct.

A first principles assessment based on forecast number of participants, mode share and car occupancy has been undertaken by Ratio and indicates a forecast weekday PM peak hour traffic generation of 170vph. Based on the available information, I am satisfied that the adopted regional sports reserve traffic generation estimates are reasonable.

However, I observe that both Ratio and Traffix appear not to have reduced the extent of the industrial area as a result of sports reserve. I consider this assumption to be unnecessarily conservative as I presume that the delivery of the sports reserve would reduce the amount of industrial developable land. I have undertaken an updated assessment below which reduces the industrial extent with the regional sports reserve included.

5.2.4 Combined Development

A summary of the forecast peak hour traffic volumes from each of the assessments is provided in **Table 5.4**.

Table 5.4: Ratio, Traffix and Eukai Peak Hour Traffic Generation Estimates

Item	Ratio		Traffix		Eukai	
	No Sports Reserve	With Sports Reserve	No Sports Reserve	With Sports Reserve	No Sports Reserve	With Sports Reserve
Industrial	812	812	469	469	550	473 [1]
Residential	-	-	533	533	533	533
Sports Reserve	-	170		170		170
Total	1,365	1,535	1,002	1,172	1,103	1,176

[1] Assuming the industrial site area has reduced by 11.21ha (i.e. the extent of the regionals sports reserve).

Table 5.4 indicates that my assessment of the anticipated traffic generation of the proposed development is consistent with the Traffix TIA report, but notably below the Ratio estimate. In this regard, I consider that the traffic generation used in the Traffix TIA report is appropriate. In contrast, I consider that that the Ratio estimate is based on flawed assumptions and inputs and significantly overestimates the likely traffic generation of the proposed development.

5.3 Traffic Distribution

Four key vehicle routes have been identified servicing the subject site, as follows:

5. To/from Princes Freeway via Rennie Street (south) and to/from Geelong via Rennie Street (south) and Shell Parade
6. To/from Princes Freeway via Rennie Street (north):
    - Via Nasmyth Street, Watt Street and Avalon Road, or
    - Via Archimedes Avenue and Watt Street and Avalon Road
7. To/from Forest Road South (to Geelong and Lara) via Canterbury Street East
8. To/from Lara Town Centre via Rennie Street and McLelland Avenue

The Traffix TIA report distributes the residential and industrial traffic along the above routes based on a variety of considerations, including:

- Trip purpose (work, education, shopping, etc.)
- Key land uses (schools, shopping centres, railway station, etc.)
- Any vehicle restrictions (load limits on the Hovells Creek bridge)
- ABS data (employee work location)
- Vehicle access to the Princes Freeway interchanges.

