Prepared for
Pacific National Pty Ltd
ABN: 39 098 060 550

Little River Logistics Precinct

Transport Impact Assessment

26-May-2023
Transport Impact Assessment
Doc No. 60677282-TR-RP-0001
Commercial-in-Confidence

Little River Logistics Precinct

Transport Impact Assessment

Client: Pacific National Pty Ltd

ABN: 39 098 060 550

Prepared by

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Quality Information

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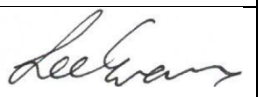
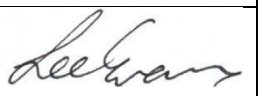
Reviewed by Benjamin Mentha / James Warfe

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	29 July 2022	First Draft Report	Adrian Koorn Principal Transport Engineer	
B	17-Oct-2022	For client review	Lee Evans Project manager	
0	15-Dec-2022	Final	Lee Evans Project manager	
1	26-May-2023	Final	Lee Evans Project manager	

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Executive Summary

AECOM has been commissioned by Pacific National to undertake a Transport Impact Assessment (TIA) for the proposed Little River Logistics Precinct (the Precinct). The purpose of this report is to assess the potential traffic impacts associated with the Project to inform the preparation of a Planning Scheme Amendment and support environmental assessments.

Pacific National is proposing to relocate their current freight terminal from Dynon Road, West Melbourne (Dynon) in order to meet future demands for interstate containerised rail freight. The proposed Project site is located at 132A Old Melbourne Road, Little River, Victoria and will cover approximately 375 hectares with rail terminals, freight handling, warehousing and supporting activities, along with 205 hectares of biodiversity offset land. The proposed site is located outside of the Urban Growth Boundary and approximately 2km east of the Little River township.

The site is aligned to existing rail infrastructure to enable a new parallel freight stabling facility and terminal to be built with access to existing rail and freeway infrastructure. The Precinct will have three access locations, all from Little River Road.

Subject to approvals, the terminal is expected to start transitioning services from Dynon to Little River and commence operations in 2029.

The TIA has determined the following:

- Existing conditions:
  - The local road network is operating well under capacity
  - The local road network, including the Little River Road interchange and overpass, is not currently approved for use by B-Double vehicles. This will require engagement with the relevant authorities (NHVR, DTP and Council) to gain approval for B-Double use on this area of the network.
- Impact assessment confirmed:
  - During the construction phase, the existing road network has sufficient capacity to accommodate the forecast traffic volumes
  - In 2029, the ‘Initial’ road network has sufficient capacity to accommodate the forecast traffic volumes
  - In 2035, the ‘Initial’ road network is sufficient however it is expected that upgrades will likely be required, shortly after 2035, to accommodate the forecast traffic volumes subject to warehouse take up. The ‘Interim’ road network – which includes upgraded Princes Freeway Interchange – has sufficient capacity to accommodate the forecast traffic volumes
  - In 2050, the ‘Ultimate’ road network – including all upgrades to Princes Freeway interchange and along Little River Road – has sufficient capacity to accommodate the forecast traffic volumes
- The following mitigations measures were identified:
  - Construction Phase Traffic Management Plan (required prior to construction commencing)
  - Duplication of Little River Road from western side of Princes Freeway Interchange to the western access of the Precinct (planned to be delivered in 2029)
  - Formed shoulders along the length of Little River Road to facilitate safe movement of B-Double vehicles (required in 2029)
  - Widening of the Little River Road / Princes Freeway Interchange ramps (planned to be delivered in 2029)
  - Building signalised intersections – with adjacent U-turn pocket – at central and western access points (planned to be delivered in 2029)
  - Convert Kangaroo Drive intersection to signalised (planned to be delivered in 2029)

- Build new interchange overpass bridge with one eastbound lane and convert existing bridge to two westbound lanes (planned to be delivered in 2035)
- Signalisation of intersection at the Little River Road / Princes Freeway Interchange East (planned to be delivered in 2035)
- Building signalised intersection – with adjacent U-turn pocket – at eastern access point

  (planned to be delivered in 2048)

Any commitment to the interchange upgrades should be contingent on understanding the delivery timeframes for the Outer Metropolitan Ring Road (OMR). As the delivery of that project, including the demolition of the existing Little River Road overpass and construction of a new freeway interchange, will remove the need for these mitigation measures.

Subsequent assessments are recommended upon finalisation of the internal operations and traffic distribution at the access points of the Precinct. Updated traffic assessment will also be required in the event of changes to the wider network and upon further consultation with DTP regarding Princes Freeway performance, and OMR staging and delivery timeline as traffic volume distribution will be significantly affected.

1.0 Introduction

1.1 Context

AECOM Australia Pty Ltd (AECOM) has been commissioned by Pacific National Pty Ltd (PN) to undertake a Traffic Impact Assessment (TIA) to assess the impacts of a proposed Planning Scheme Amendment for an intermodal freight terminal and integrated warehousing precinct on Little River Road, Little River, Victoria (the site).

The Precinct will serve as the future Victorian terminal for Pacific National and the development will support the future growth and development of the Victorian economy.

The core components of the Precinct masterplan are:

- An interstate intermodal terminal with an ultimate capacity of more than 2 million twenty-foot equivalent unit (TEU) per annum.
- An import/export (IMEX) terminal with a capacity of approximately *500,000* TEU per annum.
- Holding tracks, staging lines and arrival/ departure tracks.
- Terminal Administration/Operations Centre – Offices located in Interstate Terminal providing management and security, rail and container handling equipment control centres, maintenance and other business services.
- Access to the Australian Rail Track Corporation (ARTC) Interstate Freight Network Via rail bridges (flyovers) over the Melbourne-Geelong passenger railway
- Locomotive provisioning facility – part of PN's nationwide network to provision locomotives
- Wagon maintenance facility – part of PN's nationwide network to maintain wagons
- Warehousing and commercial precinct
- External road network upgrades
- Biodiversity Offset area

The master planning was informed by a range of constraints and design principles. This report represents one of a number of specialist technical assessments used to identify site constraints and provide an assessment of the masterplan's impacts on the external road network and recommended mitigation measures for risks associated with traffic impacts. In addition, the master planning was informed by the following considerations:

- Commercial – Maximising the land available for commercial use near the intermodal terminals and reducing the costs associated with supply chains
- Rail connections – Designing to meet the operating standards of the Victorian Rail system
- Staged Development – Designing to enable staging as terminal demand increases over time and the market demand for industrial development.

The current and future road and rail network surrounding the site has been determined by PN with consideration of the demand induced by the Precinct, as well as the general growth in background transport demand.

While a number of masterplans have been presented, a range of alternative terminal layouts have also been considered. However, site constraints combined with the need for operational efficiency (e.g. limiting the need for train movements to access the terminals) will influence the ultimate masterplan concept.

1.2 Purpose of this report

The TIA report forms part of the land use planning and environment issues consideration for the Project.

The purpose of this report is to:

- Investigate and understand the existing transport network adjacent the proposed development.
- Undertake an assessment of transport impacts during construction and operation for the proposed development and potential road and rail connections.
- Identify constraints on the development and the implications they may have on the preferred layout for the site.
- Recommend mitigation measures to be incorporated into the project design to manage the identified project impacts.

1.3 Assumptions and limitations

It should be noted that this TIA has been based on data that has been provided by PN and information currently available at the time of writing.

It is anticipated that as the design of the project progresses, some changes to the proposed design and layout may occur. Where possible, conservative estimates have been adopted throughout the study, and as such, the findings outlined in this report are expected to remain valid should minor changes to the project arise.

This report primarily focusses on the impacts to the external road network and commentary on the internal road network operations. Planning and design of these elements are to be addressed in other technical reports.

At the time of writing, all assumptions and limitations referred to in this assessment have been confirmed with PN.

2.0 Project description

2.1 Overview

Pacific National is proposing to develop a 'state-of-the-art' intermodal freight terminal and warehousing precinct in Little River, Victoria (the Little River Logistics Precinct (**the Precinct**)) to replace its existing terminal facilities at the Melbourne Freight Terminal (MFT) in Dynon and handle the projected growth for containerised interstate freight services.

Capacity constraints at the MFT and other intermodal terminals in Dynon cannot meet the future demands for interstate containerised rail freight. Further, existing terminal leases in Dynon are not expected to be renewed beyond 2031. For these reasons, Pacific National is planning for its terminal operations in Dynon to cease by 2031 – it will need to start transitioning services from this location in around 2029, hence it requires a new terminal to handle interstate rail freight by this time.

The Inland Rail Project is being delivered to improve the efficiency in moving freight along the eastern seaboard of Australia by rail and reduce reliance on road transport. The Inland Rail will accommodate double-stacked trains of 1,800m in length and is expected to drive a shift in interstate freight from road to rail. Terminal operations at Dynon cannot handle double-stacked trains, or trains of 1,800m in length efficiently.

New terminals are required to meet future demands for rail freight transport and future terminals will need to handle 1,800m long double-stacked trains and connect to the Inland Rail.

The project is seeking to achieve the following objectives:

- Provide intermodal capacity options to meet Pacific National's Melbourne intermodal freight demand forecasts to 2050 and beyond.
- Deliver a cost-competitive and efficient rail supply chain, including delivering the outcomes of Inland Rail, for our customers that generate increased rail mode share, and help to meet Pacific National's Intermodal Growth Strategy.
- Maximise the options for the co-location of complementary functions including maintenance facilities and warehousing.
- Achieve optimum integration with the surrounding community, the broader transport network, and the environment.
- Deliver enhanced safety outcomes

The Precinct will deliver a new, open access, interstate intermodal terminal with the capacity to ultimately process more than 2 million twenty-foot equivalent units (TEUs) and handle 1,800m long, double-stacked trains. The interstate terminal will incorporate integrated 'Cargolink' warehousing that enables freight to be transported directly between the terminal and warehouses, which removes a step in the supply chain, improves supply chain efficiency and reduces heavy vehicle movements on public roads.

The Project also includes for an open access import/export (IMEX) terminal to shuttle freight on rail to/from the Port of Melbourne, and the future Bay West Port, which is planned for the future along the western side of Port Phillip Bay, nearby the Project site. The Project will be supported with general warehousing, which can capture the convenience of being located close to the terminal, and associated rail functions, commercial activities and other services.

The Project will cover approximately 375 hectares with rail terminals, freight handling, warehousing and supporting activities, along with 205 hectares of biodiversity offset land (see Figure 1).

It is planned to deliver the Project in stages over 25+ years. The first stage will include construction of a part of the interstate terminal, rail connections to the adjacent freight line, some warehousing, road connections and upgrades, and the creation of the biodiversity area – the latter proposed to rehabilitate back to its original Western Grassland state.

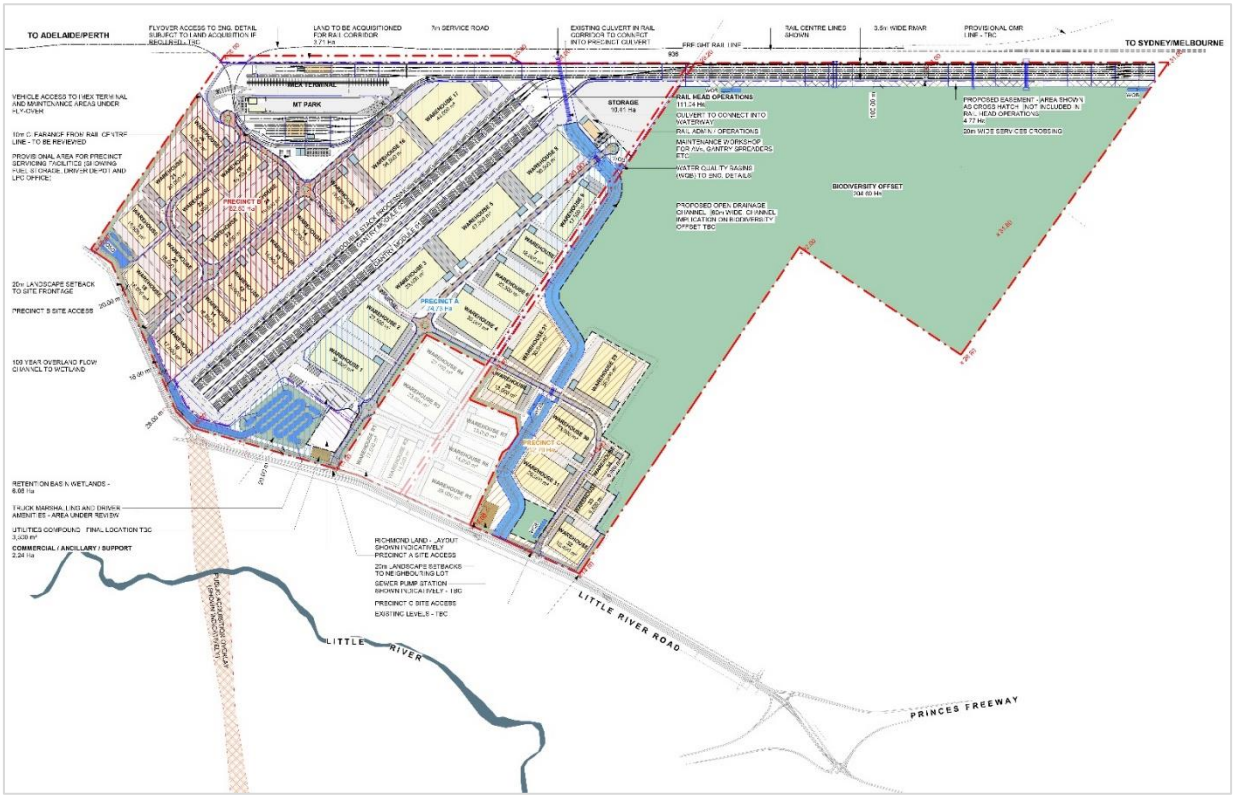


Figure 1 Little River Logistics Precinct Masterplan

An extensive site selection process has been undertaken to find a location that can meet the various needs to deliver a new interstate terminal and integrated warehousing precinct. The Project is located at 132A Old Melbourne Road, Little River and is well-located to existing and future transport infrastructure.

The Project site has approximately 3.9km of rail frontage to the existing Melbourne/Geelong rail corridor, which contains a dedicated freight line operated by ARTC, and is less than 1.5 km from the Princes Freeway (M1). The future Outer Metropolitan Ring Corridor (a new multi-modal corridor for both road and rail) is planned to the north of the site and will enable double-stacked train access to the Inland Rail once constructed. The potential future Bay West Port is nearby to the east and the Avalon Airport Precinct is to the south (see Figure 2).

Figure 2 Future associated infrastructure to Little River Logistics Precinct

The Project will adopt international best practice standards in integrated freight terminal design with associated warehousing. The Project will also deliver an interstate terminal that can contribute to meeting the future demands for interstate rail freight between Melbourne and other capital cities around Australia by using the increased capacity allowances in the Inland Rail Project.

Subject to the timing of approvals, the Project can be delivered to meet the timing of the planned closure of terminal operations at Dynon, and is a much needed piece of freight and logistics infrastructure that will support Melbourne's role in Australia's freight network and meet the future demands for interstate rail freight.

2.2 Project details

The Little River Logistics Precinct will include:

- an open-access interstate intermodal terminal with a capacity of more than 2 million TEU per annum:
- an open-access IMEX terminal with a capacity of approximately 500,000 TEU per annum:
- integrated terminal Cargolink warehousing and general warehousing comprising approximately 890,000m^2 of warehouses with offices:
- commercial activities and support services for workers and visitors;
- terminal administration/operations centre to provide management and security, rail and container handling equipment control, maintenance and other business services;
- holding tracks, staging lines and arrival/departure tracks to manage the loading and unloading of trains;
- rail connections to the Western Freight Line (part of the ARTC Interstate Freight Network) with rail bridges (flyovers) over the Melbourne-Geelong passenger railway;
- locomotive provisioning and wagon maintenance facilities;
- external public road network upgrades to accommodate the increased traffic generated by the Project, and
- conservation of a biodiversity offset area to enhance and protect areas of environmental value.

The Precinct will operate 24 hours a day seven (7) days a week.

2.3 Land details

The site which is the subject of the Project includes land within three properties with a total area of approximately 580 hectares. The property and parcel information is shown in Table 1 below.

Table 1 Property and Parcel Details

Property	Lot and Plan Number:	Land Area (ha)
Part of 132A Old Melbourne Road, Little River	Lot 2\TP820002	104.4147
	Lot 4\TP820002	2.8375
	Lot 5\TP820002	13.6242
	Lot 2\LP146084	133.9394
	Lot 1\TP820002	11.3854
	Lot 2\PS513032	122.9874
	Lot 6\TP820002	155.4701
425 Little River Road, Little River	Lot 1\PS449895	4.4753
471 Little River Road, Little River	Lot 1\PS513032	26.6281
Government Road (Allot. 2032 PARISH OF COCOROC)	2032\PP2401	4.5 (approx.)
TOTAL:		**580.2621**

Note: Land Areas subject to survey

Most of the land within the site forms part of 132A Old Melbourne Road, Little River. There are two parcels in 132A Old Melbourne Road to the south of Little River Road identified as Lot 3\TP820002 and Lot 2\LP141768 that are not part of the site for this project.

The site includes a Government Road that is 20 metres in width and is part of an unmade road. Application for the land to be incorporated into the Project site will be made as part of the Project approvals.

2.4 Site description

The site is bounded by Little River Road to the south and a railway corridor containing the Melbourne-Geelong passenger line and ARTC's Western Freight Line to the north. The Belfridges 1 Track and West Back 1 Track form the eastern boundary and agricultural land abuts the western boundary.

The site is generally flat and comprises rural farmland that is partially used for agricultural cropping and partially used for grazing. Areas in the south and west are predominantly cropped with the exclusion of land that is constrained due to exposed rock or localised topographical features. Land within the northeast portion of the site is not disturbed by cropping activity and has more natural landforms with exposed rock.

The site contains two residential properties and sheds and structures to support agricultural activities within the site and locality. Both residences and agricultural buildings are accessed from Little River Road to the south.

A watercourse named Ryans Swamp Drain traverses the site in a north-south orientation and only conveys flows after rain events. Stormwater flows enter the site from the north through a culvert under the adjoining railway. Stormwater initially flows through the site within a defined channel which becomes less defined in the southern portion of the site where stormwater flows sheet over land that is cropped. Drainage flows through Ryans Swamp Drain leave the site southwards to Little River Road on the eastern side of the residences. There is a small watercourse in the northeast portion of the site and an undefined drainage line in the western portion of the site. There are numerous farm dams scattered through the property located within the drainage lines.

The site is generally devoid of trees with only a few small, isolated tracts of trees in the rural paddocks and windrows around the residences and farm buildings. The areas not used for cropping contain a mixture of native grasses and shrubs and weeds.

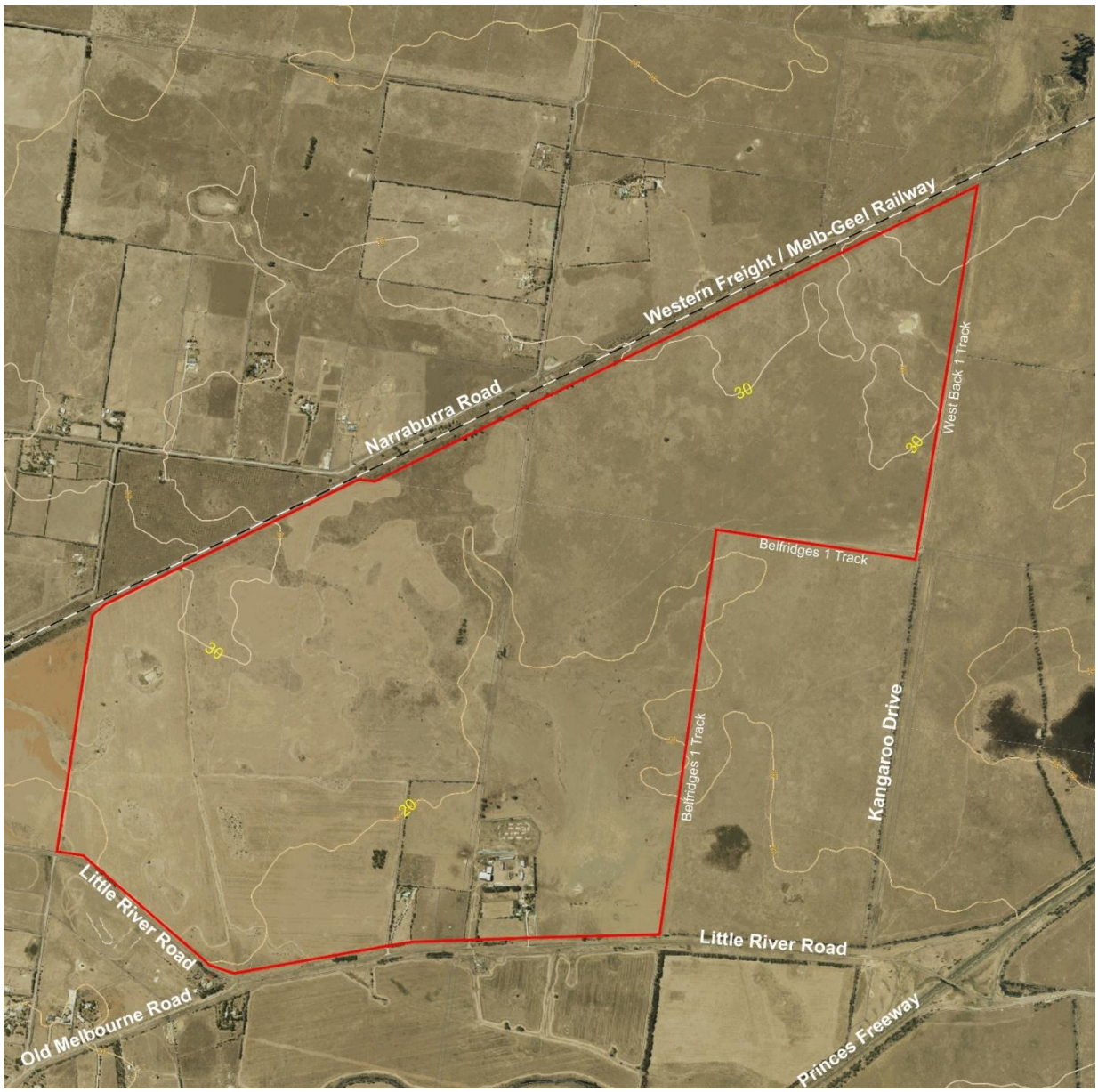


Figure 3 Little River Site

2.5 Site context

The site is located in Little River within the City of Wyndham Council area. The site is located between Melbourne and Geelong and is adjacent to the Princes Freeway.

Local Context

The site is east of the Little River township and the Princes Freeway is to the south. Little River Road connects the township and the site to the Princes Freeway interchange to the east. The site is within a predominantly rural area with the physical edge of Melbourne's urban growth area 4km to the northeast.

The You Yangs Regional Park is to the west, Avalon Airport is to the southwest and the Melbourne Water Western Treatment Plant is to the south east. The Western Grasslands Conservation Reserve is

to the north and the Werribee landfill site and Cherry Creek Youth Detention Centre are to the east. Distances to local locations are in Table 2.

Table 2 Distance to Local Locations

Location	Distance
Little River (Train Station)	1.8km
You Yangs (Flinders Peak)	8.4km
Avalon Airport	8km
Western Grasslands Conservation Reserve	200m
Western Treatment Plant	8km
Cherry Creek Youth Detention Centre	700m
Werribee Landfill	4.5km

Note: Distances are approximate

The site is surrounded by agricultural and small rural holdings to the north, south and west. Land to the east forms part of the Melbourne Water holding for the Western Treatment Plant and contains the Cherry Creek Youth Detention Centre.

Little River Road provides direct access to the Princes Freeway via an interchange, which is 1.2km from the nearest point of the site. Little River Road is a rural road with a single lane in either direction.

Regional Context

The Melbourne CBD is approximately 40km to the northeast and the Geelong CBD is approximately 26km to the southwest. Distances to regional locations are in Table 3.

Table 3 Distance to Regional Locations

Location	Distance
Melbourne CBD	40km (48km by road)
Geelong CBD	26km (29km by road)
Port of Melbourne	39km (48km by road)
Melbourne Freight Terminal (Dynon)	38km (44km by road)
Truganina	26km (31km by road)

Note: Distances are approximate

The site has convenient access to the Princes Freeway that connects to Melbourne's major motorway and arterial road network, and is part of the State's Principal Freight Network. The site is also adjacent to the Western Freight Line that is controlled by ARTC. The Western Freight Line transports rail freight between Melbourne and key destinations to the west of Adelaide and Perth, and until rail component of the Outer Metropolitan Ring Corridor is built in the future, will also provide access to Sydney and Brisbane via ARTC's network through metropolitan Melbourne.

2.6 Access arrangements

The proposed terminal has three access locations, all from Little River Road:

- Western access (located approximately 500 metres west of Old Melbourne Road): providing access to western general warehousing, cargo link west, IMEX terminal and maintenance areas. This access will be built out between 2029 and 2035.
- Central access (located approximately 500 metres east of Old Melbourne Road): providing access to interstate rail, cargo link east, central general warehousing, commercial, ancillary and support precinct and trailer storage. This access will be built out prior to 2029.