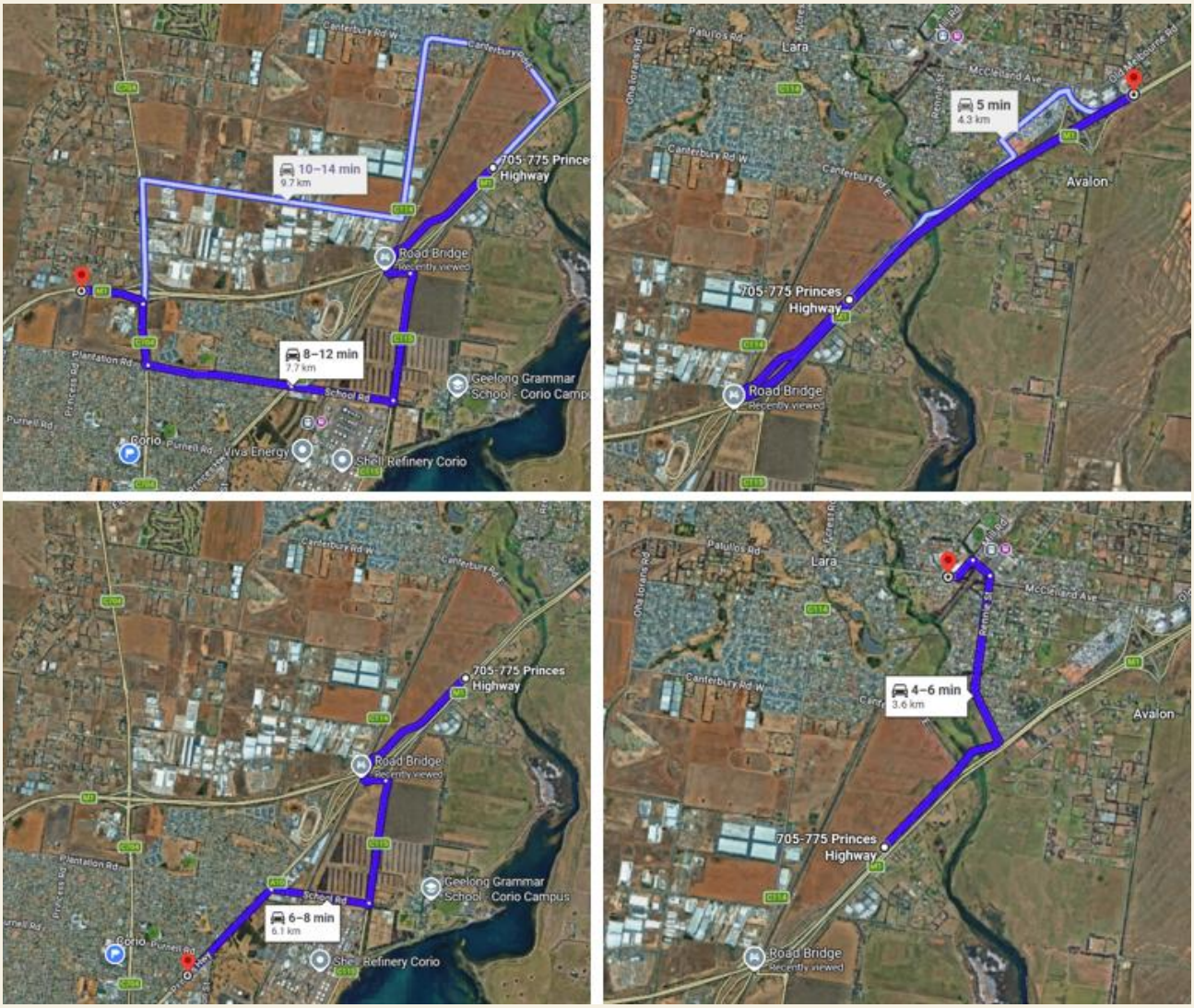
To assess the appropriateness of the assumed distributions, I have undertaken an assessment using Google Maps to determine the quickest route for vehicles accessing key destinations form the southern end of the site (representative of the industrial precinct). The mapping data considers the speed of each of the roads, rather than just the length travelled.

The identified routes confirm the following (from top left clockwise):

- The quickest route to the Geelong Ring Road is via Rennie Street (south), School Road, Plantation Road and Bacchus Marsh Road.
- The quickest route to the Princes Freeway (northeast / Melbourne) is via Rennie Street to the south and onto the Princes Freeway.
- The quickest route to Lara Town Centre is via Rennie Street (north) and McClelland Avenue. It is observed that there are load limits on the Hovells Creek bridge which would limit access along this route to light vehicles only.
- The quickest route to Geelong is via Rennie Street (south), School Road and the Princes Highway.

The Google Maps travel time information is presented in Figure 5.1.

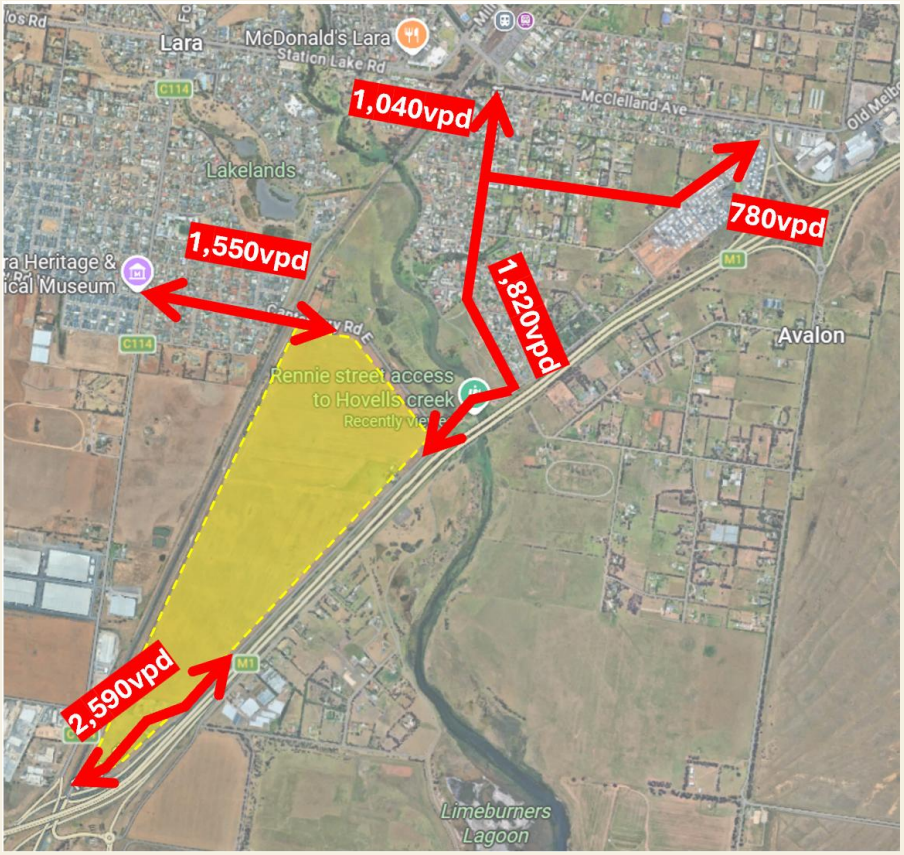
Figure 5.1: Google Maps Travel Time Data



The adopted traffic distributions for the residential traffic, industrial traffic (light vehicles) and industrial traffic (heavy vehicles) are presented in Figure 45, 46 and 47 of the Traffix Report. Based on my research, I am satisfied that the adopted traffic distributions are acceptable for assessment purposes.

Based on the distributions outlined in the Traffix TIA report, the forecast additional daily traffic volumes on the surrounding road network (vehicle access routes identified above) are presented in **Figure 5.2**. I note that the below figures include the regional sports reserve (i.e. higher traffic generation estimate).

Figure 5.2: Forecast Traffic Generation and Distribution



5.4 Traffic Capacity Assessment

5.4.1 Intersection Analysis

I note that the Traffix TIA report includes extensive SIDRA intersection modelling for existing and post development conditions at key intersections providing access to the subject site. The key findings from the modelling are summarised below:

- The existing conditions modelling indicates that the surrounding road network operates well (generally LOS A) – refer to the relevant discussion from the Traffix TIA report (Section 3.4.3).

> **All intersections operate under Level of Service A ('Excellent')** with minimal delays and queues, except for the Forest Road South/Canterbury Road East/ Canterbury Road West roundabout, which operates at a LoS B with a DOS of 0.66 during the school peak hour. This intersection is still considered to operate at a 'Very Good' level of service.

- The post development modelling (including the regional sports precinct) indicates that with the exception of the Forest Road South / Canterbury Road intersection, other intersections are forecast to continue to operate acceptably – refer to relevant discussion from the Traffix TIA report below (Section 4.8):

> Our analysis indicates that the majority of the intersections will remain operating under a Level of Service A ('Excellent') at AM Peak, PM Peak, school pick-up time and during the weekend, except for the intersections discussed below which experience minor decreases to their performance.