- Eastern access (located approximately 1.5 kilometres east of Old Melbourne Road): providing access to eastern general warehousing. This access will be built out between 2035 and 2050.

During construction phase, it is expected that only the Central access will be utilised as it will be the closest in proximity to where the majority of the initial construction works will be conducted.

The access intersections have been designed by BG&E to prioritise traffic movement to/from the east as nearly all of the traffic generated by the Precinct has been assumed to utilise Princes Freeway. The access intersections feature only left turn out therefore U-turn pockets have been added to facilitate traffic movement to the west as shown in Figure 4.

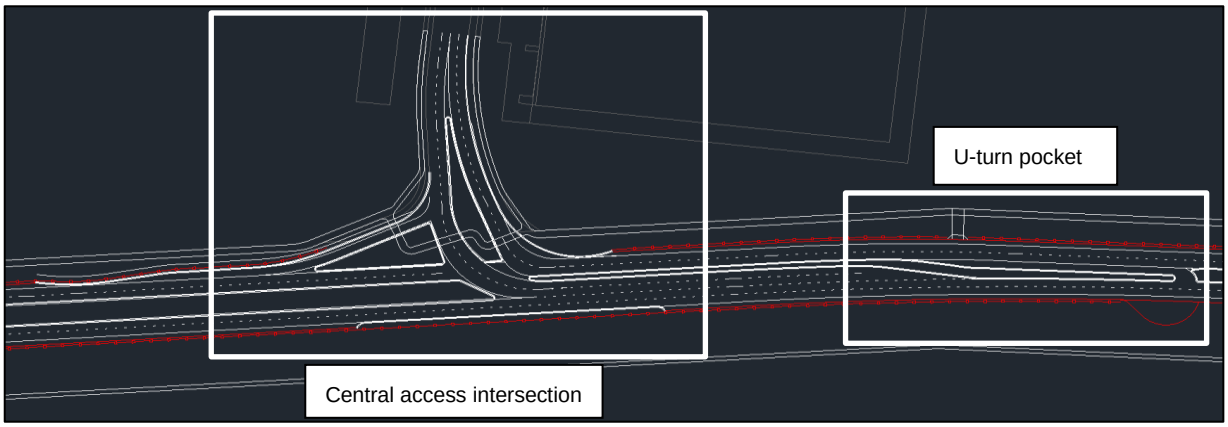


Figure 4 Central access intersection showing U-turn pocket

2.7 Internal road network

The movement patterns of vehicles in and out of the site, as well as throughout the Little River Logistics Precinct, are determined by their operation. The preliminary internal road network movements are as shown in Figure 5. Further detailed assessment of the internal road network will be conducted in next stage of design development.

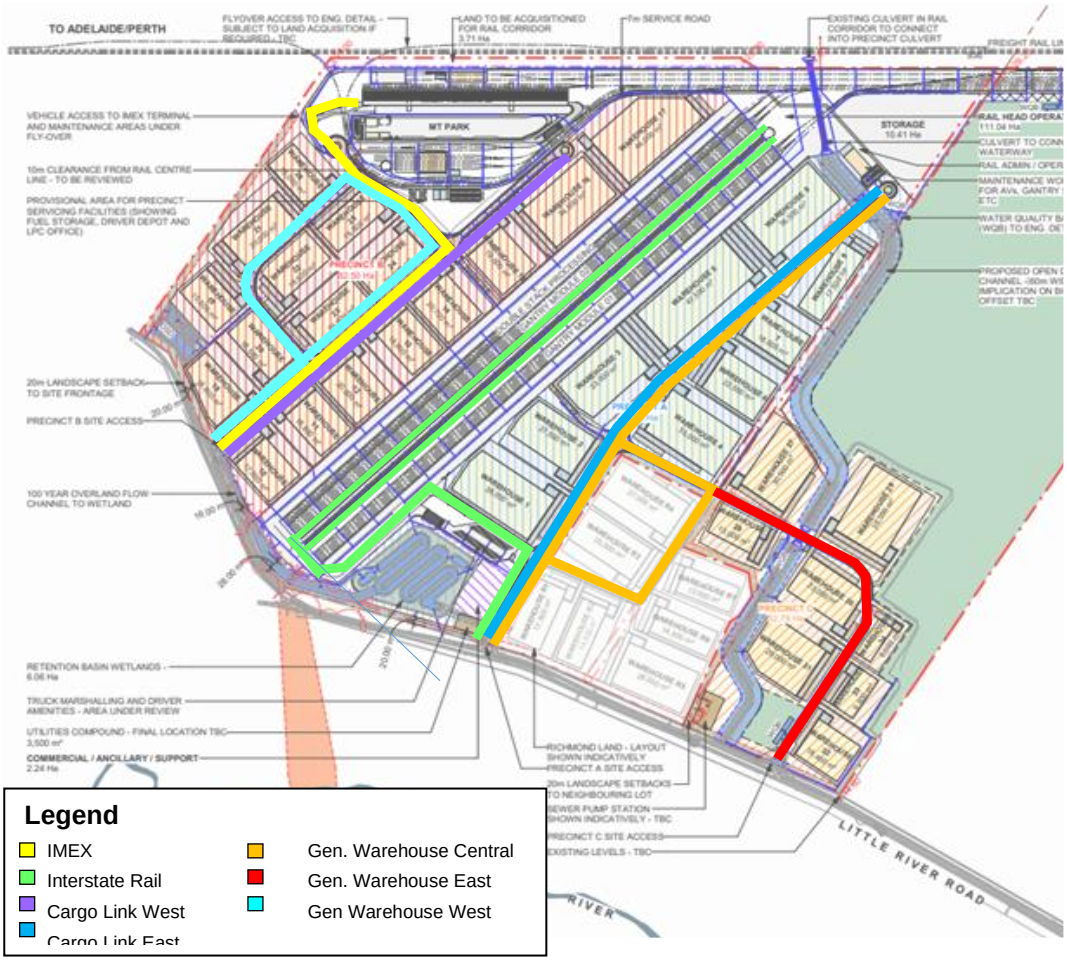


Figure 5 Map of Internal Road Movements

3.0 Legislation, policy, and guidelines

Table 4 summarises the relevant legislation and policies and guidelines that apply to the project in the context of this TIA.

Table 4 Legislation, policy and guidelines

Legislation/policy/ guidelines	Key policies/strategies	Implications for the Project
City of Greater Wyndham – Planning Scheme	Notable planning clauses relating to traffic and transport, include: • 18.01-2S - Transport System • 18.02-4S - Roads • 36.04 - Transport Zone • 52.06 - Car Parking • 52.29 – Land adjacent to the Principal Road Network	Ensuring project meets required Planning Scheme Amendment standards with regards to traffic and transport. This includes: • Maintaining a safe and efficient road network. • Ensuring development is appropriately located and designed, including in accordance with any relevant use, design, or siting guidelines • Ensuring adequate supply of car parking during both construction and operational phases of the project. • Ensure appropriate access to the Principal Road Network or land planned to form part of the Principal Road Network.
Road Management Act 2004 (Victoria)	Road Management Act (General) Regulations 2016. Road Management Act (Works and Infrastructure) Regulations 2015. Code of Practice – Worksite Safety Traffic Management.	This Act and associated Regulations must be complied with for all public roads of the Victorian road network. The Act sets out general principles and obligations for which the road authority is responsible for administering. The Act requires approval for any construction project that may impact or change access of a controlled access road.
Department of Transport and Planning (VicRoads) – Road Management Plan	The VicRoads Road Management Plan details the management and maintenance of roads registered under the VicRoads register of public roads. VicRoads manages its infrastructure in five phases: development of standards and guidelines, development of a maintenance program, implementation of the management program, auditing, and review. The VicRoads road management plan also details maintenance inspection and response schedules.	Ensuring site access and maintenance of the road network is to the satisfaction of DTP (VicRoads) in terms of its own road assets impacted by the project.
Transport Integration Act 2010	The Act provides a legislative framework for transport in Victoria. The Act seeks to integrate land use and transport planning and decision-making by applying the framework to land use agencies whose decisions can significantly impact on transport. The Act requires agencies,	This Act sets out six transport system objectives and eight decision-making principles. These objectives include triple bottom line assessment: economic prosperity, social and economic inclusion, and environmental sustainability. Other objectives include:

Legislation/policy/ guidelines	Key policies/strategies	Implications for the Project
	including the Department of Transport and Planning and other relevant authorities, to consider the potential impact of land use planning proposals on transport.	• Integration of transport and land use • Efficiency, coordination, and reliability • Safety and health and wellbeing These objectives and principles need to be considered in the evaluation of this project.
Road Safety Act 1986	Road Safety Road Rules, 2017.	These Rules provide road rules that are substantially consistent across Australia. They also specify behaviour for all road users. This framework is used in this assessment as the basis to assess safe and efficient traffic movements on roads.
	Road Safety (Traffic Management) Regulations, 2009.	These Regulations set out requirements for authorisation for implementing traffic control devices on roads (including for traffic management for worksites) This assessment uses this framework as a reference to prescribe traffic management requirements.
Towards Zero 2016-2020 – Victoria's Road Safety Strategy & Action Plan	This strategy aims to reduce fatalities and serious injuries by 15 per cent, with the aim of bringing the annual road toll under 200 per year by 2020.	This strategy references making local and busy places safer and using roads more safely. Safety considerations represent a critical focus of this assessment.
Principal Freight Network (PFN)	The Principal Freight Network (PFN) is an important framework which identifies and protects Victoria's key road and rail freight routes and places.	The PFN is recognised as part of the State Transport System at Clause 18: Transport of the Victorian Planning Provisions. It must be considered by responsible authorities in decision-making. Incorporated documents can only be amended by the Minister through a Planning Scheme Amendment process.
Heavy Vehicle National Law (the HVNL)	The National Heavy Vehicle Regulator (NHVR) administers one set of laws (the HVNL) for heavy vehicles over 4.5 tonnes gross vehicle mass. The HVNL consists of the Heavy Vehicle National Law and five sets of regulations. The HVNL commenced on 10 February 2014 in Victoria and passed its own law that either adopts or duplicates the HVNL (with some modifications).	The HVNL encompasses Victoria's High Productivity Freight Vehicle (HPFV) network which provides the gazetted route maps for freight vehicles. The HPFV network maps may have implications about the size of trucks that are able to travel to and from the site during construction and operation phases.
AS1742.3 2009 – Traffic control for works on road	This Standard specifies the traffic control measures and devices to be used to warn, instruct and guide road users in the safe negotiation of work sites on roads. It is applicable to traffic guidance schemes for road and bridge construction and maintenance sites, works associated with other public utilities and services, or any other works which cause interference or	This standard sets out all matters to be considered as being essential to a TMP (during construction of the Project) such as traffic demand, traffic routing, traffic control and construction vehicle access requirements, which will be developed at later stage of the Project following this TIA.

Legislation/policy/ guidelines	Key policies/strategies	Implications for the Project
	obstruction to the normal use of a road by any road user. It also provides guidance for the planning, design, installation and operation of such traffic guidance schemes together with requirements for maintaining a safe workplace for workers on site.	
Austroads – Guide to Road Design Part 3: Geometric Design	The Guide to Road Design is one of a set of comprehensive Austroads Guides developed to provide a primary national reference for the development of safe, economical, and efficient road design solutions.	AGRD Part 3 provides guidance on geometric requirements for Australian Roads. This guide shall be used to determine likely impacts of changes to road profiles and characteristics resulting from the Project and its associated traffic.
Austroads – Guide to Road Design Part 4: Intersections and Crossings		AGRD Part 4 provides guidance on intersection design such as design considerations, design process, choice of design vehicle, pedestrian and cyclist crossing treatments, provision for public transport and property access. This is particularly relevant to the Project as it is anticipated to potentially impact road access.

4.0 Existing Conditions

The following sections detail the existing conditions of the transport network surrounding the proposed terminal site and its access routes.

4.1 Site location and surrounding land use

The Little River Logistics Precinct is located approximately two kilometres east of the Little River township. Access will be provided from the south of the site via Little River Road, with the site bounded by the ARTC railway corridor to the north and Kangaroo Drive to the east. Access to the site is expected from the Princes Freeway, via the Little River Road interchange. The location of the proposed Precinct, and key transport corridors, is shown in Figure 6.

The surrounding land uses are predominantly agricultural, with minimal interfaces with the local road network. The only exceptions to this are the Cherry Creek Youth Justice Centre which is located on Kangaroo Drive, and a small number of residential properties along Little River Road.

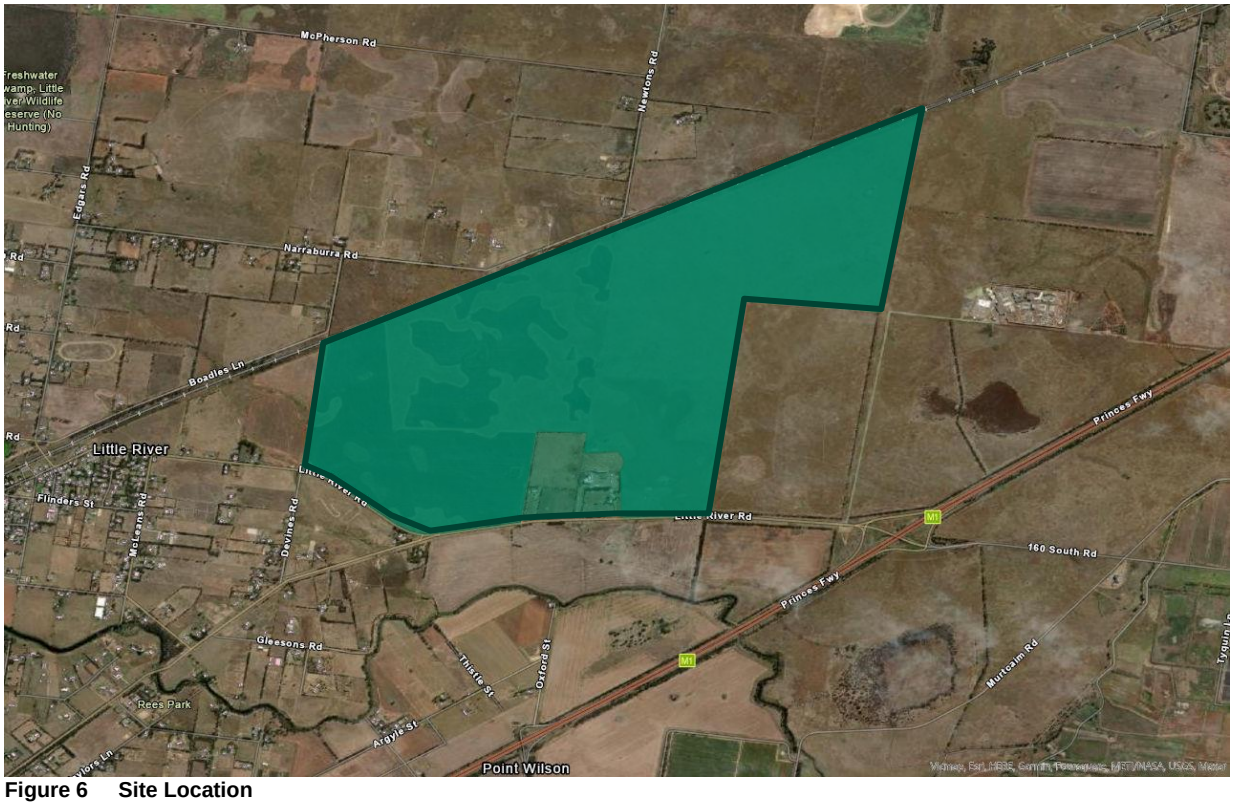


Figure 6 Site Location

4.2 Local road network

The following review of the local road network serving Little River has been conducted via a combination of:

- Site visit observations undertaken by AECOM on Friday 20 May 2022
- A desktop review:
  - Google Street View and aerial measurements of roads
  - Department of Transport and Planning (VicRoads) information on B-Double, A-Double, Oversize/Overmass (OSOM)
  - Over Dimensional (OD) network information.

Table 5 summarises the existing conditions of the roads to and from the site. Photos of the local road network, displaying typical road cross sections, are provided in Appendix B.

Table 5 Existing local road network

Transport element	Princes Freeway	Little River Road	Old Melbourne Road	Kangaroo Drive
Speed Limit (kph)	100	100	80	50
Classification	Freeway	Main Road	Main Road	Local Access
Managed by	DTP	City of Wyndham	City of Wyndham	City of Wyndham
Carriageway Width (m)	33	7	10	10
Total number of lanes	Six	Two	Two	Two
Traffic Control	On/offramps providing entry and exits for freeway	Give way intersections from freeway offramps	One way entry from Little River Road northbound Give way exit from and entry to Little River Road north and southbound	Give way entry from Little River Road
Road user hierarchy*	Preferred traffic route Principal movement of people and goods between regions	Connection from freeway to town centre	Primarily route to residential and farming areas	Currently primary access to construction at Cherry Creek Youth Justice Centre
On the Principal Bicycle Network?	Yes – from Werribee Main Road to Little River Bridge	No	No	No
On a Strategic Cycling Corridor?	No	No	No	No
Bicycle facilities	Cycling permitted on shoulder (west of Werribee)	No	No	No
Pedestrian facilities	No	No	No	No
Bus facilities	None	None	None	None
B-Double Approved Route?	Yes	No	Yes – south of Little River bridge	No
Over-Dimensional Route?	No	No	No	No
Over size and over mass (OSOM) route	Yes	Yes	Yes	No
Victoria's Gazetted Class 2 PBS Level 3A (up	Approved southbound Conditionally approved	No	No	No

Transport element	Princes Freeway	Little River Road	Old Melbourne Road	Kangaroo Drive
to 36.5m A-Double Vehicle)	northbound – bridge at Little River limited to 84.5 tonnes A-doubles			
On-street parking facilities	No	No	No	No

Victoria's gazetted roads tor B-Doubles is provided in Figure 7. As shown, the Princes Freeway and the south section of Old Melbourne Road are part of the approved B-Double road network while other roads are not approved based on the publicly available information.

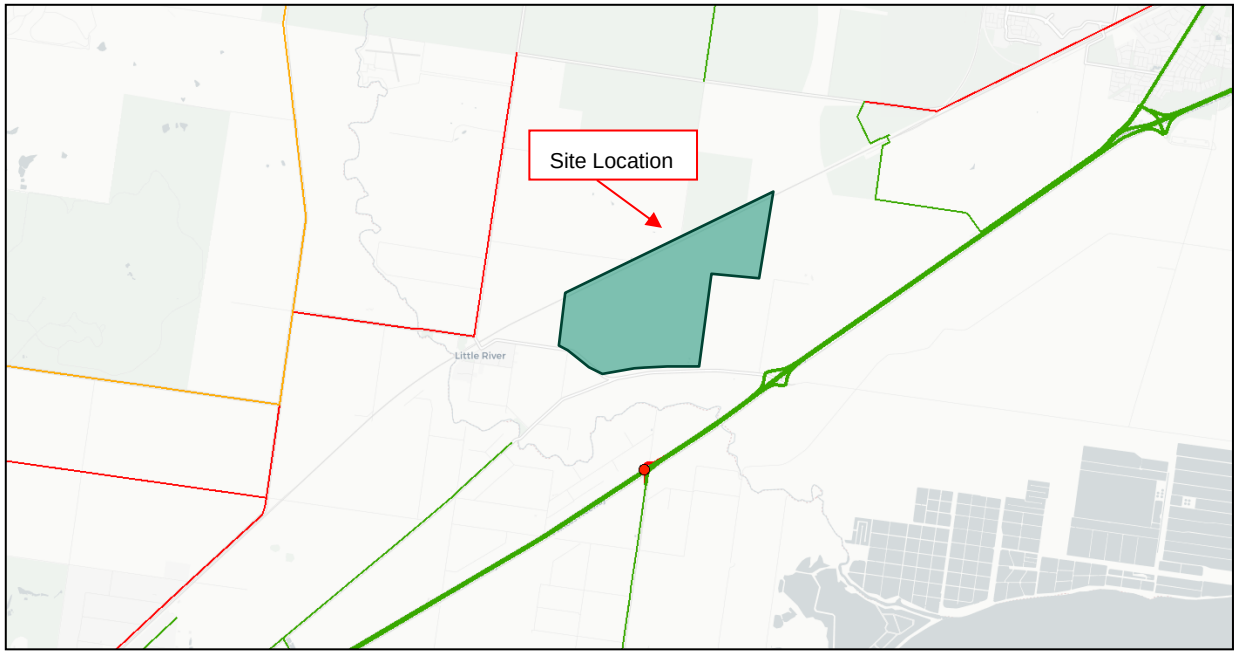


Figure 7 B-Double approved roads

Victoria's gazetted roads for Performance Based Standards (PBS) Level 3A (up to 36.5 metre A-Double Freight Vehicles) are shown in Figure 8. As shown, the Princes Freeway is approved southbound and conditionally approved northbound as part of the 36.5 metre A-Double road network while all other roads are not approved based on the publicly available information.

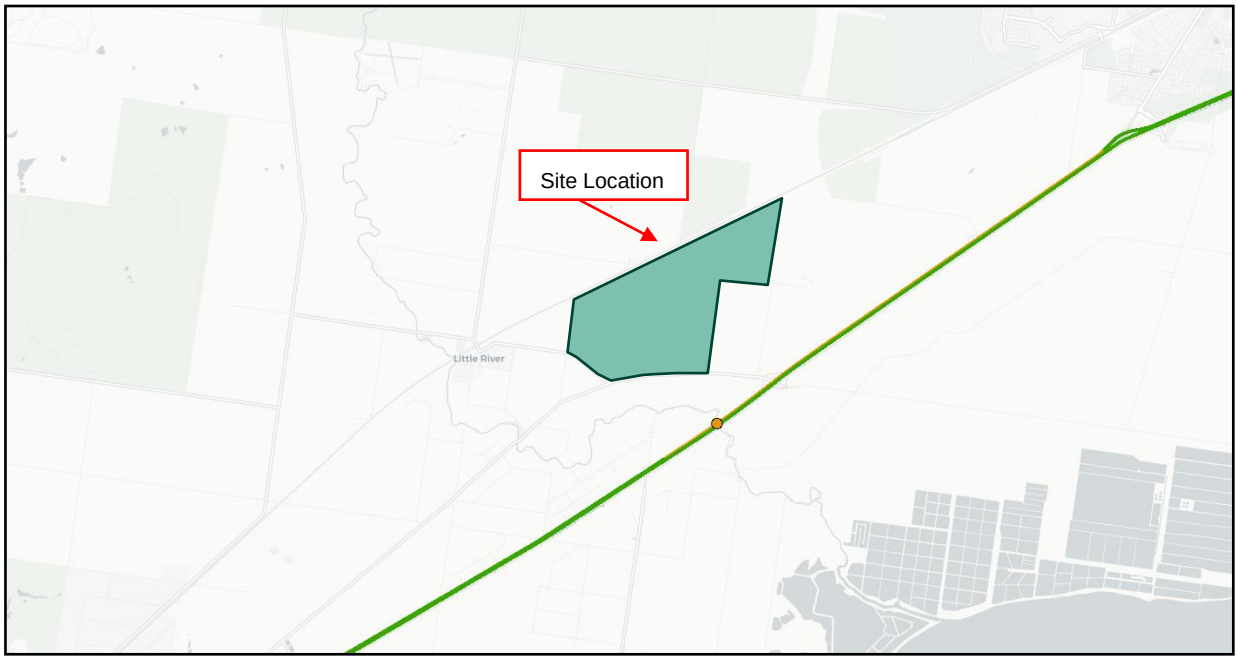


Figure 8 A-Double approved roads

4.3 Traffic volume data

Traffic surveys were commissioned by the project and were undertaken by Matrix Traffic and Transport Data. The traffic surveys included the following:

- Turning movement counts (TMCs) undertaken on Thursday 12 May 2022 for AM peak (7:00am – 9:00am), Mid peak (12:00pm – 2:00pm) and PM peak (4:00pm – 6:00pm):
  - Little River Road / Old Melbourne Road
  - Little River Road / Kangaroo Drive
  - Little River Road / Princes Freeway northbound ramps
  - Little River Road / Princes Freeway southbound ramp
- Automatic Traffic Counts (ATCs) undertaken from Saturday 1 May 2022 until Friday 13 May 2022, at the following locations:
  - Little River Road, east of Old Melbourne Road
  - Princes Freeway, at Little River bridge

These traffic survey locations are shown in Figure 9.