- The post development modelling for the Forest Road South / Canterbury Road intersection (including the regional sports precinct) indicates that the intersection is forecast to operate with a LOS C, with modest increases to the forecast average delays and 95th percentile queue lengths compared to existing conditions – refer to relevant discussion from the Traffix Report below (Section 4.8):

Table 11: Impact to Forest Road South/Canterbury Road East/Canterbury Road West Intersection

Critical Movement on Approach	Existing Conditions			Post-Development Conditions			Difference		
	DoS (LoS)	Average Delay (sec)	95th %ile Queues (m)	DoS (LoS)	Average Delay (sec)	95th %ile Queues (m)	DoS (LoS)	Average Delay (sec)	95th %ile Queues (m)
School Peak Hour									
South Approach	0.664 (B)	7.7	44.8	0.798 (C)	12.4	82.2	+0.134	+4.7	+37.4
PM Peak Hour									
South Approach	0.656 (B)	7.3	42.5	0.788 (C)	11.3	78.2	+0.132	+4.0	+35.7

Overall, I observe that the SIDRA Intersection modelling completed by Traffix indicates that the surrounding intersections are forecast to operate with a LOS C or better under post development conditions. In this context and noting that I consider the Traffix traffic generation estimate and distributions to be appropriate, I am satisfied that adequate capacity is likely to be exist at the existing intersections in the vicinity of the site to accommodate the forecast traffic generation from the subject site.

5.4.2 Midblock Capacity

I note that the Traffix TIA report also includes an assessment of the existing and post development midblock daily traffic volume capacity of key roads servicing the subject site.

As outlined earlier in footnote 2, I note that the midblock capacities adopted in the Traffix assessment are based on capacities defined in the City of Greater Geelong Municipal Road Management Plan (dated 25th May 2021). However, I observe that the capacity thresholds have been removed from the most recent version of the document (Version 9.0, adopted 28th October 2025). In this context, I consider it appropriate to defer to the road capacities identified in Clause 56.06 of the Greater Geelong Planning Scheme.

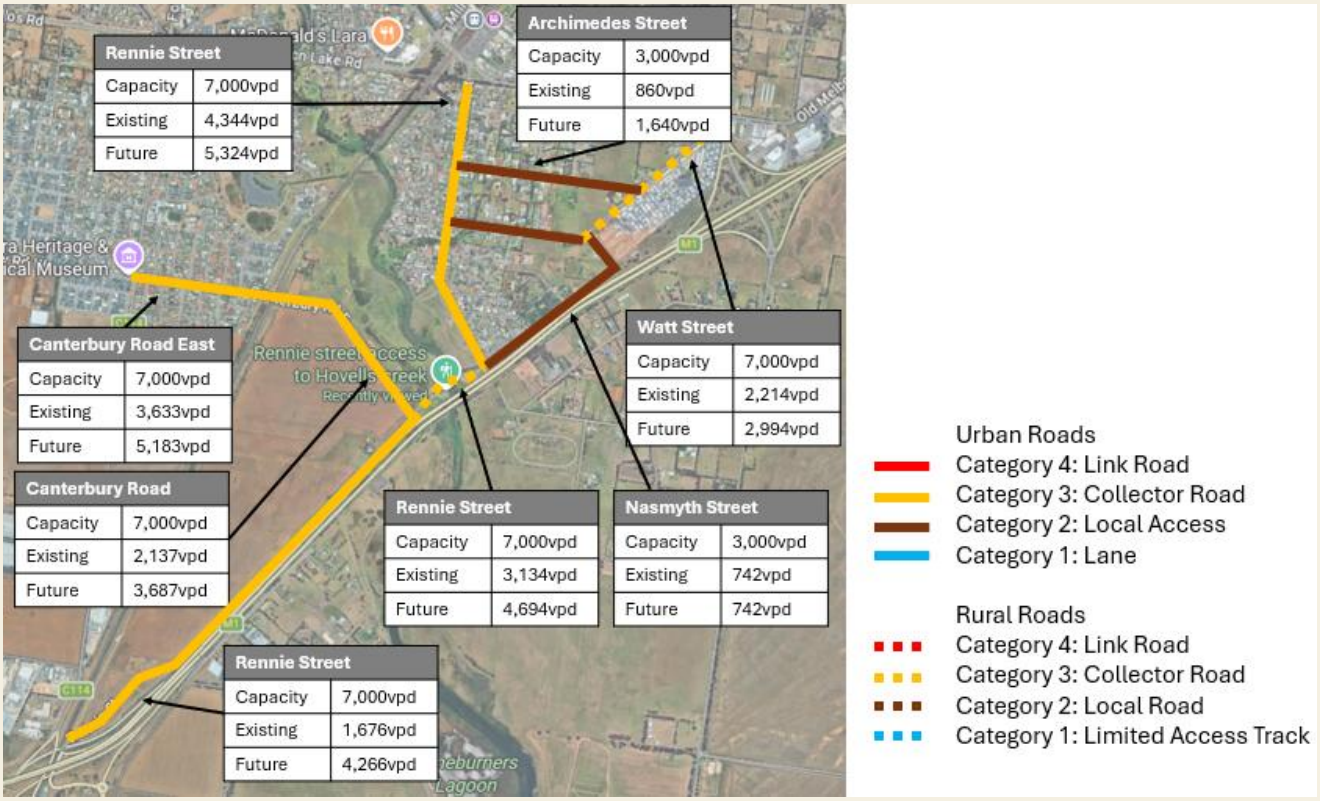
In this respect, I note that Clause 56.06 defines the following daily traffic volume capacities:

- Local Access Road: up to 3,000vpd
- Connector Road: up to 7,000vpd

A summary of the daily traffic volume capacities, existing daily traffic volumes and post development traffic volumes for key roads surrounding the subject site are presented in **Figure 5.3**.

Importantly, I note that this assessment assumes that Canterbury Road East (west of the railway line) and Rennie Street (south of Canterbury Road East) are classified as Collector Roads and have a daily traffic volume capacity of 7,000vpd. I consider this appropriate given the characteristics of these roads.

Figure 5.3: Daily Traffic Volume Capacity Assessment



[1] As outlined above, this figure adopts the same capacities for roads to the existing version presented in Section 2.4 of this report with the only exception being that I have adopted a capacity of 7.000vpd for Canterbury Road East between the railway line and Rennie Street.

The assessment identifies that the post development traffic volumes (for the most conservative scenario – i.e. with the regional sports centre) on each of the roads surrounding the subject site are forecast to be less than their theoretical capacity. As such, I am satisfied that adequate capacity is provided at each of the midblock locations to accommodate the forecast traffic generation from the subject site.

5.4.3 Summary

The key findings from the Traffix TIA report are:

- The traffic analysis indicates that each of the surrounding intersections are forecast to operate with LOS C or better for each of the scenarios assessed.
- The traffic analysis indicates that each of the key local roads surrounding the site are forecast to operate below their theoretical midblock capacities.
- The proposed site access points can be designed in accordance with relevant design requirements from the Austroads Guide.
- The provision of additional pedestrian controls is required at the Canterbury Road East level crossing as part of the future development. This position is also concluded as part of the ALCAM Risk Assessment completed for the level crossing.

Finally, I observe that the DPO requirements for the residential land (Amendment C444) require the preparation of a Development Plan including the preparation of a Road Network and Traffic Management Plan. The Plan requires the following to be assessed as part of the Development Plan approval and prior to the planning permit stage:

- *"An internal road network with a high level of access for all vehicular and non-vehicular traffic and which responds to the topography.*
- *Details of all necessary upgrades to the surrounding road network to urban standards including any required upgraded intersection treatments or level crossings informed by a Traffic Impact Assessment.*
- *Identification of any land required for future upgrades of the Canterbury Road East level crossing.*
- *Identification of locations where separate paths for pedestrians and cyclists are required to connect to the wider movement network including along Canterbury Road East.*
- *The provisions of safe egress routes during a 1% AEP flood event."*

In summary, I am satisfied that any detailed transport matters that have not been addressed as part of the Panel Hearing can and will be resolved as part of the Development Plan approval process.

6 Summary of Opinion

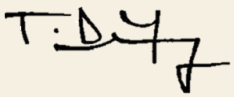
Based on the analysis and discussion contained in this report, I note the following:

- The subject land is strategically located within an identified urban growth corridor and is proximate to key transport infrastructure, including the Princes Freeway, Geelong Ring Road and established arterial connections.
- The surrounding road network comprises a hierarchy of Collector and Local Access Roads that provide multiple connections to regional and local destinations. Importantly, the existing network currently operates within its theoretical capacity, with demonstrated latent capacity available to accommodate future growth. Notwithstanding this, I acknowledge there are some existing constraints in the vicinity of the site such as the Rennie Street floodway and Nasmyth Street.
- In relation to key transport matters raised through submissions, I am satisfied that these have been appropriately considered and addressed. Specifically:
    - I consider that the surrounding road network, including Rennie Street, Archimedes Avenue and Watt Street, has sufficient capacity to accommodate forecast traffic demands associated with the development.
    - I consider that localised constraints, such as the condition and function of Nasmyth Street and the operation of the Rennie Street floodway, can be effectively managed through typical and implementable mitigation measures and do not represent barriers to development.
    - I consider that the nearby major transport infrastructure at the Avalon Road interchange and Canterbury Road East level crossing (with the provision of a pedestrian crossing as recommended in the ALCAM Risk Assessment) can be expected to operate within acceptable limits under post-development conditions.
- The planning framework accompanying the Amendments require the preparation of additional reports that will help ensure that any outstanding and/or detailed transport matters, such as internal road layouts, intersection treatments, active transport provision and public transport integration, will be resolved through the Development Plan and subsequent planning permit processes.
- The Traffix TIA report prepared to present a cumulative assessment of the Amendments contains reasonable traffic generation rates, distribution assumptions and capacity analysis. This analysis confirms that surrounding intersections are expected to operate at acceptable Levels of Service (LOS C or better) and that midblock capacity limits are not expected to be exceeded under post-development conditions.

In the context of the guidance contained in Planning Practice Note 46 (Strategic Assessment Guidelines), I also consider that the Traffix TIA report, as well as this Evidence Statement, indicate that the Amendments appropriately address the relevant strategic questions. In particular, I consider that the reports confirm that the views of relevant agencies, including the Department of Transport and Planning, have been considered through the preparation of an updated transport assessment and that the proposed development is unlikely to result in a significant impact on the transport system.

7 Declaration

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



Tim De Young

Director, Eukai

7 Apri 2026

Appendix A

Tim De Young CV

Tim De Young

Tim is a transport planner and chartered professional civil engineer with over 22 years of experience in Victoria and New South Wales. He is one of the leading transport advisors to both the private and public sector for major precincts, including shopping centres and other urban renewal areas, and complex land use projects. Prior to joining Eukai in 2024, Tim held senior leadership positions at some of Australia's largest transport planning and traffic engineering consultancies.

CONTACT DETAILS

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EDUCATION

Bachelor Of Engineering (Civil),
The University of Melbourne

Bachelor of Commerce,
The University of Melbourne

Master of Business Administration,
Monash University

AFFILIATIONS

Fellow of Engineers Australia

Fellow of Roads Australia

Member of Victorian Planning & Environmental Law Association

PROJECT EXPERIENCE

In his current and former employment, Tim has led teams on the following projects:

- **Suburban Rail Loop East Precinct Structure Planning Transport Peer Review** (SRLA)
- **Ballarat West PSP / DCP Review Panel Hearing** (Ballarat Council)
- **Bannockburn South East PSP / DCP Panel Hearing** (Golden Plains Shire Council)
- **Melton East PSP Panel Hearing** (Yale Investments)
- **Casey Fields South and Devon Meadows PSP Panel Hearing** (Casey South Landowners)
- **La Trobe University 'City of the Future' – master plan input & developments** (La Trobe University & Plenary)
- **Chadstone – transport advisory services, master planning, panel hearings & multiple developments** (Vicinity Centres)
- **Box Hill Central – master planning, panel hearing & developments** (Vicinity Centres)
- **Victoria Gardens – transport strategy, master planning, panel hearing & developments** (Salta Properties & Vicinity Centres)
- **Preston Market – master planning & panel hearing** (Salta Properties)

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