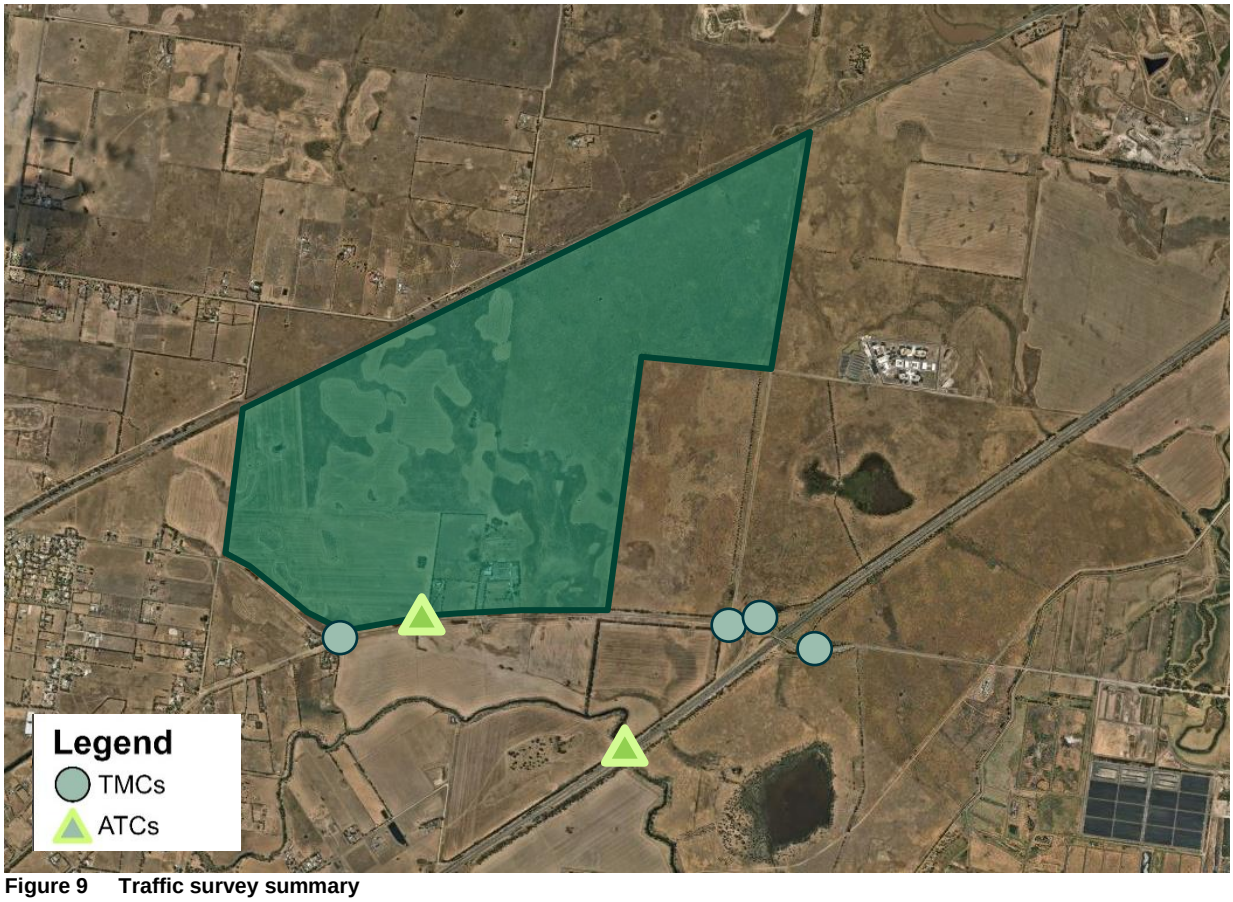


Figure 9 Traffic survey summary

Based on the observed traffic data, there are very low volumes of existing background demand along Little River Road. The existing case traffic flow diagrams can be found in Appendix C.

4.4 Existing intersection capacity

The following intersections were modelled in the micro-analytical traffic engineering software 'SIDRA intersection 9' using the traffic volume data outlined in Section 4.3, for the 2022 AM and PM peak time periods:

- Princes Freeway and Little River Road unsignalised diamond interchange
- Little River Road and Kangaroo Drive unsignalised intersection
- Little River Road and Old Melbourne Road unsignalised intersections

The models have been developed as follows:

- All measurements taken from Google Earth aerial imagery.
- Network modelling adopted given the proximity of the intersections.
- In terms of model calibration, the Basic Saturation flows were kept as per SIDRA default at 1950 pcu/h as it is considered that the intersections investigated are in an ideal area type.

The following outputs are produced by SIDRA:

- Degree of saturation (DoS). This is the ratio of traffic demand to intersection capacity. A DoS of 1.0 or more in theory represents saturated conditions, but a lower practical DoS is used. For priority-controlled intersections, a DoS of 0.8 is the desired upper limit; for roundabouts, it is 0.85; and for signals it is 0.9. All intersections reported on are priority-controlled and therefore a DoS of 0.8 is desired for all scenarios.
- Average delay. This is the average amount of time it takes a vehicle to negotiate an intersection, including the time to negotiate corners and the time stopped in queues or waiting for a green signal. This parameter is the most tangible to drivers.
- Level of service (LoS). This is an alpha-numeric rating of the overall performance of an intersection, ranging from A (very good) to F (very poor). It is directly related to the average delay. The desirable target for this report is considered to be a LoS D or above.
- 95th percentile back of queue (95% Q). This is the queue length that is not exceeded 95% of the time. Ideally, queue lengths should not exceed the turning lane storage or block back into upstream intersections.

The above core performance outputs are provided for the AM and PM peaks assessed, with complete SIDRA outputs provided in Appendix D.

In summary, all intersections across all time periods are shown to be operating well within the defined capacity metrics under existing traffic demands at a LoS A.

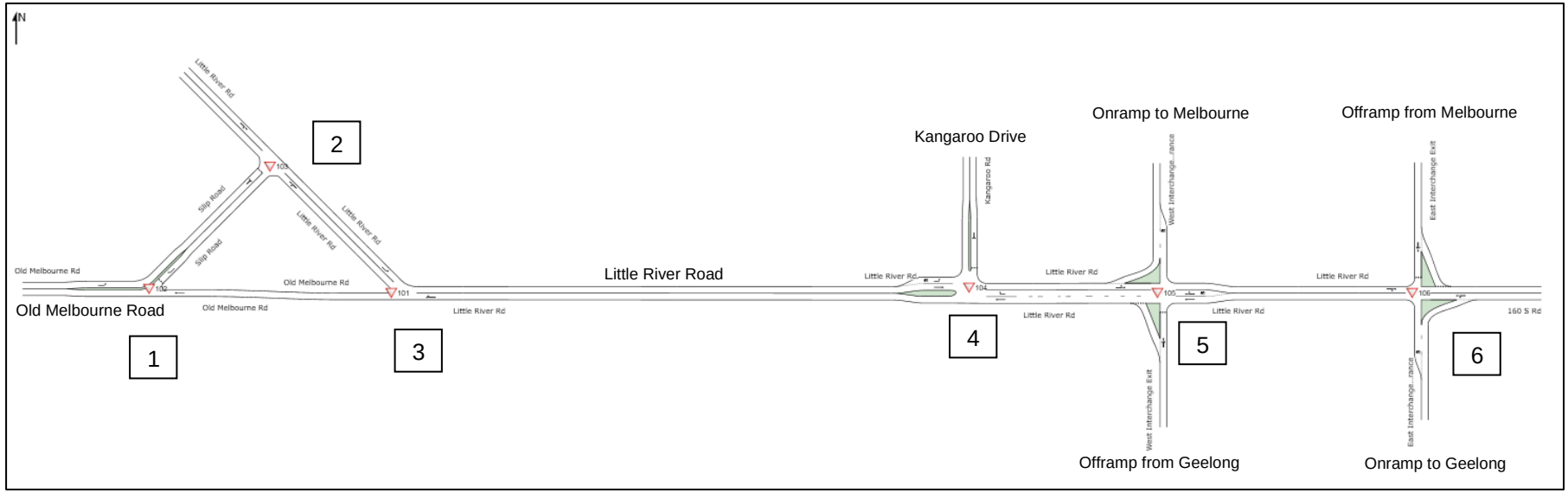


Figure 10 ‘Existing’ network layout

Table 6 Current network layout SIDRA Results

Intersection	Approach	Base AM Peak				Base PM Peak			
		DoS	Ave. Delay (s/veh)	95% Queue (veh)	LOS	DoS	Ave. Delay (s/veh)	95% Queue (veh)	LOS
1. West portion: Little River Road/Old Melbourne Road	East: Old Melbourne Road	0.015	0	0	NA	0.024	0	0	NA
	NorthEast: Slip Road	0.002	2.9	0	LOS A	0.001	2.9	0	LOS A
	West: Old Melbourne Road	0.024	6.7	0	NA	0.014	6.8	0	NA
	All vehicles	**0.024**	**4.2**	**0**	**NA**	**0.024**	**2.4**	**0**	**NA**
2. North portion: Little River Road/Old Melbourne Road	SouthEast: Little River Road	0.024	0.1	0	NA	0.036	0.1	0	NA
	NorthWest: Little River Road	0.03	0.4	0.1	NA	0.038	0.1	0	NA
	SouthWest: Slip Road	0.039	3.4	0.4	LOS A	0.023	3.6	0.2	LOS A
	All vehicles	**0.039**	**1.2**	**0.4**	**NA**	**0.038**	**0.6**	**0.2**	**NA**
3. East portion: Little River Road/Old Melbourne Road	East: Little River Road	0.039	7.3	0	NA	0.06	7.1	0	NA
	NorthWest: Little River Road	0.053	4.1	0	NA	0.051	4	0	NA
	All vehicles	**0.053**	**5.4**	**0**	**NA**	**0.06**	**5.7**	**0**	**NA**
4. Little River Road/Kangaroo Drive	East: Little River Road	0.043	1.7	0.4	NA	0.054	0.3	0.1	NA
	North: Kangaroo Road	0.008	6.9	0.1	LOS A	0.054	6.2	0.6	LOS A
	West: Little River Road	0.051	0.4	0	NA	0.049	0.1	0	NA
	All vehicles	**0.051**	**1.3**	**0.4**	**NA**	**0.054**	**1.6**	**0.6**	**NA**
5. West portion: Little River Road/Princes Freeway interchange	South: West Interchange Exit	0.016	7.8	0.2	LOS A	0.011	8.2	0.1	LOS A
	East: Little River Road	0.029	0.6	0.2	NA	0.033	1.3	0.3	NA
	West: Little River Road	0.058	5.8	0	NA	0.081	5.8	0	NA
	All vehicles	**0.058**	**3.5**	**0.2**	**NA**	**0.081**	**3.9**	**0.3**	**NA**
6. East portion: Little River Road/Princes Freeway interchange	East: 160 S Road	0.003	2.2	0	NA	0.003	5.2	0	NA
	North: East Interchange Exit	0.101	7.3	1.1	LOS A	0.114	7	1.2	LOS A
	West: Little River Road	0.01	6.3	0.2	NA	0.009	7.6	0.1	NA

Intersection	Approach	Base AM Peak				Base PM Peak			
		DoS	Ave. Delay (s/veh)	95% Queue (veh)	LOS	DoS	Ave. Delay (s/veh)	95% Queue (veh)	LOS
	All vehicles	0.101	7	1.1	NA	0.114	7	1.2	NA

4.5 Sustainable modes of transport

There are no public transport routes near the site. Little River railway station is located approximately three kilometres west of the proposed site, however no additional public transport connections to the proposed site.

The surrounding road network is not a part of any existing or planned cycle routes.

4.6 Crash history analysis

DTP CrashStats was interrogated for the last five years of available crash data for the surrounding areas of the Precinct including key roads: the Princes Freeway, Little River Road, Old Melbourne Road and Kangaroo Drive. In summary, the follow was found from the crash stats analysis:

- A total of 26 crashes were found to occur in the surrounding areas of the Precinct over the five-year period with the following key trends found:
  - The large majority, 23 crashes, occurred along Princes Freeway
  - One crash occurred at the intersection of Little River Road and Old Melbourne Road
  - Two other crashes occurred away from the key roads
  - No crashes were found to occur on Kangaroo Drive
- In terms of severity of crashes, the following was found:
  - There was 1 fatal injury which occurred on Princes Freeway to the south of the Little River Road interchange – it was identified that this crash type was a pedestrian on the Princes Freeway carriageway
  - Furthermore, 10 crashes were classified as 'Serious' injury and 15 as 'Other' injury
- In terms of Definitions for Coding Accidents (DCA) classification the following crashes occurred:
  - Total of eight lane change/side swipe
  - Total of seven rear end
  - Total of six right/left off carriageway into object/parked vehicle
  - Total of three crashes were classified as other
  - Other single crash types included pedestrian on carriageway (fatal crash) and right near

Table 7 provides a breakdown of injury severity per crash type. Figure 11 and Figure 12 with severity and crash type presented respectively.

Table 7 Crash history around site in past 5 years

Type of Crash	Number of Crashes	Severity of Injury		
		Other Injury	Serious Injury	Fatal Injury
Lane Change/Side Swipe	8	6	2	0
Rear End	7	5	2	0
Right/Left Off Carriageway into Object	6	2	4	0
Ped on Carriageway	1	0	0	1
Right Near	1	1	0	0
Other	3	1	2	0

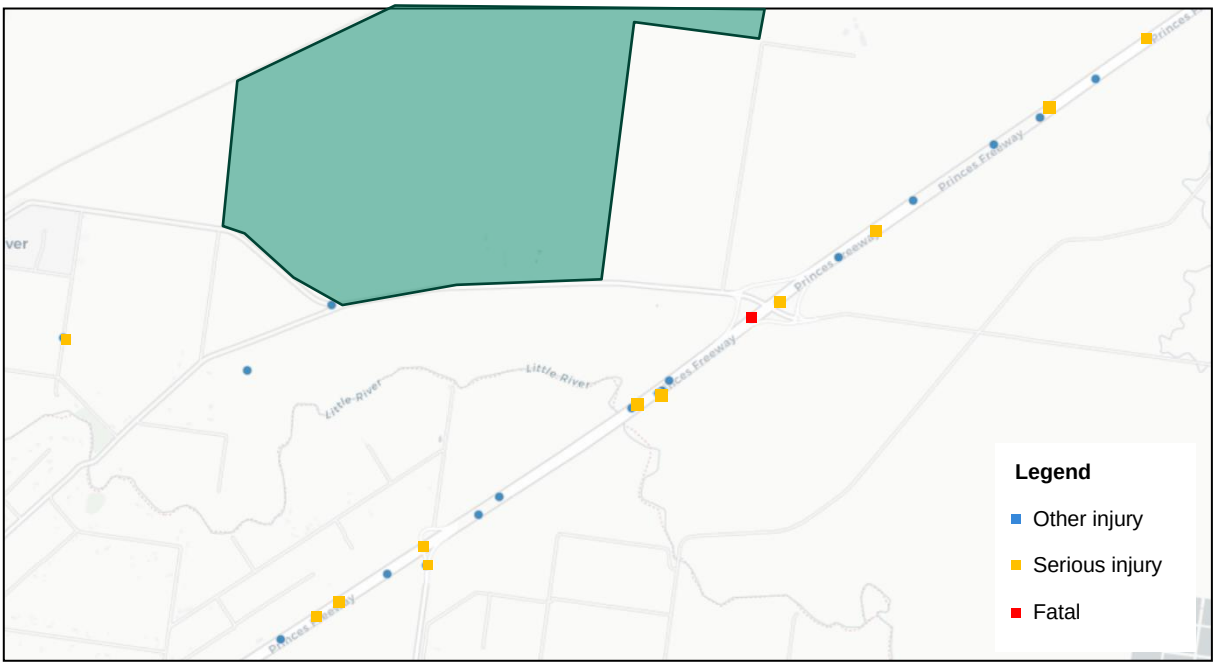


Figure 11 Crashes around site area in the past 5 years coloured by severity

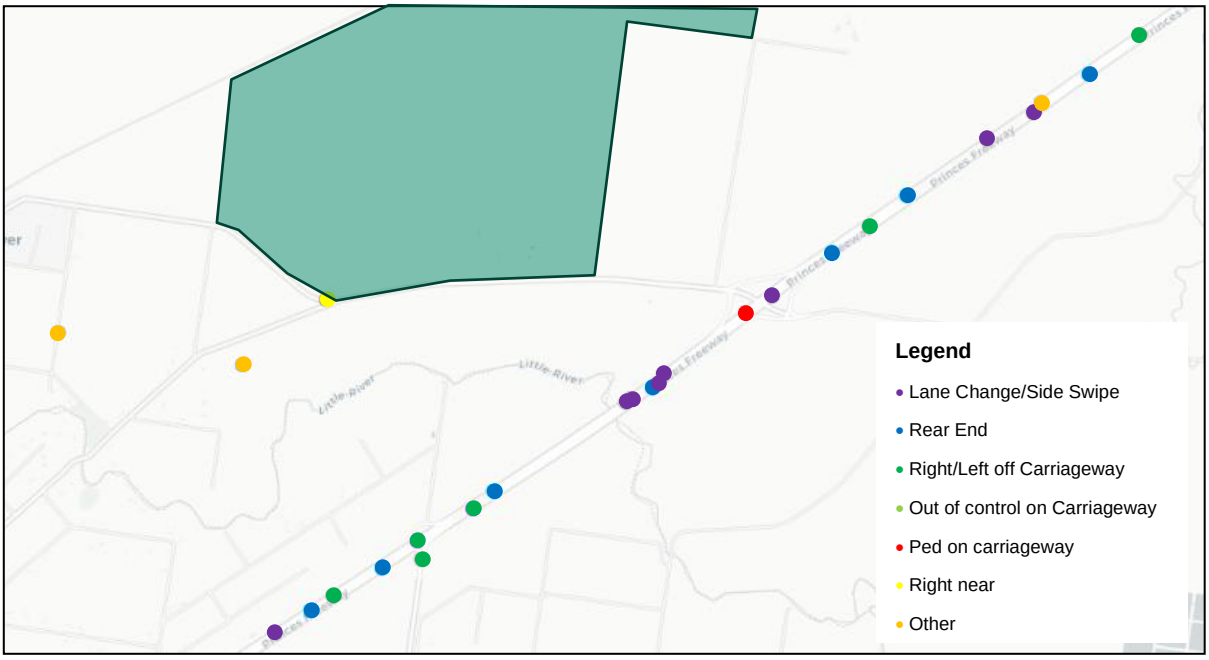


Figure 12 Crashes around site area in the past 5 years coloured by DCA crash type

4.7 Planned land use and infrastructure

The Precinct site is located outside of the Urban Growth Boundary (UGB). As a result, Little River's population is expected to remain relatively stable with no significant population increases planned.

Whilst significant growth is expected in City of Wyndham, this growth will be concentrated within the UGB (as shown in Figure 13) and will not influence the Precinct site, or the transport network which services it.

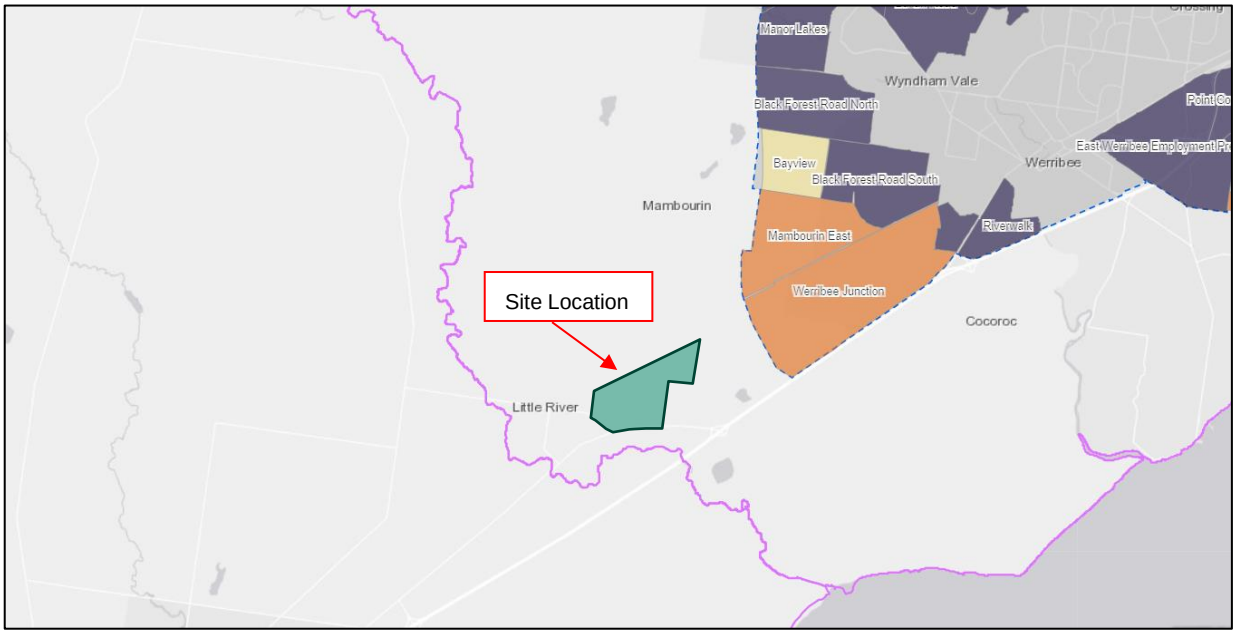


Figure 13 Completed Planned Precinct Structure Plans (Source: Victorian Planning Authority)

The City of Greater Geelong are also planning growth areas in the northern and western parts of their municipality that are located to the south of the site. Similar to growth areas located in Wyndham, this growth is not expected to influence the project site or local road network, but may result in growth in traffic volumes on the Princes Freeway.

The Cherry Creek Youth Justice Centre has recently been constructed on Kangaroo Drive to the east of the site. It is understood that construction of the site was recently completed, however, it is unclear whether it is currently operating at full capacity.

There are a number of key infrastructure projects that will interface with the proposed Precinct and have implications for the traffic volume generation into the future, summarised below:

4.7.1 Inland Rail

The Inland Rail project aims to better connect Melbourne and Brisbane via regional Victoria, New South Wales and Queensland. This 1,700km freight rail project will complete our national freight network—better connecting producers to markets and creating new opportunities for businesses, industries and regional communities. The Victorian section of the route will travel from Tottenham in north-western Melbourne to Albury.

The proposed Precinct will be connected to the national freight network and support significantly increased rail freight volumes once Inland Rail is completed.

4.7.2 Outer Metropolitan Ring (OMR)

The Outer Metropolitan Ring (OMR) is a significant infrastructure project in the area that, if constructed, will significantly affect accessibility or geometry for all sites under consideration.

Changes to the local road network as part of the Outer Metropolitan Ring Road (OMR) are shown in Figure 14. This project involves the main OMR route to the north of the site and simultaneously closing the Little River Road Interchange and constructing a new interchange at Point Wilson Road that connects to the intersection of Old Melbourne Road and Little River Road (OMR South). It is expected

that when the OMR South is completed, the new Point Wilson Road interchange will facilitate the Precinct traffic volumes that previously utilised the Little River Road interchange.

Given the lack of information to date on the timing of OMR delivery, this assessment considers a scenario in which OMR is not operational until after 2050. The possible implications of OMR on traffic impact are discussed in Section 7.0. There is no public timeline on delivery of the OMR.

Further consultation with DTP regarding the project staging and timeframes of OMR is recommended with any new information considered in future traffic impact assessments.

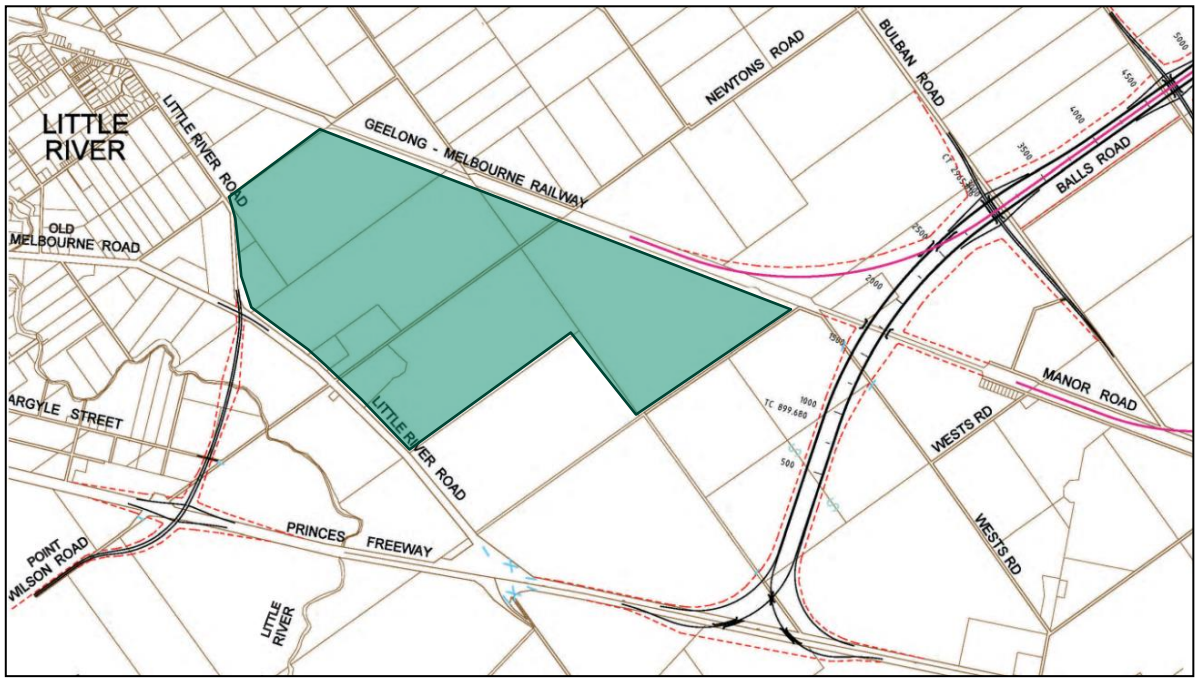


Figure 14 Proposed OMR interchange with Princes Freeway and surrounding road upgrades

4.7.3 Western Intermodal Freight Terminal (WIFT)

The Western Intermodal Freight Terminal (WIFT) is a significant regional infrastructure project planned for Truganina, in Melbourne's west. The WIFT is a critical infrastructure project that will be located centrally to the ports in Melbourne and Geelong as well as the proposed Bay West, Melbourne, Essendon and Avalon airports, logistics warehousing and inland rail. It is also connected by road and rail to Ballarat, Geelong, and interstate to Adelaide and Perth.

Rail connection from Little River Logistics Precinct to WIFT would likely be via the OMR corridor (although only the rail component would be required). This will have a positive effect on the wider transport network, particularly freight, as it will create operational efficiencies for the movement of more domestic freight by rail, see Figure 15.

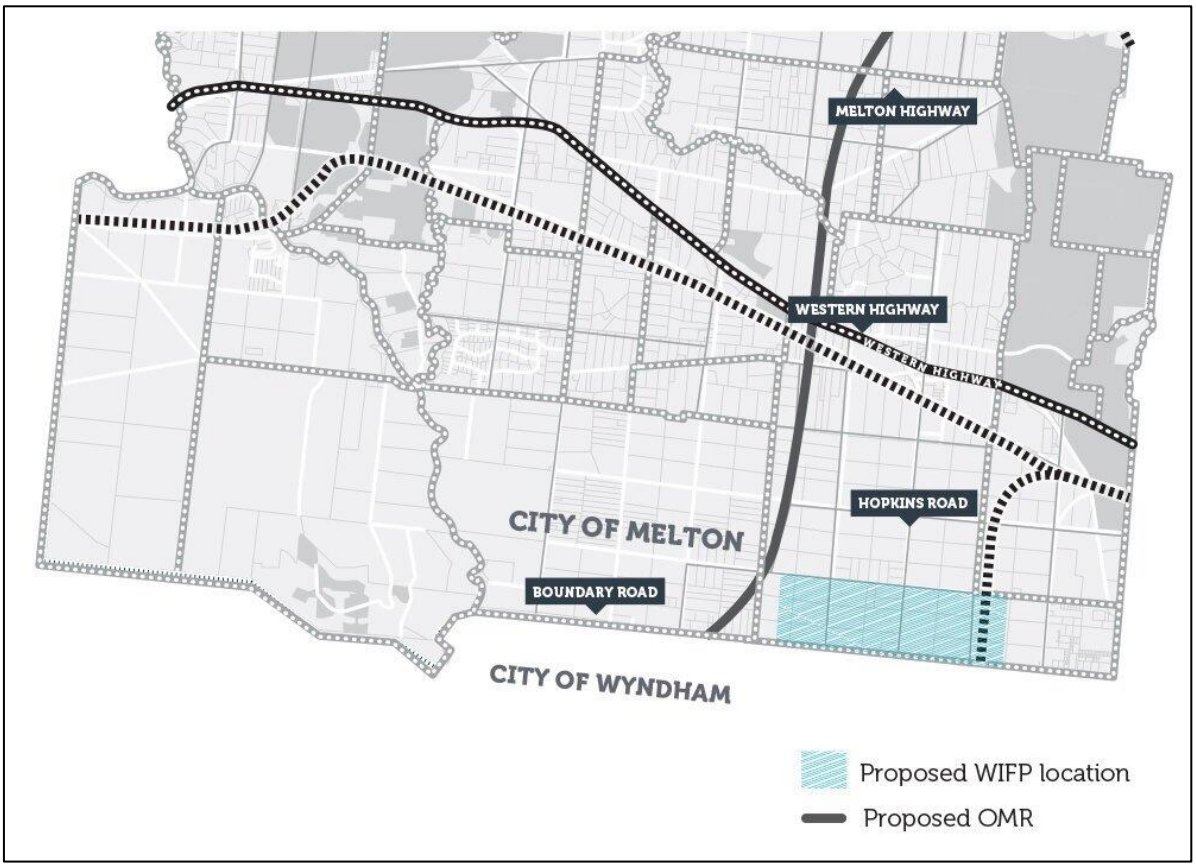


Figure 15 Proposed Western Intermodal Freight Terminal site (*Source: Western Freight Terminal*)

Other projects that have been confirmed or are under consideration by Government for long-term development are summarised in Table 8.

Table 8 Other future potential infrastructure projects

Project	Description	Potential Impact
Beveridge Intermodal Freight Terminal (BIFT)	The Beveridge Intermodal Freight Terminal (BIFT) is a significant regional infrastructure project planned for Beveridge, located in Melbourne's north. BIFT is to ensure a direct and efficient connection to Hume Highway and for the commencement of Inland Rail services.	If constructed, BIFT would also be transferring freight from ports in Melbourne and Geelong through Inland Rail project.
Bay West	Located off the Princes Freeway south of Little River, Bay West is the preferred location for a new major container port in Victoria to support Port of Melbourne which is forecast to reach capacity in 2055. Currently the project has not been committed to, the site has just been identified.	The site may become a key origin and destination for the proposed terminal. There is no government commitment to Bay West at this stage.

Figure 16 shows the location of the proposed site for the Little River Logistics Precinct in reference to other relevant major infrastructure projects planned to occur around the state.

Figure 16 Map showing Little River Logistics Precinct and other infrastructure projects (Source: Infrastructure Victoria

5.0 Risk assessment

5.1 Methodology

A risk-based approach is adopted for assessment of the potential impacts of the Project. A risk assessment was carried out using an approach that is consistent with Australian/New Zealand Standard AS/NZS ISO 31000:2018 *Risk Management Process*.

The risk assessment process provides a method for:

- facilitating a consistent approach to risk assessment across the various specialist studies
- identifying key Project risks to inform where detailed investigations are required
- ensuring the level of investigation is proportionate to the relative environmental risk
- assessing the effectiveness of proposed mitigation measures and whether additional measures may be required.

Risk can be defined as a combination of:

- the magnitude of potential consequences of an event
- the likelihood of the event occurring.

The risk assessment process developed for the Project involved the assignment of consequence and likelihood ratings which were combined to give an overall risk level for each identified risk.

The initial findings of the impact assessment were used to identify and describe cause-and-effect pathways for the Project to determine links between Project activities and their subsequent environmental consequences (known as risk pathways). These risk pathways were identified considering the assets, values and uses requiring protection identified during the existing conditions assessment. Further detail regarding the methodology used to assess risk for this report has been included within Appendix 9.0A.

Note that impacts of the project traffic generation on the Princes Freeway (M1) were not included in the scope of this assessment as it is considered that freeway capacity should be sufficient to support the development. Further engagement with DTP is recommended to ensure this approach is appropriate.

5.2 Application of mitigation measures

An initial set of mitigation measures have been developed as part of this impact assessment. These mitigation measures are based on compliance with legislation and standard requirements that are typically incorporated into the delivery of infrastructure projects of similar type, scale and complexity.

As the operation strategies were well progressed at the commencement of this impact assessment, mitigating measures already incorporated in the design were included as initial mitigation measures.

Initial risk ratings were applied to each identified risk pathway assuming that these initial mitigation measures were in place. Additional mitigation measures were developed where the initial risk ratings were categorised as medium or higher.

The risk and impact assessment process is iterative. Potential impacts were reassessed after the risk assessment and mitigation measures were refined. The level of residual risk was reassessed using the same method to confirm the mitigation measure is effective in reducing or managing potential impacts.

5.3 Risk assessment

A risk assessment of project activities was performed as a screening tool to prioritise the focus of the impact assessments and development of mitigation measures. The risk pathways link project activities (causes) to their potential effects on the environmental assets, values or uses that are considered in more detail in the impact assessment. Risks were assessed for the construction, operation and decommissioning phases of the project. The identified risks and associated residual risk ratings are listed in Table 9.

Table 9 TIA Risks

Risk ID	Risk name	Risk pathway	Initial mitigation measure	Initial risk			Additional mitigation measure	Residual risk		
				C	L	Risk		C	L	Risk
1	Future state capacity	Capacity of network cannot support future demand	Interim year considered to determine when network reaches failure	Moderate	Possible	Medium	Future layout has been developed with intervention to support demand increase	Minor	Possible	Low
2	Right turn into access points	Large volumes of traffic waiting long time to make right turn movement into development	Short turning lanes have been implemented into model	Minor	Possible	Low	-			
3	Traffic demand	Traffic demand assumptions are underquoted causing modelling outputs to be understated	Taken conservative approach when making assumptions	Moderate	Unlikely	Low	-			
4	Background traffic	Background traffic increases from 0% growth due to urbanisation and changes in surrounding land use	Shift splits have spread volume throughout day and reduce impact in peak times	Minor	Possible	Low	-			
5	Internal operations	Changes to internal operations may cause distribution of volumes to change	Volume distribution spread across access points to reduce impact of changes	Minor	Possible	Low	-			
6	Development of OMR	OMR is never built and therefore Little River Road interchange is continued to be used to facilitate traffic to site	Consider the network as in existing conditions for future states	Major	Unlikely	Medium	Future layout has been developed with intervention to facilitate demand distribution	Minor	Unlikely	Low

6.0 Traffic impact assessment

The approach and outcomes of the traffic impact assessment are included in the following sections.

6.1 Methodology

The following methodology has been adopted for undertaking the traffic impact capacity assessments for the proposed Little River Logistics Precinct:

- Develop traffic forecasts for key future years associated with project milestones. See Section 6.2 for additional information on these forecast years.
- For both the construction and operational phases, determine the traffic generation (total volumes of traffic generated) and distribution (where it will travel) for each forecast year. See Section 6.3 for additional information.
- Assess the capacity of the existing road network to accommodate these demands, using SIDRA Intersection. See Section 6.4 for capacity assessment results.
- Assess the geometry of the existing road network to accommodate the heavy vehicles, using AutoTurn. See section 6.5 for geometry assessment results.
- Identification of any mitigation measures required on the road network to address identified capacity or geometry issues. See Section 7.0 for discussion of required mitigation measures.

6.2 Future year traffic forecasts

Traffic forecasts were developed for each of the following future years:

- 2029 – Opening Year, representing the opening of the Precinct
- 2035 – Interim Year, representing partial build out of the Precinct
- 2050 – Ultimate Year, representing full build out of the Precinct

The staging of the development, provided by PN, has been considered for each of the future year scenarios as set out in Table 10 and presented in Figure 17.

Table 10 Development staging

Stage No.	Stage	Estimated Operation Year	2029	2035	2050
1	Interstate Rail	2029	✓	✓	✓
2	Cargo Link West	2030		✓	✓
3	IMEX	2033		✓	✓
4	Cargo Link East	2035		✓	✓
5	General Warehouse West	2038			✓
6	General Warehouse Central	2045			✓
7	General Warehouse East	2048			✓

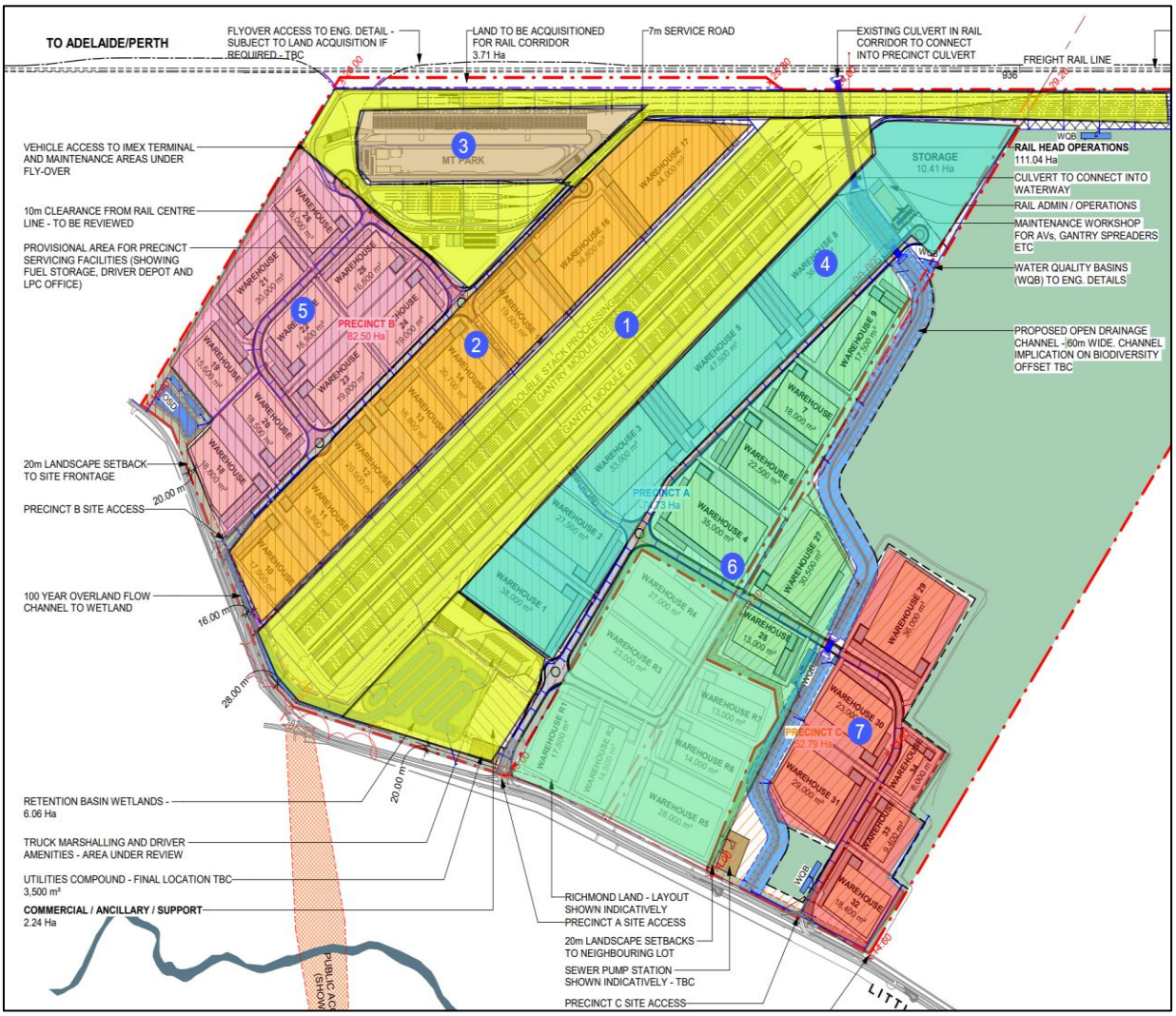


Figure 17 Development staging of Little River Logistics Precinct

Each of the future year scenarios have been analysed under the assumption that the OMR will not be operational thus all traffic will be travelling to and from the Precinct via the Little River Road interchange. The implications of OMR are discussed in Section 4.7.2 and Section 7.0.

6.2.1 Background traffic growth

City of Wyndham population forecasts no population growth for the township of Little River between now and 2041[1]. As the local road network surrounding the Precinct only services Little River, and no other significant population or employment precincts, the assumption of no growth was applied to the baseline traffic data collected in May 2022.

6.3 Traffic generation and distribution

This section outlines the forecast traffic generation from the Precinct for both the construction and operational phase and the traffic distribution across the road network to site access points.

6.3.1 Precinct operations

The proposed Precinct has several different operational functions which have their own traffic demand and distribution:

[1] Information sourced from https://wyndham-digital.iconagency.com.au/node/10#little-river-and-rural

- Cargo Link: to receive or handle rail freight prior to distribution around Melbourne
- IMEX (import-export terminal): facilitating transport of import/export containers from rail and port
- Empty Container (MT) Park: transport of stored empty containers
- Warehousing: storage facilities and onsite warehouses to facilitate holding and transfer of freight.

Traffic generation and distribution calculations were separated into operational areas as shown in Figure 18.

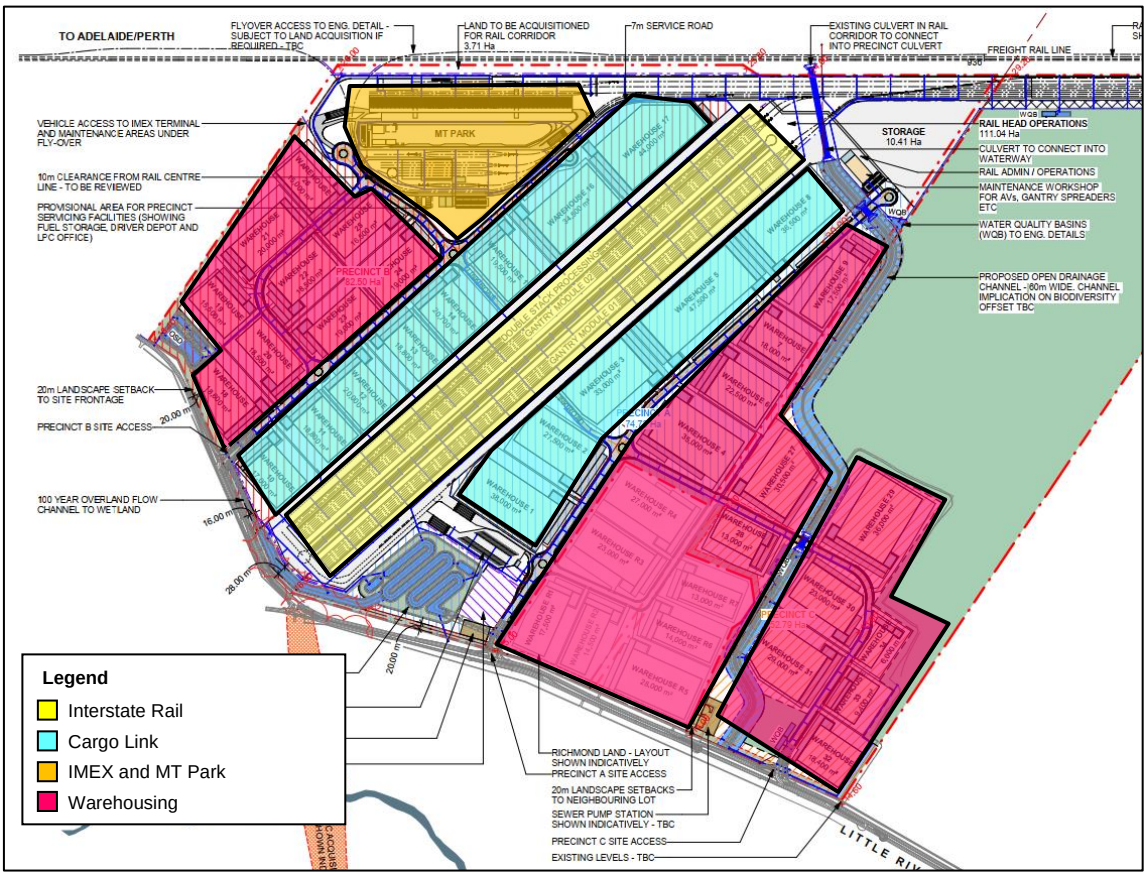


Figure 18 The Precinct operations defined for traffic generation and distribution

6.3.2 Operational assumptions

The key datasets which informed the operational phase traffic generation:

- Daily truck volume profile for the existing operations at the Melbourne Freight Terminal (MFT)
- Worker numbers for the existing operations at the MFT
- Terminal access distribution
- Warehousing heavy vehicle (HV) traffic movements

Further detail of the assumptions for the operational phase can be found in Appendix 9.0E with traffic flow diagrams for each of the forecast years provided in Appendix C.

6.3.3 Interstate Rail and Cargo Link heavy vehicle (HV) traffic generation

For the purpose of this assessment, the heavy vehicle (HV) volume traffic generated by the interstate rail and cargo link operations were combined and calculated as a total HV volume for the intermodal terminal (IMT) using forecasted TEU for the terminal operations shown in Table 11.

Table 11 Forecasted TEU

Forecasted Annual TEU	2029	2035	2050
Forecast TEU	731,857	914,328	1,357,408

Traffic generation for IMT has been calculated using total forecasted TEU for each analysis year. The steps to calculate the hourly IMT heavy vehicle volumes throughout the day are as follows:

1. The forecasted yearly TEU volume was taken from forecast and calculated per day

   E.g. 2050 (Ultimate year) = 1,357,408 TEUs ÷ 52 weeks ÷ 7 days = 3729 TEUs/day

2. Then the TEUs per day was split across three shifts; day (6am-2pm), evening (2pm-10pm) and night (10pm-6am) shifts with 40%, 40% and 20% split respectively.

   Day shift = 1492 TEU
   Evening shift = 1492 TEU
   Night shift = 746 TEU

3. A TEU ratio of 1.89 was used to determine the number of containers per shift

   Day shift = 1492/1.89 = 789 containers
   Evening shift = 1492/1.89 = 789 containers
   Night shift = 746/1.89 = 395 containers

4. A Container/Truck ratio of 1.5 was used to determine the number of trucks per shift

   Day shift = 789/1.5 = 526 trucks
   Evening shift = 789/1.5 = 526 trucks
   Night shift = 395/1.5 = 263 trucks

5. The number of trucks per shift was divided by 8 (no. of hours per shift) to find the hourly heavy vehicle volume for IMEX

   Day shift = 526/8 = 66 trucks/hr
   Evening shift = 526/8 = 66 trucks/hr
   Night shift = 263/8 = 33 trucks/hr

The total IMT HV volumes were then split across interstate rail and cargo link based on the staging of operations outlined in the staging plan and distribution percentages provided by PN.

- In 2029, only interstate rail is operational therefore all IMT HV are travelling to/from interstate rail via central access.
- After cargo link comes online, in 2035, there is 15% of IMT HV travelling to/from cargo link west via the western access and another 15% of IMT HV travelling to/from cargo link east via the central access.
- In 2050, the distribution percentages remain the same as 2035.

Figure 19 provides a visual representation of the distribution of IMT HV to/from the Precinct.

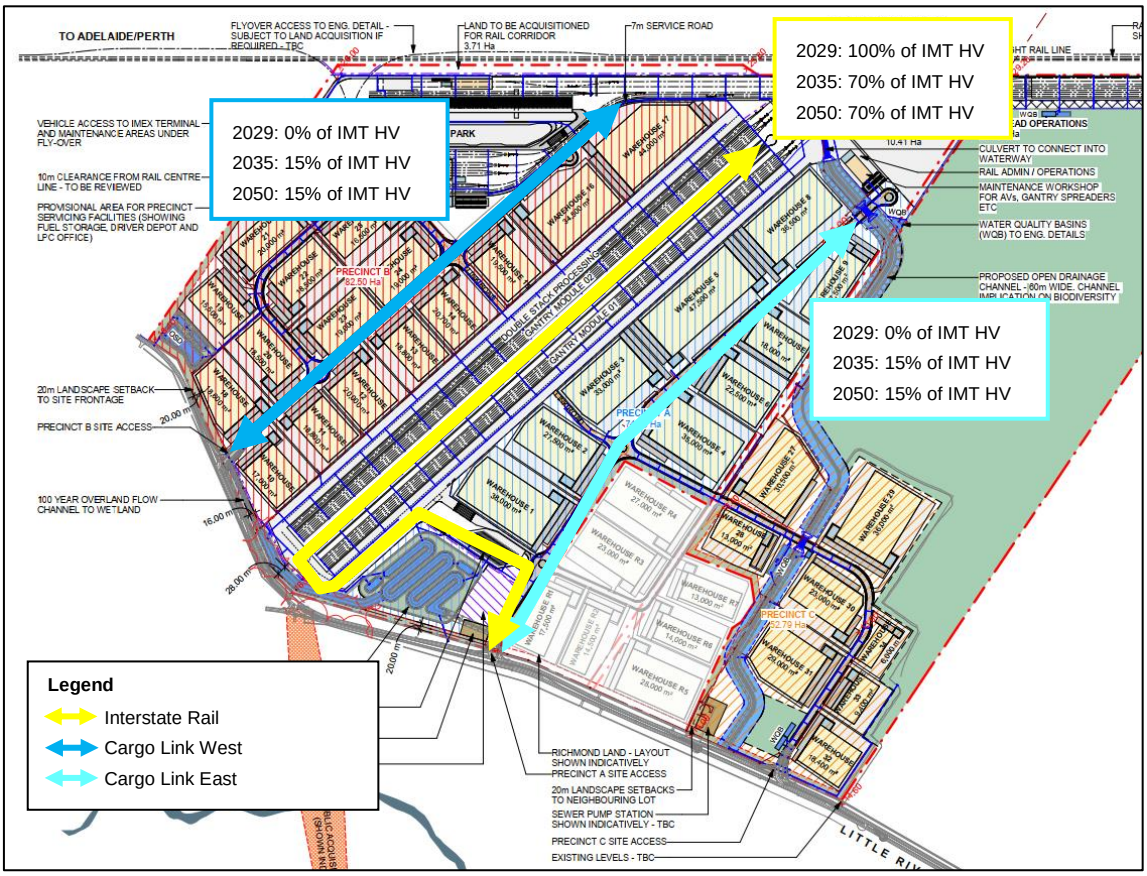


Figure 19 IMT HV distribution

Table 12 shows the distribution of IMT HV volume between interstate rail and cargo link in each analysis year.

Table 12 Total IMT HV volume and distribution between interstate rail and cargo link (vehicles in and out/hour/shift)

IMT HV Volume in & out / hour / shift	2029			2035			2050		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Total IMT HV	35	35	18	44	44	22	66	66	33
% HV Volume to/from Interstate Rail	100%			70%			70%		
HV to/from Interstate Rail	35	35	18	31	31	15	46	46	23
% HV Volume to/from Cargo Link West	0%			15%			15%		
HV to/from Cargo Link West	0	0	0	7	7	3	10	10	5
% HV Volume to/from Cargo Link East	0%			15%			15%		
HV to/from Cargo Link East	0	0	0	7	7	3	10	10	5

The ‘day’ shift hourly volume was used for the AM peak and the ‘evening’ shift hourly volume was used for the PM peak. A summary of the IMT HV peak hour volumes is shown in Table 13.

Table 13 IMT Truck (HV) Traffic Generation Summary (vehicles in and out per hour)

IMT HV In and Out / hour	2029		2035		2050	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Interstate Rail	35	35	31	31	46	46
Cargo Link West	0	0	7	7	10	10
Cargo Link East	0	0	7	7	10	10

6.3.4 Cargo Link employee light vehicle (LV) traffic generation

A Cargo link operations light vehicle (LV) provision rate of 1 per 260m^2 of Gross Floor Area (GFA) of areas associated with cargo link operations, provided by PN, had been provided based off a similar development (Linfox Perth). However, due to PN's expectation for widespread automation in the future for Cargo link operations, this rate was modified to 1 per 520 m^2. There are no cargo link operations in 2029, therefore cargo link LV has been determined for 2035 and 2050.

The cargo link operations employee light vehicle (LV) volume for 2035 was found using the modified rate and then factored by TEU growth factor for 2035.

Due to the expected nominal increase given the efficiencies of operations, it was assumed that the Cargo link operations staff volume for 2050 is calculated as a 20% increase from 2035.

The rates have been applied to the two Cargo link areas on either side of the interstate rail; each utilising the central access and the western access. The volumes have been split into two shifts with 60% during day shift and 40% during afternoon shift. A conservative assumption has been made that day shift employees enter during AM peak and leave during PM peak, whilst afternoon shift employees enter during PM peak and leave outside of peak hours.

Additional admin volume has been calculated as 10 employees per building: 5 buildings (50 employees) at central access and 8 (80 employees) at western access.

The total Cargo link employee LV volumes per day are shown in Table 14.

Table 14 Cargo Link employee (LV) volumes (per day)

Total Cargo Link LV Volumes	2035		2050	
	Central Access	Western Access	Central Access	Western Access
Gross Floor Area (GFA)	182 500m^2	193 300m^2	182 500m^2	193 300m^2
Admin staff – In during AM peak and Out during PM peak	**50**	**80**	**50**	**80**
Operations staff	**236**	**250**	**284**	**300**
Day Shift (60%) – In during AM peak and Out during PM peak	142	150	170	180
Afternoon Shift (40%) – In during PM peak	95	100	114	120
Total employees	**286**	**330**	**334**	**380**

Table 15 provides a summary of the cargo link LV volume during the AM and PM peaks.

Table 15 Cargo Link LV Traffic Generation Summary

Cargo Link LV Volumes / hour	2035				2050			
	Central Access		Western Access		Central Access		Western Access	
Peak Hour	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
In	192	95	230	100	220	113	260	120
Out	0	192	0	230	0	220	0	260

6.3.5 Additional IMT employee light vehicle (LV) traffic generation

Additional IMT employee (LV) numbers, provided by PN, were also included in the traffic generation. A conservative assumption was made that volumes for any shifts starting/ending 2 hours either side of a peak hour would be included. Therefore, AM peak was considered for volumes occurring from 6am-11am and PM peak was considered for volumes occurring from 3pm-8pm. The additional IMT employee LV volumes and peak hour summary are shown in Table 16 and Table 17.

Table 16 Additional total IMT LV employee numbers

Employees	Staff rate / assumption	Access point	Shift times	Daily Movements		
				2029	2035	2050
Corporate staff	Assumed relocation of MFT corporate staff & growth	Central	8am to 4pm	25	35	50
Operational building	10 persons normal work hours	Central	9am to 5pm	10	10	10
Express and customer service	25 persons per 12hr shift (including IMEX)	Central	5am / 5pm (25% day 25% night) 8am / 8pm (25% day 25% night)	38	42	50
Loco provisioning	10 persons per 8hr shift	Western	6am / 2pm / 10pm	20	25	30
Loco drivers	15 trains per day x 2 drivers x 1 changeover	Western	6am / 2pm / 10pm	30	45	60
Steel admin & operations	11 persons per shift	Western	6am to 4pm	11	11	11
Wagon maintenance	15 persons per 12hr shift	Western	5am / 5pm	30	30	30
Mobile equipment service	15 persons per 12hr shift	Western	7am / 7pm	16	24	30
Security	7-8 persons per 12hr shift	Central	6am / 6pm	5	10	15
			Total	**185**	**232**	**286**

Table 17 Additional IMT LV Traffic Generation Summary

Cargo Link LV Volumes / hour	2029				2035				2050			
	Central Access		Western Access		Central Access		Western Access		Central Access		Western Access	
Peak Hour	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
In	83	45	0	0	61	26	46	39	80	33	56	42
Out	37	91	0	0	16	71	35	50	20	93	45	53

6.3.6 IMEX and Empty Container (MT) Park heavy vehicle (HV) traffic generation

Traffic generation for IMEX (HV) has been calculated using total number of TEU for the IMEX, 500,000 TEU, for both interim and ultimate year. The steps to calculate the hourly IMEX heavy vehicle volumes throughout the day are as follows:

1. The IMEX traffic volume was calculated as 500,000 TEU and calculated per day.

   E.g. 2050 (Ultimate year) = 500,000 TEUs ÷ 52 ÷ 7 = 1374 TEUs/day

2. Then the TEUs per day was split across three shifts; day (6am-2pm), evening (2pm-10pm) and night (10pm-6am) shifts with 40%, 40% and 20% split respectively.

   Day shift = 549 TEU
   Evening shift = 549 TEU
   Night shift = 275 TEU

3. A TEU ratio of 1.5 was used to determine the number of containers per shift

   Day shift = 549/1.5 = 366 containers
   Evening shift = 549/1.5 = 366 containers
   Night shift = 275/1.5 = 183 containers

4. A Container/Truck ratio of 2.5 was used to determine the number of trucks per shift

   Day shift = 366/2.5 = 147 trucks
   Evening shift = 366/2.5 = 147 trucks
   Night shift = 183/2.5 = 73 trucks

5. The number of trucks per shift was divided by 8 to find the hourly heavy vehicle volume for IMEX

   Day shift = 147/8 = 18 trucks/hr
   Evening shift = 147/8 = 18 trucks/hr
   Night shift = 73/8 = 9 trucks/hr

Furthermore, the Empty Container (MT) Park heavy vehicle volume is calculated as 0.25 * (IMEX truck volume) for any given hour.

There are no associated light vehicle volumes for the IMEX. The MT Park staff light vehicle was assumed as 24 staff spread across two shifts: 12 in and out in AM peak and 12 in and out in PM peak

All IMEX and MT Park traffic are assumed to enter/exit the terminal via the Western access.

6.3.7 Warehouse traffic generation

Using the RMS Guide to Traffic Generating Developments, a rate of 4/100sqm GFA was used to determine the total (HV and LV) trips per day for warehousing operations.

The spread of vehicles throughout the day was determined as 60% assumed to travel during “daylight” hours between 6am and 6pm, 30% assumed to travel between 6pm to 6am and 10% of total volume assumed to be staff LV that enter/exit around shift start and end times. It is assumed this staff arrive in the hour before the start of a shift and leave in the hour after the end of a shift. Therefore, the 10% total volume was spread across the different staff shift splits shown in Table 18.

Table 18 Warehouse shift hour assumptions

Shift	% Split of Volume	No. of Shifts	1	2	3
Three 8 hour shifts	25%	3	0500-1300	1300-2100	2100-0500
Two 12 hour shifts	25%	2	0800-2000	2000-0800	
Two 8 hour shifts	25%	2	0600-1400	1400-2200	
One 8 hour shift	25%	1	0900-1700		

Of the remaining 90% total warehouse vehicles, 60% were assumed to be light vehicles (additional staff, smaller trucks) and 40% were assumed to be heavy vehicles. When factoring in the staff LV vehicles, the overall percentage of heavy vehicles is 36% which aligns closely with PN's Moorebank Intermodal Terminal which had 30% heavy vehicles.

All warehouse movements were distributed across the three accesses based on the proportional area of warehousing being accessed by each entry/exit point. Warehouse traffic volume is proportionally distributed across all three access points as shown in Table 19.

Table 19 Warehouse volume distribution

Access	Area	% Total Area
Central (General Warehouse Stage 1)	230 000 sqm	41.37%
Western (General Warehouse Stage 3)	160 600 sqm	28.90%
Eastern (General Warehouse Stage 2)	165 300 sqm	29.73%
Total Warehouse Area	**555 900 sqm**	100.00%

As warehousing is not operational in 2029 and 2035, only 2050 was considered. The warehouse volumes, showing LV and HV movement in and out of the Precinct, during AM and PM peak hours for 2050 are shown in Table 20.

Table 20 Warehouse LV and HV Traffic Generation Summary

Warehouse Volumes / hour	2050					
	Central Access		Western Access		Eastern Access	
Peak Hour	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
LV In	253	138	177	96	182	99
HV In	92	92	64	64	66	66
LV Out	196	253	137	177	141	182
HV Out	92	92	64	64	66	60
Total vehicles	**633**	**575**	**442**	**402**	**455**	**413**

6.3.8 Construction Phase

Due to the early stage of the project, a detailed construction methodology has not been developed. Accordingly, construction traffic data shown in Table 21, for the construction phase of PN's Moorebank Intermodal Terminal construction phase impact assessment has been used as a proxy due to the expected similarities between the sites.

Table 21 Construction Traffic Generation Summary (vehicles per hour)

Vehicle Type	AM Peak (IN)	PM Peak (OUT)
Trucks (HV)	212	212
Workers (LV)	222	222

Source: Pacific National

Traffic flow diagrams each of the forecast years and are provided in Appendix C. The assumptions applied in the construction phase can be found in Appendix E.

6.4 Traffic impacts

6.4.1 Future network models

The current day network intersection model presented in Section 4.4 of this TIA report has been updated for each of the modelled years due to the staging of operations based on staging plan provided by PN and dictated by the road design provided by BG&E.

For 2029, the opening of the development, the network has been modelled as the 'Initial' layout as shown in Figure 20. This layout has been modelled to include signalised intersections at the central and western accesses to the Precinct as well as at Kangaroo Drive intersection. Little River Road has been duplicated from the western side of the Princes Freeway interchange to the central access – 2 lanes each way – and from the central access to the western access – 2 lanes eastbound and 1 lane westbound – as per BG&E's design. No upgrades or duplication to the Princes Freeway interchange.

For 2035, after all operations – except warehousing – have come online, both the 'Initial' layout and the 'Interim' layout were analysed. The 'Interim' layout, as shown in Figure 21, has been modelled same as the 'Initial' layout with the inclusion of upgraded Princes Freeway interchange. As per BG&E's design, the interchange upgrades included a new single lane bridge with one westbound lane, the existing bridge converted to both lanes eastbound and a signalised intersection at eastern section.

For 2050, when the entire Precinct has been built out and is fully operational, the network has been modelled as the 'Ultimate' layout, shown in Figure 22. This layout has been modelled the same as the 'Interim' layout with the inclusion of the eastern access.

Construction phase has been modelled using the 'Existing' layout.

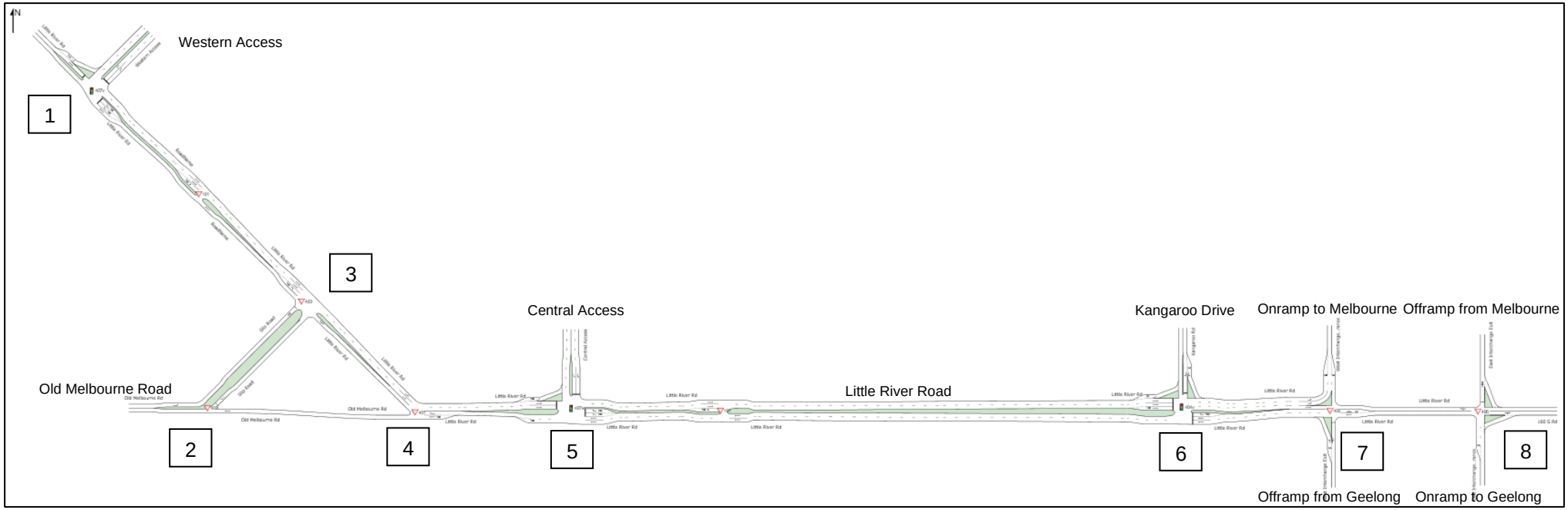


Figure 20 'Initial' layout – SIDRA Modelled network layout

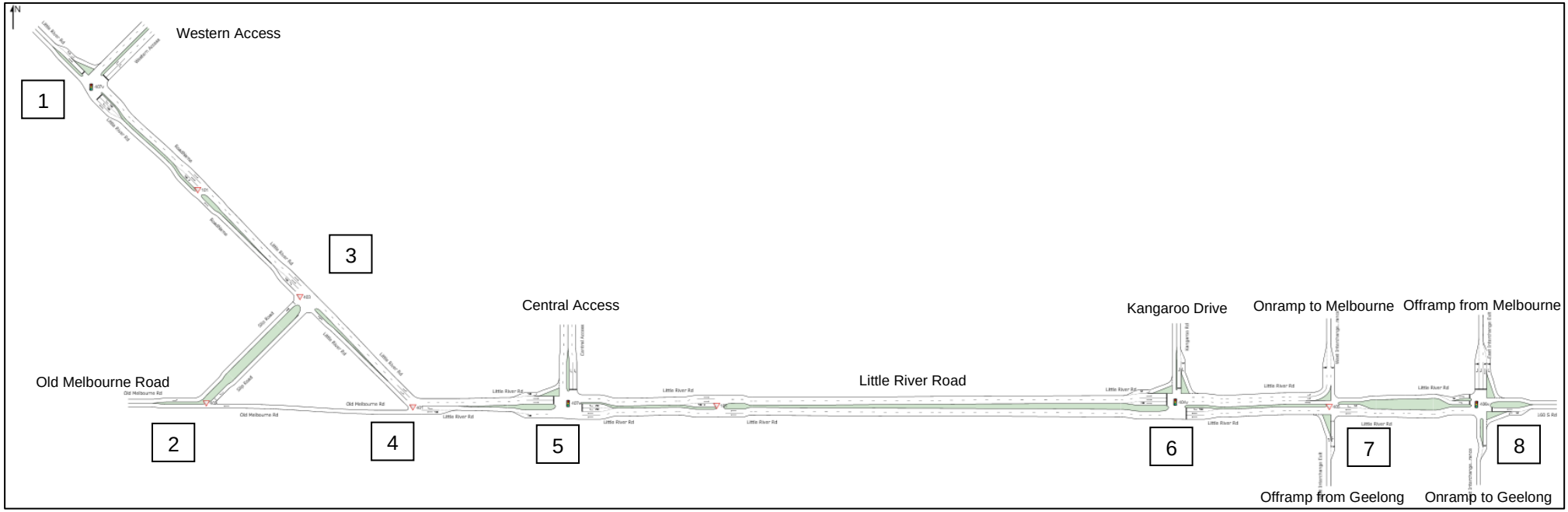


Figure 21 'Interim' layout – SIDRA Modelled network layout

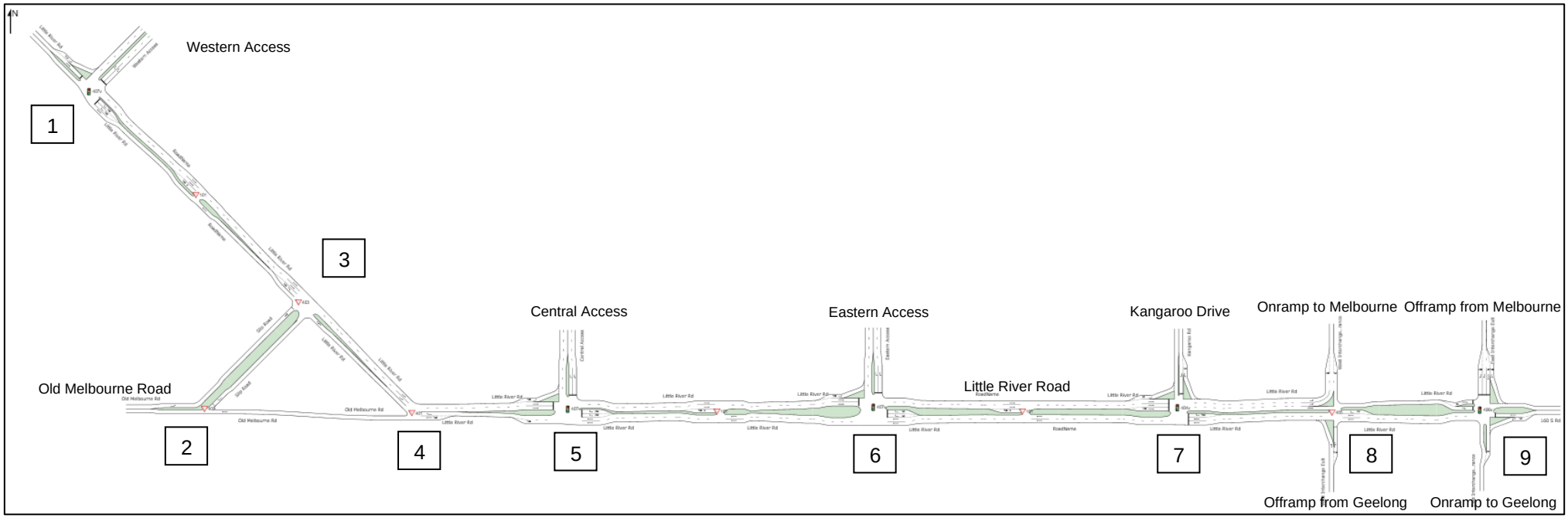


Figure 22 'Ultimate' layout – SIDRA Modelled network layout

6.4.2 SIDRA analysis parameters

The following outputs are produced by SIDRA and were used to assess traffic impacts:

- Degree of saturation (DoS). This is the ratio of traffic demand to intersection capacity. A DoS of 1.0 or more in theory represents saturated conditions, but a lower practical DoS is used. For priority-controlled intersections, a DoS of 0.8 is the desired upper limit; for roundabouts, it is 0.85; and for signals it is 0.9.
- Average delay. This is the average amount of time it takes a vehicle to negotiate an intersection, including the time to negotiate corners and the time stopped in queues or waiting for a green signal. This parameter is the most tangible to drivers.
- Level of service (LoS). This is an alpha-numeric rating of the overall performance of an intersection, ranging from A (very good) to F (very poor). It is directly related to the average delay. The desirable target for this report is considered to be a LoS D or above.
- 95th percentile back of queue (95% Q). This is the queue length that is not exceeded 95% of the time. Ideally, queue lengths should not exceed the turning lane storage or block back into upstream intersections.

The above core performance outputs are provided for the AM and PM peaks assessed. Summary results are provided in the following sections, with Appendix D including the raw SIDRA model network layouts and raw outputs.

6.4.3 Operational phase

The assessment results for each of the forecast years are provided below:

- 2029 AM and PM peak results shown in Table 22.
- 2035 AM and PM peak results shown in Table 23 and Table 24.
- 2050 AM and PM peak results shown in Table 25.

In summary the following conclusions can be drawn from the modelling:

- In 2029, the ‘Initial’ layout has sufficient capacity to accommodate the forecast traffic volumes. The maximum Degree of Saturation (DoS) is 0.228 and all Level of Service (LoS) are B or better. These are well within the desirable capacity thresholds.
- In 2035, the ‘Initial’ layout has sufficient capacity to accommodate the forecast traffic volumes. The maximum Degree of Saturation (DoS) is 0.757 and all Level of Service (LoS) are B or better. These are within the desirable capacity thresholds however consideration can be made to:
    - Little River Road/Princes Freeway interchange – Eastern section. In the AM peak, a maximum DoS of 0.757 is observed at the offramp onto Little River Road. As it is a priority-controlled intersection, the acceptable DoS is 0.8 – the observed DoS is only slightly under the criteria. The reason for these results is the substantial volume travelling from Melbourne to the terminal, particularly in the AM peak, and these volumes will further increase after 2035 due to warehousing operations going online. Therefore, upgrades will be required soon after 2035 to ensure the intersection is sufficiently accommodating increased traffic volume.

      Possible intervention could be to implement dual right turn lanes and signalising the intersection; however, this will require downstream upgrades of the overpass to facilitate any turning volume onto Little River Road. The ‘Interim’ layout includes these upgrades. However, it is important to note that any commitment to the interchange upgrades should be contingent on understanding the delivery timeframes of the outer metropolitan ring road (OMR).
- In 2035, the ‘Interim’ layout has sufficient capacity to accommodate the forecast traffic volumes. The maximum Degree of Saturation (DoS) is 0.565 and all Level of Service (LoS) are B or better. These are well within the desirable capacity thresholds.
- In 2050, the ‘Ultimate’ layout has sufficient capacity to accommodate the forecast traffic volumes. The maximum Degree of Saturation (DoS) is 0.89 – at a signalised intersection – and all Level of

Service (LoS) are D or better. These are within the desirable capacity thresholds however consideration can be made to:

- Little River Road/Kangaroo Drive. In the AM peak, a maximum DoS of 0.89 as well as significant queue length of 102.2m is observed at the eastern approach of the intersection. The substantial volume increase due to warehousing going online, particularly in the AM peak, has caused DoS and queue length however is not obstructing the adjacent intersection.
- Little River Road/Princes Freeway interchange – Eastern section. In the AM peak, a maximum DoS of 0.868 is observed at the offramp onto Little River Road. As it is a signalised intersection, the acceptable DoS is 0.9 – the observed DoS is only slightly under the criteria. The substantial volume increase due to warehousing going online, particularly in the AM peak, has increased the DoS despite assuming upgrades to the intersection.

6.4.4 Construction phase

The assessment results for the construction phase (2029) AM and PM peak results are shown in Table 26. In summary, during construction phase, the existing road network has sufficient capacity to accommodate the forecast traffic volumes.

Following confirmation of design and appointment of a contractor, a construction phase TMP will be required. This will reconfirm the construction phase findings of this report and document any required controls or mitigations, including traffic management, restrictions on hours of operation etc.

Table 22 2029 – 'Initial' Layout SIDRA Results

Intersection	Approach Lane	Base AM Peak				Base PM Peak			
		DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS	DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS
1. Little River Road/Western Access	South: Little River Road	0.024	3.2	0	LOS A	0.037	1.8	0	LOS A
	NorthEast: Western Access	0.035	16.6	0.1	LOS B	0.048	16.6	0.1	LOS B
	NorthWest: Little River Road	0.075	6.2	0.3	LOS A	0.094	6.3	0.4	LOS A
	All vehicles	**0.075**	**6.4**	**0.3**	**LOS A**	**0.094**	**6.1**	**0.4**	**LOS A**
2. West portion: Little River Road/Old Melbourne Road	East: Old Melbourne Road	0.015	0	0	NA	0.024	0	0	NA
	NorthEast: Slip Road	0.002	2.9	0	LOS A	0.001	2.9	0	LOS A
	West: Old Melbourne Road	0.024	6.7	0	NA	0.014	6.8	0	NA
	All vehicles	**0.024**	**4.2**	**0**	**NA**	**0.024**	**2.4**	**0**	**NA**
3. North portion: Little River Road/Old Melbourne Road	SouthEast: Little River Road	0.044	0.1	0	NA	0.048	0.1	0	NA
	NorthWest: Little River Road	0.021	0.2	0	NA	0.028	0.1	0	NA
	SouthWest: Slip Road	0.052	4.2	0.6	LOS A	0.03	4.4	0.4	LOS A
	All vehicles	**0.052**	**1**	**0.6**	**NA**	**0.048**	**0.5**	**0.4**	**NA**
4. East portion: Little River Road/Old Melbourne Road	East: Little River Road	0.044	7.1	0	NA	0.049	6.9	0	NA
	NorthWest: Little River Road	0.033	3.6	0	NA	0.035	3.6	0	NA
	All vehicles	**0.044**	**5.2**	**0**	**NA**	**0.049**	**5.3**	**0**	**NA**
5. Little River Road/Central Access	East: Little River Road	0.057	3.8	0.2	LOS A	0.044	2.8	0.1	LOS A
	North: Central Access	0.087	16.1	0.2	LOS B	0.12	14.8	0.4	LOS B
	West: Little River Road	0.098	7.7	0.4	LOS A	0.114	8.6	0.4	LOS A
	All vehicles	**0.098**	**6.8**	**0.4**	**LOS A**	**0.12**	**7.4**	**0.4**	**LOS A**
6. Little River Road/Kangaroo Drive	East: Little River Road	0.155	7.3	5.4	LOS A	0.143	6.7	4.9	LOS A
	North: Kangaroo Road	0.007	8.8	0.1	LOS A	0.055	8.6	0.9	LOS A
	West: Little River Road	0.089	7.8	3.9	LOS A	0.112	9	5.1	LOS A
	All vehicles	**0.155**	**7.6**	**5.4**	**LOS A**	**0.143**	**8**	**5.1**	**LOS A**
7. West portion: Little River Road/Princes Freeway interchange	South: West Interchange Exit	0.019	8.4	0.3	LOS A	0.012	8.8	0.2	LOS A
	East: Little River Road	0.066	0.3	0.2	NA	0.059	0.8	0.5	NA
	West: Little River Road	0.053	6.3	0	NA	0.078	6.4	0	NA
	All vehicles	**0.066**	**3.4**	**0.3**	**NA**	**0.078**	**4.2**	**0.5**	**NA**
8. East portion: Little River Road/Princes Freeway interchange	East: 160 S Road	0.003	2.1	0	NA	0.003	5.1	0	NA
	North: East Interchange Exit	0.228	7.6	3.1	LOS A	0.209	7.5	2.7	LOS A
	West: Little River Road	0.016	7.2	0.3	NA	0.018	8	0.3	NA
	All vehicles	**0.228**	**7.5**	**3.1**	**NA**	**0.209**	**7.5**	**2.7**	**NA**

Table 23 2035 – 'Initial' Layout SIDRA Results

Intersection	Approach Lane	Base AM Peak				Base PM Peak			
		DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS	DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS
1. Little River Road/Western Access	South: Little River Road	0.18	6.5	0.4	LOS A	0.108	5.5	0.2	LOS A
	NorthEast: Western Access	0.079	12.4	0.3	LOS B	0.269	12.5	1.2	LOS B
	NorthWest: Little River Road	0.149	11.4	0.4	LOS B	0.189	11.5	0.6	LOS B
	All vehicles	**0.18**	**7.9**	**0.4**	**LOS A**	**0.269**	**9.7**	**1.2**	**LOS A**
2. West portion: Little River Road/Old Melbourne Road	East: Old Melbourne Road	0.015	0	0	NA	0.024	0	0	NA
	NorthEast: Slip Road	0.002	2.9	0	LOS A	0.001	2.9	0	LOS A
	West: Old Melbourne Road	0.024	6.7	0	NA	0.014	6.8	0	NA
	All vehicles	**0.024**	**4.2**	**0**	**NA**	**0.024**	**2.4**	**0**	**NA**
3. North portion: Little River Road/Old Melbourne Road	SouthEast: Little River Road	0.226	0	0	NA	0.149	0	0	NA
	NorthWest: Little River Road	0.039	0.1	0	NA	0.116	0	0	NA
	SouthWest: Slip Road	0.098	9.4	1.1	LOS A	0.063	10.7	0.7	LOS B
	All vehicles	**0.226**	**0.7**	**1.1**	**NA**	**0.149**	**0.4**	**0.7**	**NA**
4. East portion: Little River Road/Old Melbourne Road	East: Little River Road	0.225	7.1	0	NA	0.153	7.2	0	NA
	NorthWest: Little River Road	0.052	3.7	0	NA	0.125	3.6	0	NA
	All vehicles	**0.225**	**6.1**	**0**	**NA**	**0.153**	**5.1**	**0**	**NA**
5. Little River Road/Central Access	East: Little River Road	0.199	3.7	0.6	LOS A	0.136	3.9	0.5	LOS A
	North: Central Access	0.099	14.3	0.3	LOS B	0.386	15.3	1.5	LOS B
	West: Little River Road	0.191	9.8	0.6	LOS A	0.408	9.6	1.7	LOS A
	All vehicles	**0.199**	**5.5**	**0.6**	**LOS A**	**0.408**	**9.1**	**1.7**	**LOS A**
6. Little River Road/Kangaroo Drive	East: Little River Road	0.565	8.2	23.3	LOS A	0.37	7.3	13.9	LOS A
	North: Kangaroo Road	0.008	9	0.1	LOS A	0.069	9.2	1.2	LOS A
	West: Little River Road	0.135	7.3	5.5	LOS A	0.386	8.8	17.4	LOS A
	All vehicles	**0.565**	**8**	**23.3**	**LOS A**	**0.386**	**8.3**	**17.4**	**LOS A**
7. West portion: Little River Road/Princes Freeway interchange	South: West Interchange Exit	0.083	9.9	1	LOS A	0.041	9.6	0.5	LOS A
	East: Little River Road	0.213	0.1	0.2	NA	0.141	0.4	0.6	NA
	West: Little River Road	0.079	6.3	0	NA	0.233	6.7	0	NA
	All vehicles	**0.213**	**2.3**	**1**	**NA**	**0.233**	**4.6**	**0.6**	**NA**
8. East portion: Little River Road/Princes Freeway interchange	East: 160 S Road	0.003	2.1	0	NA	0.003	5.2	0	NA
	North: East Interchange Exit	0.757	7.9	24.9	LOS A	0.531	8.3	10.5	LOS A
	West: Little River Road	0.022	7.7	0.4	NA	0.053	7.8	0.8	NA
	All vehicles	**0.757**	**7.8**	**24.9**	**NA**	**0.531**	**8.2**	**10.5**	**NA**

Table 24 2035 – 'Interim' Layout SIDRA Results

Intersection	Approach Lane	Base AM Peak				Base PM Peak			
		DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS	DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS
1. Little River Road/Western Access	South: Little River Road	0.18	6.5	0.4	LOS A	0.108	5.5	0.2	LOS A
	NorthEast: Western Access	0.079	12.4	0.3	LOS B	0.269	12.5	1.2	LOS B
	NorthWest: Little River Road	0.149	11.4	0.4	LOS B	0.189	11.5	0.6	LOS B
	All vehicles	**0.18**	**7.9**	**0.4**	**LOS A**	**0.269**	**9.7**	**1.2**	**LOS A**
2. West portion: Little River Road/Old Melbourne Road	East: Old Melbourne Road	0.015	0	0	NA	0.024	0	0	NA
	NorthEast: Slip Road	0.002	2.9	0	LOS A	0.001	2.9	0	LOS A
	West: Old Melbourne Road	0.024	6.7	0	NA	0.014	6.8	0	NA
	All vehicles	**0.024**	**4.2**	**0**	**NA**	**0.024**	**2.4**	**0**	**NA**
3. North portion: Little River Road/Old Melbourne Road	SouthEast: Little River Road	0.226	0	0	NA	0.149	0	0	NA
	NorthWest: Little River Road	0.039	0.1	0	NA	0.116	0	0	NA
	SouthWest: Slip Road	0.098	9.4	1.1	LOS A	0.063	10.7	0.7	LOS B
	All vehicles	**0.226**	**0.7**	**1.1**	**NA**	**0.149**	**0.4**	**0.7**	**NA**
4. East portion: Little River Road/Old Melbourne Road	East: Little River Road	0.225	7.1	0	NA	0.153	7.2	0	NA
	NorthWest: Little River Road	0.052	3.7	0	NA	0.125	3.6	0	NA
	All vehicles	**0.225**	**6.1**	**0**	**NA**	**0.153**	**5.1**	**0**	**NA**
5. Little River Road/Central Access	East: Little River Road	0.199	3.6	0.5	LOS A	0.136	3.6	0.4	LOS A
	North: Central Access	0.099	14.3	0.3	LOS B	0.386	15.3	1.5	LOS B
	West: Little River Road	0.191	9.8	0.6	LOS A	0.408	9.6	1.7	LOS A
	All vehicles	**0.199**	**5.4**	**0.6**	**LOS A**	**0.408**	**9**	**1.7**	**LOS A**
6. Little River Road/Kangaroo Road	East: Little River Road	0.565	9.8	27	LOS A	0.37	8.8	17	LOS A
	North: Kangaroo Road	0.008	9	0.1	LOS A	0.069	9.2	1.2	LOS A
	West: Little River Road	0.135	7.3	5.5	LOS A	0.386	8.8	17.4	LOS A
	All vehicles	**0.565**	**9.2**	**27**	**LOS A**	**0.386**	**8.8**	**17.4**	**LOS A**
7. West portion: Little River Road/Princes Freeway interchange	South: West Interchange Exit	0.101	10.3	1.3	LOS B	0.05	9.8	0.6	LOS A
	East: Little River Road	0.21	0.1	0.1	NA	0.135	0.4	0.2	NA
	West: Little River Road	0.079	6.3	0	NA	0.233	6.7	0	NA
	All vehicles	**0.21**	**2.4**	**1.3**	**NA**	**0.233**	**4.6**	**0.6**	**NA**
8. East portion: Little River Road/Princes Freeway interchange	East: 160 S Road	0.013	10.8	0.3	LOS B	0.005	10.3	0.1	LOS B
	North: East Interchange Exit	0.562	14.9	21.9	LOS B	0.373	14.2	13.3	LOS B
	West: Little River Road	0.08	15.5	1.5	LOS B	0.232	18	5	LOS B
	All vehicles	**0.562**	**14.9**	**21.9**	**LOS B**	**0.373**	**14.8**	**13.3**	**LOS B**

Table 25 2050 – 'Ultimate' Layout SIDRA Results

Intersection	Approach Lane	Base AM Peak				Base PM Peak			
		DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS	DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS
1. Little River Road/Western Access	South: Little River Road	0.313	7	0.8	LOS A	0.204	6.3	0.4	LOS A
	NorthEast: Western Access	0.254	12.8	1	LOS B	0.472	13.4	2.2	LOS B
	NorthWest: Little River Road	0.149	11.4	0.4	LOS B	0.189	11.5	0.6	LOS B
	All vehicles	**0.313**	**8.9**	**1**	**LOS A**	**0.472**	**10.5**	**2.2**	**LOS B**
2. West portion: Little River Road/Old Melbourne Road	East: Old Melbourne Road	0.015	0	0	NA	0.024	0	0	NA
	NorthEast: Slip Road	0.002	2.9	0	LOS A	0.001	2.9	0	LOS A
	West: Old Melbourne Road	0.024	6.7	0	NA	0.014	6.8	0	NA
	All vehicles	**0.024**	**4.2**	**0**	**NA**	**0.024**	**2.4**	**0**	**NA**
3. North portion: Little River Road/Old Melbourne Road	SouthEast: Little River Road	0.373	0	0	NA	0.259	0	0	NA
	NorthWest: Little River Road	0.105	0.1	0.1	NA	0.193	0	0	NA
	SouthWest: Slip Road	0.267	28	2.8	LOS D	0.15	25	1.5	LOS D
	All vehicles	**0.373**	**1.2**	**2.8**	**NA**	**0.259**	**0.5**	**1.5**	**NA**
4. East portion: Little River Road/Old Melbourne Road	East: Little River Road	0.383	7.3	0	NA	0.266	7.4	0	NA
	NorthWest: Little River Road	0.12	3.7	0	NA	0.204	3.7	0	NA
	All vehicles	**0.383**	**6**	**0**	**NA**	**0.266**	**5.2**	**0**	**NA**
5. Little River Road/Central Access	East: Little River Road	0.373	4.6	1.5	LOS A	0.293	4.4	0.8	LOS A
	North: Central Access	0.28	13.1	1.4	LOS B	0.619	17.6	3.9	LOS B
	West: Little River Road	0.517	15.7	2.2	LOS B	0.611	13.1	3.8	LOS B
	All vehicles	**0.517**	**8**	**2.2**	**LOS A**	**0.619**	**11.1**	**3.9**	**LOS B**
6. Little River Road/Eastern Access	East: Little River Road	0.412	1.3	0.4	LOS A	0.283	1.7	0.4	LOS A
	North: Eastern Access	0.411	23.2	1.3	LOS C	0.557	24.9	1.6	LOS C
	West: Little River Road	0.458	5	2.2	LOS A	0.759	10.4	8.2	LOS B
	All vehicles	**0.458**	**4.1**	**2.2**	**LOS A**	**0.759**	**8.3**	**8.2**	**LOS A**
7. Little River Road/Kangaroo Road	East: Little River Road	0.89	20.4	102.2	LOS C	0.612	12.6	56.5	LOS B
	North: Kangaroo Road	0.011	10.1	0.2	LOS B	0.1	11.8	2.2	LOS B
	West: Little River Road	0.372	5.5	20.1	LOS A	0.6	8.4	45.6	LOS A
	All vehicles	**0.89**	**15**	**102.2**	**LOS B**	**0.612**	**10.1**	**56.5**	**LOS B**
8. West portion: Little River Road/Princes Freeway interchange	South: West Interchange Exit	0.48	23.3	7	LOS C	0.213	19.3	2.5	LOS C
	East: Little River Road	0.522	0.1	0.1	NA	0.306	0.2	0.2	NA
	West: Little River Road	0.297	7	0	NA	0.487	11.9	0	NA
	All vehicles	**0.522**	**4.1**	**7**	**NA**	**0.487**	**8.1**	**2.5**	**NA**
9. East portion: Little River Road/Princes Freeway interchange	East: 160 S Road	0.018	15	0.5	LOS B	0.006	12.2	0.1	LOS B
	North: East Interchange Exit	0.868	25.5	95.3	LOS C	0.632	14.9	39.8	LOS B
	West: Little River Road	0.386	21.2	8.8	LOS C	0.571	20.7	14.6	LOS C
	All vehicles	**0.868**	**25.2**	**95.3**	**LOS C**	**0.632**	**15.8**	**39.8**	**LOS B**

Table 26 Construction – 'Existing' Layout SIDRA Results

Intersection	Approach Lane	Base AM Peak				Base PM Peak			
		DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS	DoS	Ave. Delay (s/veh)	95% Queue (m)	LOS
1. West portion: Little River Road/Old Melbourne Road	East: Old Melbourne Road	0.015	0	0	NA	0.015	0	0	NA
	NorthEast: Slip Road	0.002	2.9	0	LOS A	0.002	2.9	0	LOS A
	West: Old Melbourne R Road	0.024	6.7	0	NA	0.024	6.7	0	NA
	All vehicles	**0.024**	**4.2**	**0**	**NA**	**0.024**	**4.2**	**0**	**NA**
2. North portion: Little River Road/Old Melbourne Road	SouthEast: Little River Road	0.024	0.1	0	NA	0.024	0.1	0	NA
	NorthWest: Little River Road	0.03	0.4	0.1	NA	0.03	0.4	0.1	NA
	SouthWest: Slip Road	0.039	3.4	0.4	LOS A	0.039	3.4	0.4	LOS A
	All vehicles	**0.039**	**1.2**	**0.4**	**NA**	**0.039**	**1.2**	**0.4**	**NA**
3. East portion: Little River Road/Old Melbourne Road	East: Little River Road	0.024	7.3	0	NA	0.039	7.3	0	NA
	NorthWest: Little River Road	0.053	3.8	0	NA	0.053	4.1	0	NA
	All vehicles	**0.053**	**5.3**	**0**	**NA**	**0.053**	**5.4**	**0**	**NA**
4. Little River Road/Central Access	East: Little River Road	0.186	6.9	0.6	LOS A	0.079	4.8	0.2	LOS A
	North: Central Access	0.129	13.3	0.3	LOS B	0.286	12.9	1.1	LOS B
	West: Little River Road	0.129	11.4	0.4	LOS B	0.124	11.3	0.4	LOS B
	All vehicles	**0.186**	**8.7**	**0.6**	**LOS A**	**0.286**	**10**	**1.1**	**LOS A**
5. Little River Road/Kangaroo Road	East: Little River Road	0.321	7.5	12.1	LOS A	0.185	6.9	6.8	LOS A
	North: Kangaroo Road	0.008	9	0.1	LOS A	0.062	8.9	1	LOS A
	West: Little River Road	0.181	6.5	6.4	LOS A	0.329	7	12.3	LOS A
	All vehicles	**0.321**	**7.2**	**12.1**	**LOS A**	**0.329**	**7.1**	**12.3**	**LOS A**
6. West portion: Little River Road/Princes Freeway interchange	South: West Interchange Exit	0.041	9.2	0.6	LOS A	0.017	9.8	0.3	LOS A
	East: Little River Road	0.125	0.2	0.2	NA	0.074	0.8	0.5	NA
	West: Little River Road	0.144	6.2	0	NA	0.28	6.2	0	NA
	All vehicles	**0.144**	**2.8**	**0.6**	**NA**	**0.28**	**4.7**	**0.5**	**NA**
7. East portion: Little River Road/Princes Freeway interchange	East: 160 S Road	0.003	2.1	0	NA	0.003	5.1	0	NA
	North: East Interchange Exit	0.438	7.8	8.1	LOS A	0.264	8.3	4.3	LOS A
	West: Little River Road	0.021	8	0.4	NA	0.032	8.2	0.5	NA
	All vehicles	**0.438**	**7.8**	**8.1**	**NA**	**0.264**	**8.3**	**4.3**	**NA**

6.5 Road geometry

As outlined previously in Section 4.2, Little River Road, and its interchange with the Princes Freeway, is not currently approved for use by B-Double trucks.

The addition of formalised shoulders along the length of Little River Road to facilitate the safe operation of B-Double vehicles will be required prior to opening in 2029.

This report provides an assessment of the interchange geometry and its ability to accommodate the B-Double trucks which will be servicing the terminal. This assessment was undertaken using AutoTurn Pro (version 11.0). The design vehicle for this assessment is shown in Figure 23.

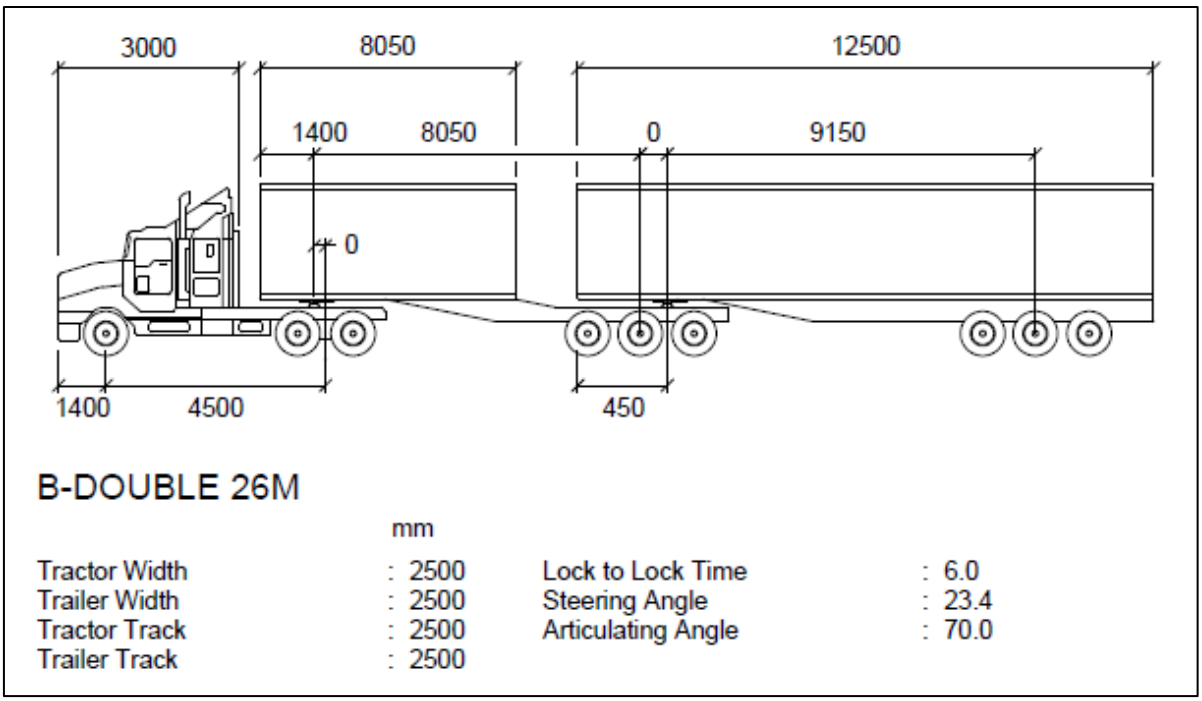


Figure 23 Swept Path Analysis – Design Vehicle

During construction of Kangaroo Drive, and its intersection with Little River Road (during 2019), the western ramps of the Princes Freeway interchange were upgraded and can now accommodate B-Double vehicles. As a result, the swept path analysis shows no geometry works are required to these ramps (shown in Figure 24). The eastern ramps were not upgraded as part of these works, and to accommodate B-Double movements, localised widening will be required (shown in Figure 25).

Figure 24 Swept Path Analysis – Little River Road / Princes Freeway (western ramps)

Figure 25 Swept Path Analysis – Little River Road / Princes Freeway (eastern ramps)

7.0 Avoidance and mitigation measures

On the basis of the traffic impact assessment, the potential upgrades required to the network have been identified. These are summarised in Table 27, including the required timing of each.

Table 27 Required mitigation measures *

Timeframe	Mitigation	Discussion
Construction Phase	Traffic Management Plan (TMP)	Following confirmation of design and appointment of a contractor, a construction phase TMP will be required. This will reconfirm the construction phase findings of this report and document any required controls or mitigations, including traffic management. See Section 6.4.4
2029	Little River Road	Duplication of Little River Road from the western side of the Princes Freeway interchange to the central access – 2 lanes each way – and from the central access to the western access – 2 lanes eastbound and 1 lane westbound – as per BG&E's design Widening of shoulders for Little River Road to be sealed is required in order to facilitate the safe operation of B-Double vehicles
	Little River Road / Western access and Little River Road / Central access	Building signalised intersections at access points out to their final configurations, as per BG&E design, to facilitate movement in/out of the precinct Adding U-turn pockets adjacent to intersections to facilitate missing right turn movement out of accesses
	Little River Road / Kangaroo Drive	Converting intersection to signalised and building out to final configuration, as per BG&E design
	Little River Road / Princes Freeway Interchange	Localised widening to both the northbound and southbound ramps to accommodate B-Double vehicles. These should be delivered alongside any required overpass strengthening works. See Section 6.5.
2035*	Little River Road / Princes Freeway Interchange Bridge	Convert existing bridge into two westbound lanes and build new bridge with one eastbound lane
	Little River Road / Princes Freeway Interchange East	Signalisation of intersection to final configuration included added right turn lane from offramp.
2050*	Little River Road / Eastern access	Building signalised intersections at access point out to their final configuration, as per BG&E design, to facilitate movement in/out of the precinct Adding U-turn pockets adjacent to intersection to facilitate missing right turn movement out of accesses

* Any commitment to these future upgrades should be contingent on understanding the delivery timeframes of the outer metropolitan ring road.

A key consideration dictating the requirement for these future mitigation measures is the delivery of the outer metropolitan ring road (OMR) by the State Government. As discussed previously in Section 4.7, construction of the OMR results in the demolition of the existing Little River Road interchange, and construction of a new connection from Princes Freeway to the intersection of Little River Road and Old Melbourne Road via Point Wilson Road (OMR South).

Under this new network configuration, Precinct related traffic will no longer operate on the eastern extents of Little River Road, instead using the newly constructed OMR South direct connection. The traffic will disperse from the intersection onto Little River Road turning left when travelling to the Western access and turning right when travelling to the Central and Eastern access points. The upgrades identified during this assessment would no longer be required.

Therefore, it is crucial that any commitment to these upgrades should therefore be contingent on understanding the delivery timeframes of the OMR. Further engagement with DTP is recommended to understand the timing of the OMR as part of this project approval process.

8.0 Conclusion

In summary, the TIA has determined the following:

- Existing conditions:
  - The local road network is operating well under capacity
  - The local road network, including the Little River Road interchange and overpass, is not currently approved for use by B-Double vehicles. This will require engagement with the Department to gain approval for B-Double use on this area of the network.
- Impact assessment confirmed:
  - During the construction phase, the existing road network has sufficient capacity to accommodate the forecast traffic volumes
  - In 2029, the 'Initial' road network has sufficient capacity to accommodate the forecast traffic volumes
  - In 2035, the 'Initial' road network is sufficient however it is expected that upgrades will likely be required, shortly after 2035, to accommodate the forecast traffic volumes subject to warehouse take up. The 'Interim' road network – which includes upgraded Princes Freeway Interchange – has sufficient capacity to accommodate the forecast traffic volumes
  - In 2050, the 'Ultimate' road network – including all upgrades to Princes Freeway interchange and Little River Road – has sufficient capacity to accommodate the forecast traffic volumes
- The following mitigations measures were identified:
  - Construction Phase Traffic Management Plan (required prior to construction commencing)
  - Duplication of Little River Road from western side of Princes Freeway Interchange to the western access of the Precinct (planned to be delivered in 2029)
  - Formed shoulders along the length of Little River Road to facilitate safe movement of B-Double vehicles (planned to be delivered in 2029)
  - Widening of the Little River Road / Princes Freeway Interchange ramps (planned to be delivered in 2029)
  - Building signalised intersections – with adjacent U-turn pocket – at central and western access points (planned to be delivered in 2029)
  - Convert Kangaroo Drive intersection to signalised (planned to be delivered in 2029)
  - Build new interchange overpass bridge with one eastbound lane and convert existing bridge to two westbound lanes (planned to be delivered in 2035)
  - Signalisation of intersection at the Little River Road / Princes Freeway Interchange East (planned to be delivered in 2035)
  - Building signalised intersection – with adjacent U-turn pocket – at eastern access point (planned to be delivered in 2048)

Any commitment to the interchange upgrades should be contingent on understanding the delivery timeframes of the Outer Metropolitan Ring (OMR). As the delivery of that project, including the demolition of the existing Little River Road overpass and construction of a new freeway interchange, will remove the need for these mitigation measures.

Subsequent assessments are recommended upon finalisation of the internal operations and traffic distribution at the access points of the Precinct. Updated traffic assessment will also be required in the event of changes to the wider network and upon further consultation with DTP regarding Princes Freeway performance, and OMR staging and timeline as traffic volume distribution will be significantly affected.

9.0 References

The following reports and / or parties have been referenced or consulted in the preparation of this report:

- Victoria Government Gazette – Road Management Act 2004, Code of Practice, Worksite Safety, Traffic Management 2010.
- Road Management Act 2004
- Department of Transport and Planning (VicRoads) – General Guidance
- Department of Transport and Planning (VicRoads) Heavy Vehicle Network Maps in Victoria
- Department of Transport and Planning (VicRoads) Road Management Plan
- National Heavy Vehicle Regulator (NHVR) website / journey planner
- Austroads Guide to Road Design Part 3: Geometric Design
- Austroads – Guide to Road Design Part 4: Intersections and Crossings
- Austroads –Guide to Traffic Management Part 11: Parking
- Road and Traffic Authority - 2002 Guide to Traffic Generating Developments
- Representatives from Pacific National

Appendix A

Risk Assessment

Appendix A Risk Assessment

Assigning consequence of risks

In this risk assessment, the consequences of a risk occurring were assigned using a consequence guide. Specific consequence categories were developed considering existing conditions in the study area. The consequence rating criteria used in the risk assessment specifically for risks relating to transport is shown below.

Level	Qualitative description
	Traffic
Negligible	No adverse impact on traffic assessment
Minor	Little adverse impact on traffic assessment
Moderate	Some adverse impact traffic assessment
Major	Large impact on traffic assessment. Further assessment may be required
Severe	Significant adverse impact on traffic assessment. Further assessment will be required

Assigning likelihood of risks

A likelihood rating for each identified risk pathway was assigned using the guide in the following table. The likelihood criteria in the risk assessment range across a scale from 'almost certain' where 'the event is expected to occur in most circumstances or is planned to occur' to 'rare' where 'the event may occur only in 'exceptional circumstances'.

Level	Description
Rare	The event may occur only in exceptional circumstances
Unlikely	The event could occur but is not expected
Possible	The event could occur
Likely	The event will probably occur in most circumstances
Almost Certain	The event is expected to occur in most circumstances or is planned to occur

Risk assessment matrix and risk rating

The consequence and likelihood were combined to arrive at a risk rating, using the risk assessment matrix shown in the following table. The complete risk register for presented in Section 5.0.

		Consequence ratings				
		Negligible	Minor	Moderate	Major	Severe
Likelihood rating	Rare	Very Low	Very Low	Low	Medium	Medium
	Unlikely	Very Low	Low	Low	Medium	High
	Possible	Low	Low	Medium	High	High
	Likely	Low	Medium	Medium	High	Very High
	Almost Certain	Low	Medium	High	Very High	Very High

Appendix B

Local Road Network

Appendix B Local Road Network

Princes Freeway/Little River Road interchange – from Melbourne

Princes Freeway/Little River Road interchange – to Geelong

Princes Freeway/Little River Road interchange – to Melbourne

Princes Freeway/Little River Road interchange – from Geelong

Kangaroo Drive/Little River Road intersection

Little River Road/Old Melbourne Road intersection

Appendix C

Traffic Flow Diagrams

Appendix C Traffic Flow Diagrams

Traffic Flow Diagrams – Existing Traffic

No.	Diagram
001	2022 Existing Traffic – AM Peak
002	2022 Existing Traffic – PM Peak

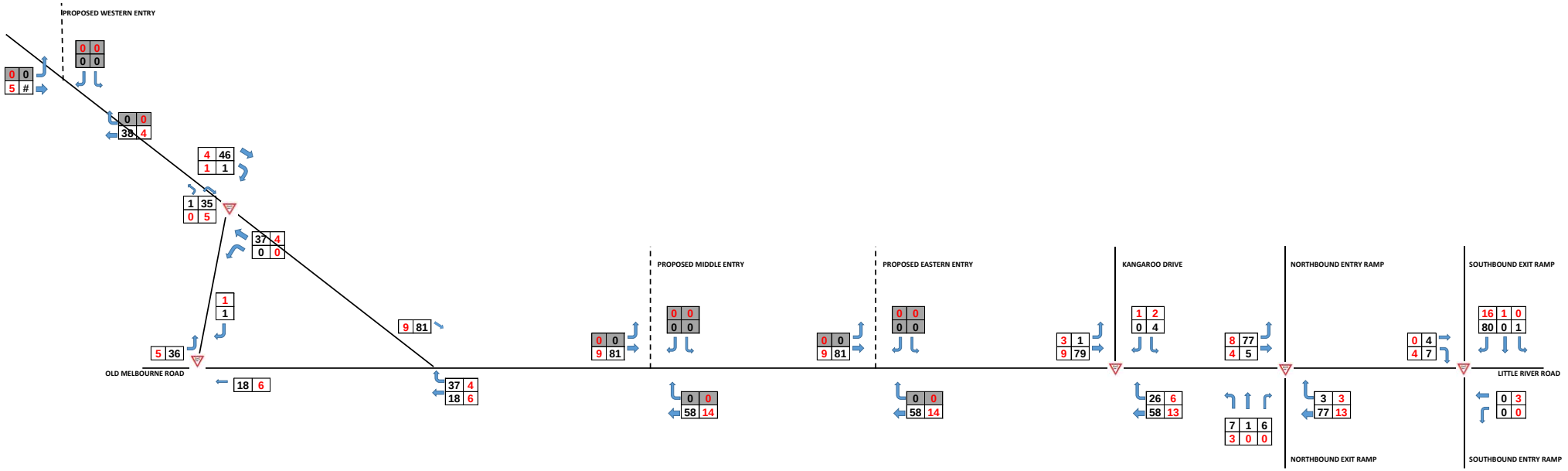
Traffic Flow Diagrams – Total Traffic

No.	Diagram
101	2029 Total Traffic – AM Peak
102	2029 Total Traffic – PM Peak
103	2035 Total Traffic – AM Peak
104	2035 Total Traffic – PM Peak
105	2050 Total Traffic – AM Peak
106	2050 Total Traffic – PM Peak

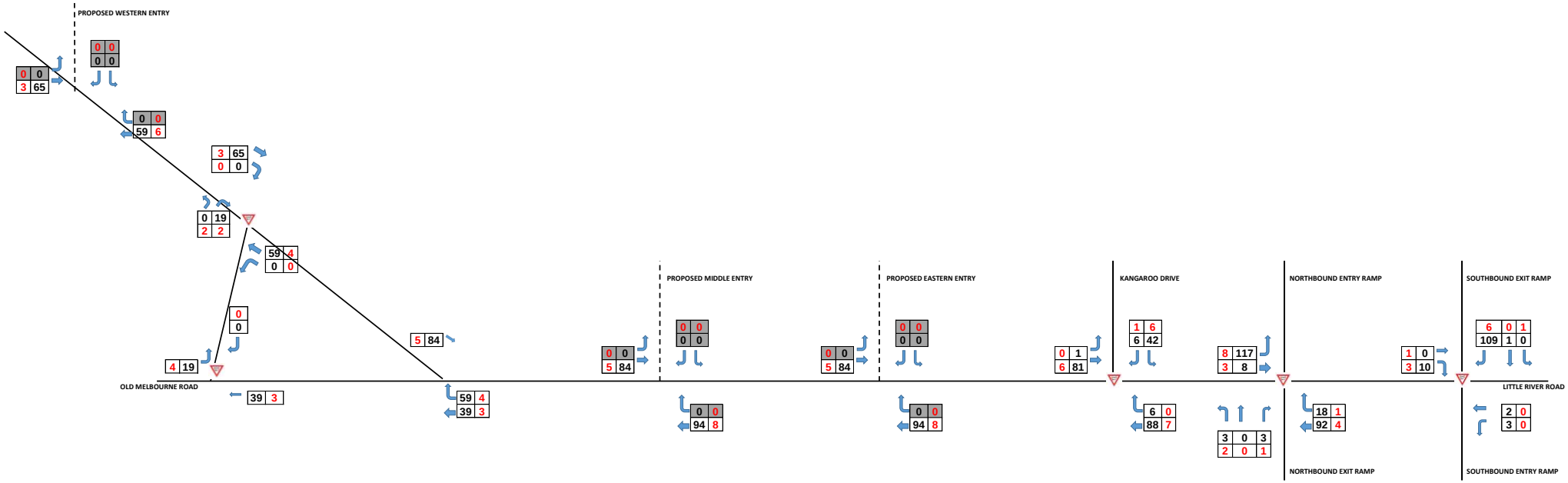
Traffic Flow Diagrams – Total Construction Traffic

No.	Diagram
201	2029 Total Construction Traffic – AM Peak
202	2029 Total Construction Traffic – PM Peak

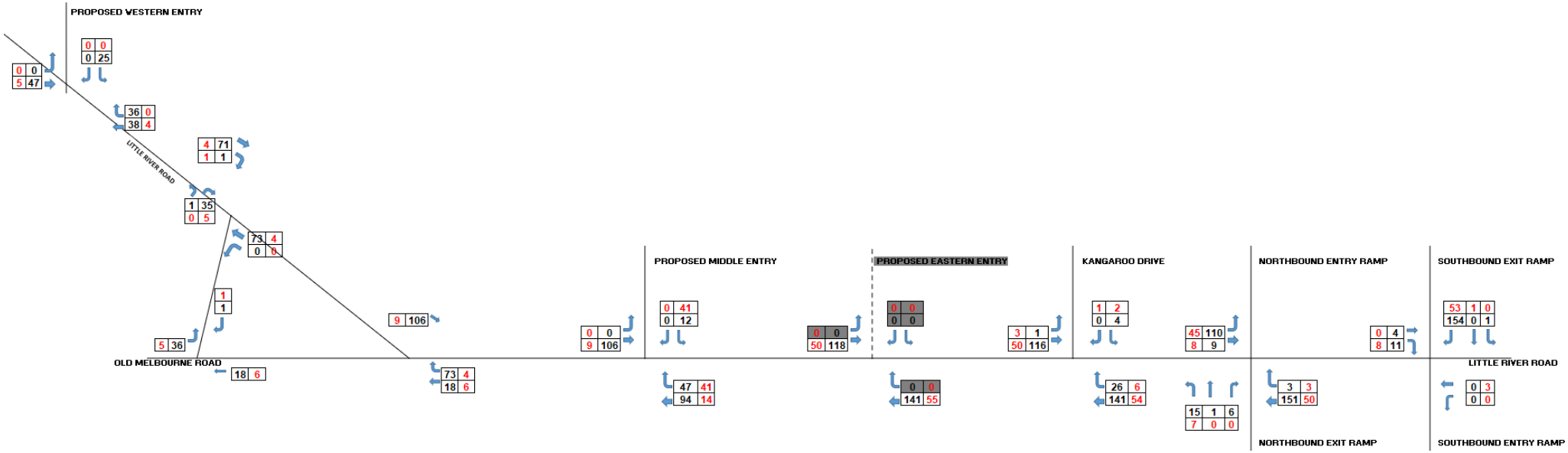
001 – 2022 Existing Traffic – AM Peak



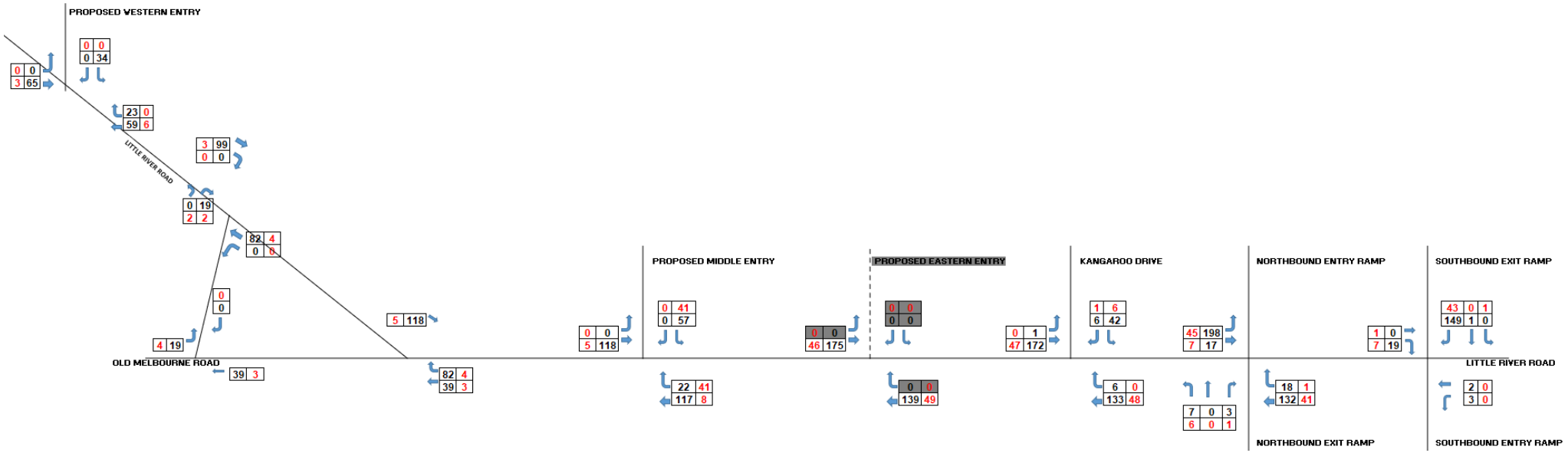
002 – 2022 Existing Traffic – PM Peak



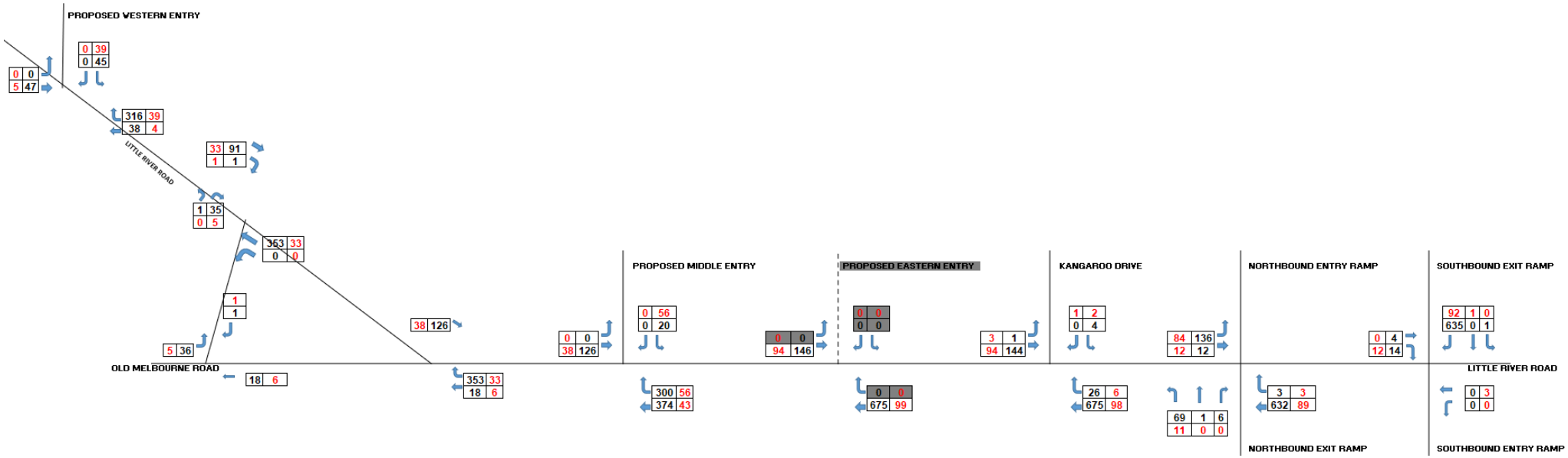
101 – 2029 Total Traffic – AM Peak



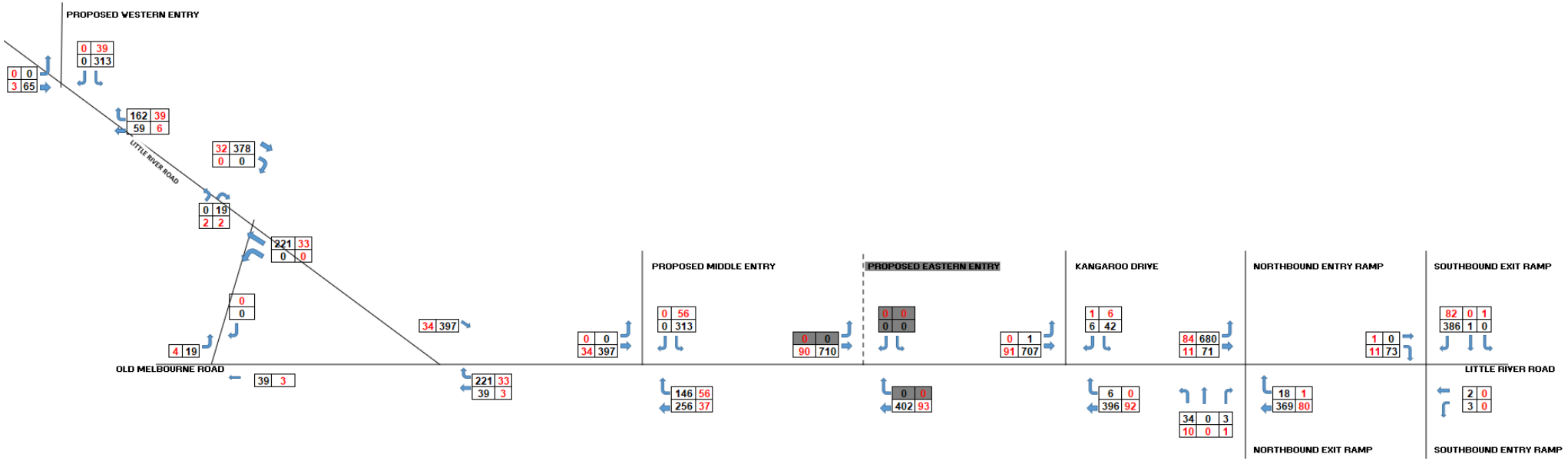
102 – 2029 Total Traffic – PM Peak



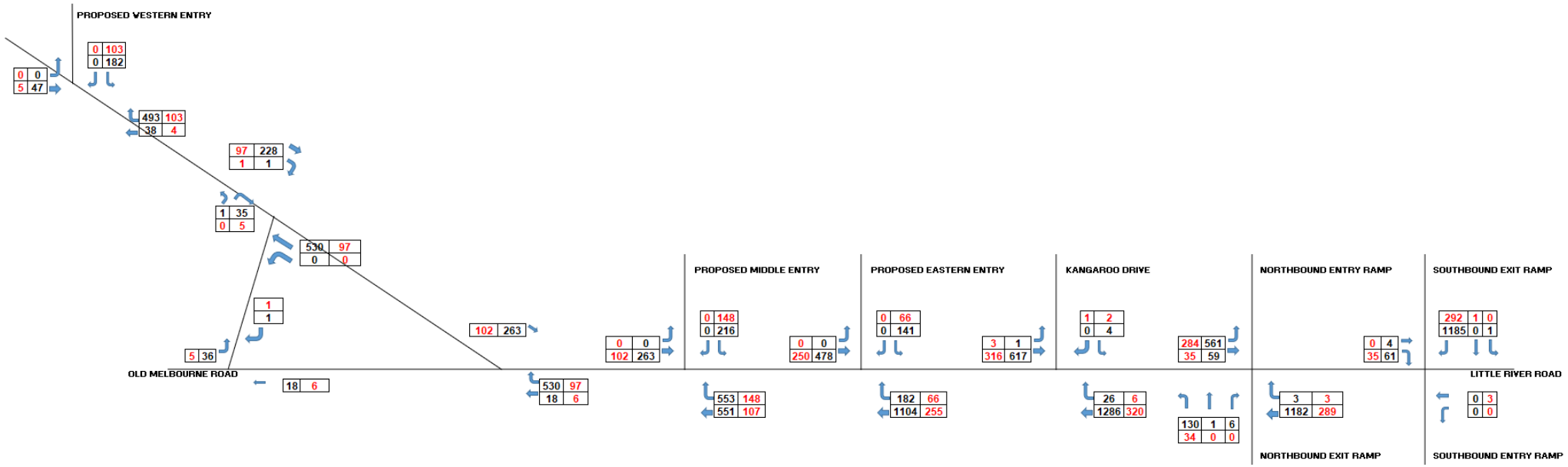
103 – 2035 Total Traffic – AM Peak



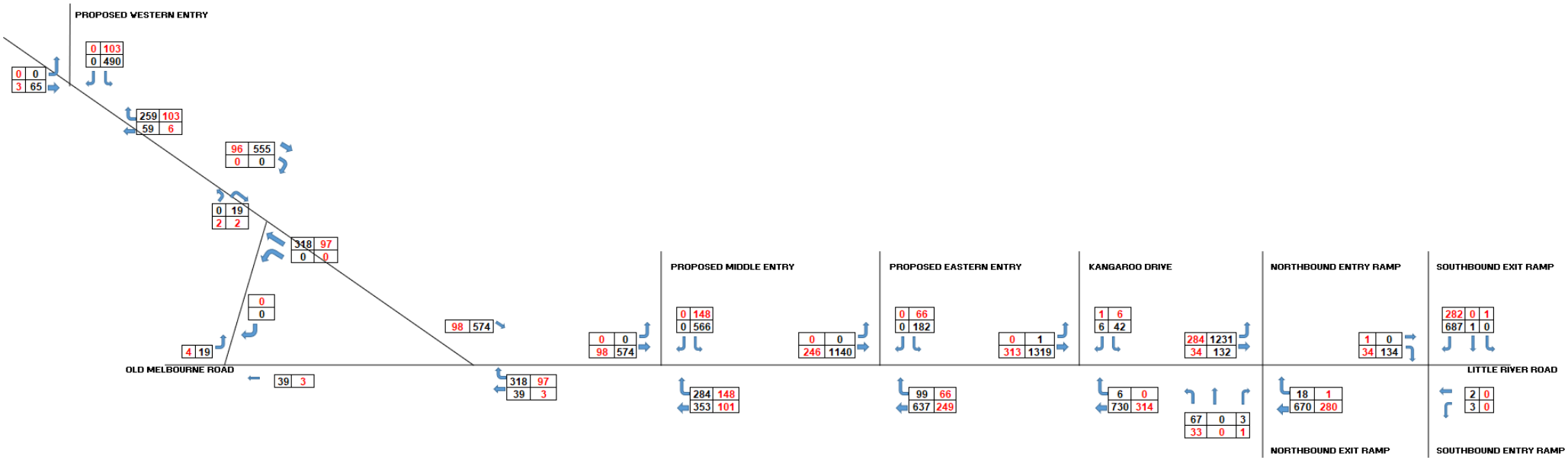
104 – 2035 Total Traffic – PM Peak



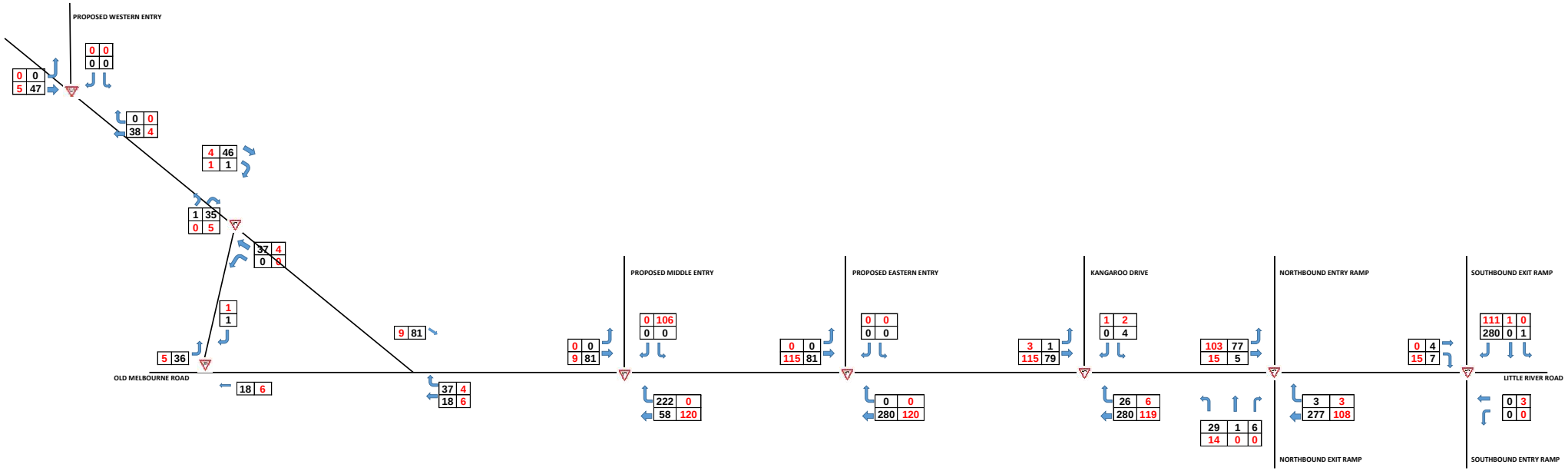
105 – 2050 Total Traffic – AM Peak



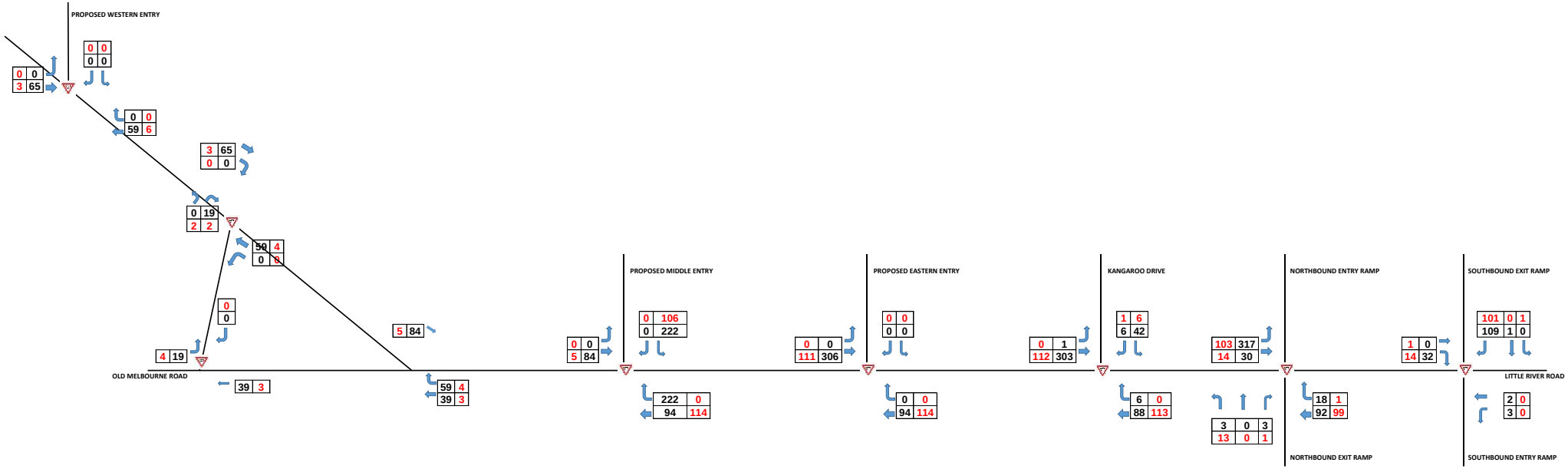
106 – 2050 Total Traffic – PM Peak



201 – 2029 Total Construction Traffic – AM Peak



202 – 2029 Total Construction Traffic – PM Peak


PROPOSED WESTERN ENTRY
OLD MELBOURNE ROAD
PROPOSED MIDDLE ENTRY
PROPOSED EASTERN ENTRY
KANGAROO DRIVE
NORTHBOUND ENTRY RAMP
SOUTHBOUND EXIT RAMP
LITTLE RIVER ROAD
NORTHBOUND EXIT RAMP
SOUTHBOUND ENTRY RAMP

Appendix D

SIDRA Modelling Results

MOVEMENT SUMMARY

Site: 407v [Little River Road/Western Access - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
22	T1	44	9.5	44	9.5	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
23	R2	38	0.0	38	0.0	* 0.019	6.9	LOS A	0.0	0.3	0.42	0.63	0.42	50.2
Approach		82	5.1	82	5.1	0.024	3.2	LOS A	0.0	0.3	0.19	0.29	0.19	68.6
NorthEast: Western Access														
24	L2	26	0.0	26	0.0	0.035	16.6	LOS B	0.1	0.7	0.83	0.67	0.83	39.1
Approach		26	0.0	26	0.0	0.035	16.6	LOS B	0.1	0.7	0.83	0.67	0.83	39.1
NorthWest: Little River Rd														
27	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	52.8
28	T1	55	9.6	55	9.6	* 0.075	6.2	LOS A	0.3	2.4	0.64	0.49	0.64	75.0
Approach		56	9.4	56	9.4	0.075	6.2	LOS A	0.3	2.4	0.64	0.49	0.64	73.9
All Vehicles		164	5.8	164	5.8	0.075	6.4	LOS A	0.3	2.4	0.45	0.42	0.45	63.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Western Access/OM - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: RoadName														
22	T1	82	5.1	82	5.1	0.044	4.2	LOS A	0.0	0.0	0.00	0.53	0.00	41.9
Approach		82	5.1	82	5.1	0.044	4.2	NA	0.0	0.0	0.00	0.53	0.00	41.9
NorthWest: RoadName														
28	T1	81	6.5	81	6.5	0.022	4.2	LOS A	0.0	0.0	0.00	0.53	0.00	47.4
29u	U	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.00	0.67	0.00	42.2
Approach		82	6.4	82	6.4	0.022	4.2	NA	0.0	0.0	0.00	0.53	0.00	47.4
All Vehicles		164	5.8	164	5.8	0.044	4.2	NA	0.0	0.0	0.00	0.53	0.00	45.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	25	25.0	25	25.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		25	25.0	25	25.0	0.015	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
Approach		2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
West: Old Melbourne Rd														
10a	L1	43	12.2	43	12.2	0.024	6.7	LOS A	0.0	0.0	0.00	0.64	0.00	62.3
Approach		43	12.2	43	12.2	0.024	6.7	NA	0.0	0.0	0.00	0.64	0.00	62.3
All Vehicles		71	17.9	71	17.9	0.024	4.2	NA	0.0	0.0	0.00	0.41	0.00	67.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.044	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	98.4
5	T1	81	5.2	81	5.2	0.044	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	98.4
Approach		82	5.1	82	5.1	0.044	0.1	NA	0.0	0.0	0.00	0.01	0.00	98.4
NorthWest: Little River Rd														
11	T1	79	5.3	79	5.3	0.021	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	2	50.0	2	50.0	0.002	6.0	LOS A	0.0	0.0	0.20	0.57	0.20	48.7
Approach		81	6.5	81	6.5	0.021	0.2	NA	0.0	0.0	0.01	0.01	0.01	97.3
SouthWest: Slip Road														
1	L2	1	0.0	1	0.0	0.052	3.7	LOS A	0.1	0.6	0.31	0.57	0.31	28.0
3	R2	42	12.5	42	12.5	0.052	4.2	LOS A	0.1	0.6	0.31	0.57	0.31	28.0
Approach		43	12.2	43	12.2	0.052	4.2	LOS A	0.1	0.6	0.31	0.57	0.31	28.0
All Vehicles		206	7.1	206	7.1	0.052	1.0	NA	0.1	0.6	0.07	0.13	0.07	79.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	25	25.0	25	25.0	0.015	7.2	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	81	5.2	81	5.2	0.044	7.0	LOS A	0.0	0.0	0.00	0.65	0.00	74.5
Approach		106	9.9	106	9.9	0.044	7.1	NA	0.0	0.0	0.00	0.65	0.00	74.7
NorthWest: Little River Rd														
27a	L1	121	7.8	121	7.8	0.033	3.6	LOS A	0.0	0.0	0.00	0.60	0.00	51.0
Approach		121	7.8	121	7.8	0.033	3.6	NA	0.0	0.0	0.00	0.60	0.00	51.0
All Vehicles		227	8.8	227	8.8	0.044	5.2	NA	0.0	0.0	0.00	0.62	0.00	69.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	114	13.0	114	13.0	0.032	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	93	46.6	93	46.6	* 0.057	8.4	LOS A	0.2	1.5	0.73	0.70	0.73	50.7
Approach		206	28.1	206	28.1	0.057	3.8	LOS A	0.2	1.5	0.33	0.32	0.33	54.2
North: Central Access														
7	L2	56	77.4	56	77.4	0.087	16.1	LOS B	0.2	2.4	0.78	0.70	0.78	40.2
Approach		56	77.4	56	77.4	0.087	16.1	LOS B	0.2	2.4	0.78	0.70	0.78	40.2
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	53.1
11	T1	121	7.8	121	7.8	* 0.098	7.8	LOS A	0.4	2.9	0.72	0.54	0.72	48.9
Approach		122	7.8	122	7.8	0.098	7.7	LOS A	0.4	2.9	0.72	0.54	0.72	48.9
All Vehicles		384	28.8	384	28.8	0.098	6.8	LOS A	0.4	2.9	0.52	0.44	0.52	51.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	206	28.1	206	28.1	0.063	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		206	28.1	206	28.1	0.063	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Little River Rd														
11	T1	177	29.8	177	29.8	0.054	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12u	U	1	0.0	1	0.0	0.001	8.2	LOS A	0.0	0.0	0.33	0.60	0.33	49.8
Approach		178	29.6	178	29.6	0.054	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		384	28.8	384	28.8	0.063	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	205	27.7	205	27.7	* 0.155	6.5	LOS A	0.6	5.4	0.67	0.53	0.67	47.5
6	R2	34	18.8	34	18.8	0.064	12.4	LOS B	0.2	1.6	0.64	0.70	0.64	47.3
Approach		239	26.4	239	26.4	0.155	7.3	LOS A	0.6	5.4	0.67	0.55	0.67	47.4
North: Kangaroo Rd														
7	L2	6	33.3	6	33.3	0.007	7.3	LOS A	0.0	0.1	0.41	0.59	0.41	48.4
9	R2	1	100.0	1	100.0	* 0.005	17.7	LOS B	0.0	0.1	0.82	0.59	0.82	38.2
Approach		7	42.9	7	42.9	0.007	8.8	LOS A	0.0	0.1	0.47	0.59	0.47	46.7
West: Little River Rd														
10	L2	4	75.0	4	75.0	0.005	12.6	LOS B	0.0	0.2	0.74	0.65	0.74	69.9
11	T1	175	30.1	175	30.1	0.089	7.7	LOS A	0.4	3.9	0.84	0.64	0.84	86.0
Approach		179	31.2	179	31.2	0.089	7.8	LOS A	0.4	3.9	0.84	0.64	0.84	85.3
All Vehicles		425	28.7	425	28.7	0.155	7.6	LOS A	0.6	5.4	0.73	0.59	0.73	73.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	23	31.8	23	31.8	0.019	8.3	LOS A	0.0	0.3	0.23	0.56	0.23	59.1
2	T1	1	0.0	1	0.0	0.010	9.4	LOS A	0.0	0.1	0.40	0.61	0.40	68.2
3	R2	6	0.0	6	0.0	0.010	8.5	LOS A	0.0	0.1	0.40	0.61	0.40	58.3
Approach		31	24.1	31	24.1	0.019	8.4	LOS A	0.0	0.3	0.27	0.57	0.27	59.4
East: Little River Rd														
5	T1	212	24.9	212	24.9	0.066	0.0	LOS A	0.0	0.2	0.01	0.02	0.01	98.8
6	R2	6	50.0	6	50.0	0.066	9.2	LOS A	0.0	0.2	0.01	0.04	0.01	63.1
Approach		218	25.6	218	25.6	0.066	0.3	NA	0.0	0.2	0.01	0.02	0.01	95.4
West: Little River Rd														
10	L2	163	29.0	163	29.0	0.053	7.0	LOS A	0.0	0.0	0.00	0.60	0.00	58.7
11	T1	18	47.1	18	47.1	0.012	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		181	30.8	181	30.8	0.053	6.3	NA	0.0	0.0	0.00	0.54	0.00	59.3
All Vehicles		429	27.7	429	27.7	0.066	3.4	NA	0.0	0.3	0.02	0.28	0.02	70.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406 [Little River Road Interchange East - Initial - 2029 AM (Site Folder: Initial - 2029 AM)]

Network: N101 [2029 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	1	0.0	1	0.0	0.003	8.4	LOS A	0.0	0.0	0.04	0.17	0.04	84.4
11	T1	3	100.0	3	100.0	0.003	0.0	LOS A	0.0	0.0	0.04	0.17	0.04	88.6
Approach		4	75.0	4	75.0	0.003	2.1	NA	0.0	0.0	0.04	0.17	0.04	86.9
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.228	7.3	LOS A	0.4	3.1	0.13	0.64	0.13	69.2
2	T1	1	100.0	1	100.0	0.228	7.6	LOS A	0.4	3.1	0.13	0.64	0.13	53.1
3	R2	218	25.6	218	25.6	0.228	7.6	LOS A	0.4	3.1	0.13	0.64	0.13	60.8
Approach		220	25.8	220	25.8	0.228	7.6	LOS A	0.4	3.1	0.13	0.64	0.13	60.8
West: Little River Rd														
5	T1	4	0.0	4	0.0	0.016	0.0	LOS A	0.0	0.3	0.04	0.57	0.04	85.1
6	R2	20	42.1	20	42.1	0.016	8.7	LOS A	0.0	0.3	0.04	0.57	0.04	59.4
Approach		24	34.8	24	34.8	0.016	7.2	NA	0.0	0.3	0.04	0.57	0.04	62.7
All Vehicles		248	27.5	248	27.5	0.228	7.5	NA	0.4	3.1	0.12	0.62	0.12	61.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Western Access - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
22	T1	68	9.2	68	9.2	0.037	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
23	R2	24	0.0	24	0.0	0.012	6.9	LOS A	0.0	0.2	0.41	0.62	0.41	50.2
Approach		93	6.8	93	6.8	0.037	1.8	LOS A	0.0	0.2	0.11	0.16	0.11	79.4
NorthEast: Western Access														
24	L2	36	0.0	36	0.0	* 0.048	16.6	LOS B	0.1	1.0	0.83	0.68	0.83	39.0
Approach		36	0.0	36	0.0	0.048	16.6	LOS B	0.1	1.0	0.83	0.68	0.83	39.0
NorthWest: Little River Rd														
27	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	52.8
28	T1	72	4.4	72	4.4	* 0.094	6.3	LOS A	0.4	3.0	0.65	0.50	0.65	74.8
Approach		73	4.3	73	4.3	0.094	6.3	LOS A	0.4	3.0	0.65	0.50	0.65	74.0
All Vehicles		201	4.7	201	4.7	0.094	6.1	LOS A	0.4	3.0	0.43	0.38	0.43	67.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Western Access/OM - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	DEMAND FLOWS HV] %	ARRIVAL FLOWS [Total veh/h]	ARRIVAL FLOWS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh]	AVERAGE BACK OF QUEUE Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: RoadName														
22	T1	93	6.8	93	6.8	0.050	4.2	LOS A	0.0	0.0	0.00	0.53	0.00	41.9
Approach		93	6.8	93	6.8	0.050	4.2	NA	0.0	0.0	0.00	0.53	0.00	41.9
NorthWest: RoadName														
28	T1	107	2.9	107	2.9	0.028	4.2	LOS A	0.0	0.0	0.00	0.53	0.00	47.4
29u	U	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.00	0.67	0.00	42.2
Approach		108	2.9	108	2.9	0.028	4.2	NA	0.0	0.0	0.00	0.53	0.00	47.4
All Vehicles		201	4.7	201	4.7	0.050	4.2	NA	0.0	0.0	0.00	0.53	0.00	45.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	44	7.1	44	7.1	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		44	7.1	44	7.1	0.024	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
Approach		1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
West: Old Melbourne Rd														
10a	L1	24	17.4	24	17.4	0.014	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	62.3
Approach		24	17.4	24	17.4	0.014	6.8	NA	0.0	0.0	0.00	0.65	0.00	62.3
All Vehicles		69	10.6	69	10.6	0.024	2.4	NA	0.0	0.0	0.00	0.23	0.00	73.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.048	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	98.5
5	T1	91	4.7	91	4.7	0.048	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	98.5
Approach		92	4.6	92	4.6	0.048	0.1	NA	0.0	0.0	0.00	0.01	0.00	98.5
NorthWest: Little River Rd														
11	T1	107	2.9	107	2.9	0.028	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	1	0.0	1	0.0	0.001	5.7	LOS A	0.0	0.0	0.19	0.57	0.19	48.8
Approach		108	2.9	108	2.9	0.028	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.0
SouthWest: Slip Road														
1	L2	2	100.0	2	100.0	0.030	4.1	LOS A	0.0	0.4	0.32	0.57	0.32	27.3
3	R2	22	9.5	22	9.5	0.030	4.4	LOS A	0.0	0.4	0.32	0.57	0.32	27.3
Approach		24	17.4	24	17.4	0.030	4.4	LOS A	0.0	0.4	0.32	0.57	0.32	27.3
All Vehicles		224	5.2	224	5.2	0.048	0.5	NA	0.0	0.4	0.04	0.07	0.04	88.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	44	7.1	44	7.1	0.024	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	91	4.7	91	4.7	0.049	7.0	LOS A	0.0	0.0	0.00	0.65	0.00	74.5
Approach		135	5.5	135	5.5	0.049	6.9	NA	0.0	0.0	0.00	0.65	0.00	74.7
NorthWest: Little River Rd														
27a	L1	129	4.1	129	4.1	0.035	3.6	LOS A	0.0	0.0	0.00	0.60	0.00	51.0
Approach		129	4.1	129	4.1	0.035	3.6	NA	0.0	0.0	0.00	0.60	0.00	51.0
All Vehicles		264	4.8	264	4.8	0.049	5.3	NA	0.0	0.0	0.00	0.62	0.00	69.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	132	6.4	132	6.4	0.035	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	66	65.1	66	65.1	0.044	8.3	LOS A	0.1	1.1	0.65	0.68	0.65	50.3
Approach		198	26.1	198	26.1	0.044	2.8	LOS A	0.1	1.1	0.22	0.23	0.22	55.0
North: Central Access														
7	L2	103	41.8	103	41.8	* 0.120	14.8	LOS B	0.4	3.4	0.76	0.71	0.76	41.0
Approach		103	41.8	103	41.8	0.120	14.8	LOS B	0.4	3.4	0.76	0.71	0.76	41.0
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	53.1
11	T1	129	4.1	129	4.1	* 0.114	8.6	LOS A	0.4	3.2	0.75	0.57	0.75	47.9
Approach		131	4.0	131	4.0	0.114	8.6	LOS A	0.4	3.2	0.75	0.57	0.75	48.0
All Vehicles		432	23.2	432	23.2	0.120	7.4	LOS A	0.4	3.4	0.51	0.45	0.51	50.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	198	26.1	198	26.1	0.059	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		198	26.1	198	26.1	0.059	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Little River Rd														
11	T1	233	20.8	233	20.8	0.068	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12u	U	1	0.0	1	0.0	0.001	8.1	LOS A	0.0	0.0	0.32	0.60	0.32	49.8
Approach		234	20.7	234	20.7	0.068	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		432	23.2	432	23.2	0.068	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	191	26.5	191	26.5	* 0.143	6.5	LOS A	0.6	4.9	0.67	0.52	0.67	47.6
6	R2	6	0.0	6	0.0	0.012	12.8	LOS B	0.0	0.3	0.65	0.66	0.65	47.9
Approach		197	25.7	197	25.7	0.143	6.7	LOS A	0.6	4.9	0.67	0.53	0.67	47.7
North: Kangaroo Rd														
7	L2	51	12.5	51	12.5	0.055	7.4	LOS A	0.1	0.9	0.46	0.64	0.46	48.1
9	R2	7	14.3	7	14.3	* 0.022	16.7	LOS B	0.1	0.4	0.82	0.64	0.82	39.2
Approach		58	12.7	58	12.7	0.055	8.6	LOS A	0.1	0.9	0.51	0.64	0.51	46.8
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	10.8	LOS B	0.0	0.0	0.78	0.60	0.78	72.6
11	T1	231	21.5	231	21.5	0.112	9.0	LOS A	0.6	5.1	0.90	0.70	0.90	84.0
Approach		232	21.4	232	21.4	0.112	9.0	LOS A	0.6	5.1	0.90	0.70	0.90	83.9
All Vehicles		486	22.1	486	22.1	0.143	8.0	LOS A	0.6	5.1	0.76	0.62	0.76	73.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	14	46.2	14	46.2	0.012	8.5	LOS A	0.0	0.2	0.22	0.55	0.22	59.1
2	T1	1	0.0	1	0.0	0.008	10.0	LOS A	0.0	0.1	0.41	0.62	0.41	66.8
3	R2	4	25.0	4	25.0	0.008	9.3	LOS A	0.0	0.1	0.41	0.62	0.41	57.6
Approach		19	38.9	19	38.9	0.012	8.8	LOS A	0.0	0.2	0.28	0.57	0.28	59.5
East: Little River Rd														
5	T1	182	23.7	182	23.7	0.059	0.0	LOS A	0.1	0.5	0.02	0.06	0.02	94.3
6	R2	20	5.3	20	5.3	0.059	8.0	LOS A	0.1	0.5	0.04	0.14	0.04	79.6
Approach		202	21.9	202	21.9	0.059	0.8	NA	0.1	0.5	0.02	0.07	0.02	90.9
West: Little River Rd														
10	L2	256	18.5	256	18.5	0.078	7.0	LOS A	0.0	0.0	0.00	0.61	0.00	62.1
11	T1	25	29.2	25	29.2	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		281	19.5	281	19.5	0.078	6.4	NA	0.0	0.0	0.00	0.55	0.00	62.6
All Vehicles		502	21.2	502	21.2	0.078	4.2	NA	0.1	0.5	0.02	0.36	0.02	69.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406 [Little River Road Interchange East - Initial - 2029 PM (Site Folder: Initial - 2029 PM)]

Network: N101 [2029 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	3	0.0	3	0.0	0.003	8.4	LOS A	0.0	0.0	0.09	0.38	0.09	80.1
11	T1	2	0.0	2	0.0	0.003	0.1	LOS A	0.0	0.0	0.09	0.38	0.09	77.5
Approach		5	0.0	5	0.0	0.003	5.1	NA	0.0	0.0	0.09	0.38	0.09	79.4
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.209	7.3	LOS A	0.3	2.7	0.12	0.64	0.12	69.2
2	T1	1	100.0	1	100.0	0.209	7.6	LOS A	0.3	2.7	0.12	0.64	0.12	53.1
3	R2	202	22.4	202	22.4	0.209	7.5	LOS A	0.3	2.7	0.12	0.64	0.12	60.9
Approach		204	22.7	204	22.7	0.209	7.5	LOS A	0.3	2.7	0.12	0.64	0.12	60.9
West: Little River Rd														
5	T1	1	100.0	1	100.0	0.018	0.0	LOS A	0.0	0.3	0.02	0.66	0.02	81.8
6	R2	27	26.9	27	26.9	0.018	8.3	LOS A	0.0	0.3	0.02	0.66	0.02	62.4
Approach		28	29.6	28	29.6	0.018	8.0	NA	0.0	0.3	0.02	0.66	0.02	62.9
All Vehicles		238	23.0	238	23.0	0.209	7.5	NA	0.3	2.7	0.10	0.64	0.10	61.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Western Access - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
22	T1	44	9.5	44	9.5	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
23	R2	374	11.0	374	11.0	* 0.180	7.2	LOS A	0.4	3.2	0.47	0.69	0.47	49.5
Approach		418	10.8	418	10.8	0.180	6.5	LOS A	0.4	3.2	0.42	0.61	0.42	52.3
NorthEast: Western Access														
24	L2	88	46.4	88	46.4	0.079	12.4	LOS B	0.3	2.5	0.64	0.69	0.64	43.4
Approach		88	46.4	88	46.4	0.079	12.4	LOS B	0.3	2.5	0.64	0.69	0.64	43.4
NorthWest: Little River Rd														
27	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	52.8
28	T1	55	9.6	55	9.6	* 0.149	11.5	LOS B	0.4	3.3	0.86	0.64	0.86	61.8
Approach		56	9.4	56	9.4	0.149	11.4	LOS B	0.4	3.3	0.85	0.64	0.85	61.4
All Vehicles		562	16.3	562	16.3	0.180	7.9	LOS A	0.4	3.3	0.50	0.63	0.50	51.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Western Access/OM - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: RoadName														
22	T1	407	8.5	407	8.5	0.220	4.2	LOS A	0.0	0.0	0.00	0.53	0.00	41.9
Approach		407	8.5	407	8.5	0.220	4.2	NA	0.0	0.0	0.00	0.53	0.00	41.9
NorthWest: RoadName														
28	T1	132	26.4	132	26.4	0.040	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	47.4
29u	U	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.00	0.67	0.00	42.2
Approach		133	26.2	133	26.2	0.040	4.4	NA	0.0	0.0	0.00	0.53	0.00	47.4
All Vehicles		540	12.9	540	12.9	0.220	4.3	NA	0.0	0.0	0.00	0.53	0.00	43.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	25	25.0	25	25.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		25	25.0	25	25.0	0.015	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
Approach		2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
West: Old Melbourne Rd														
10a	L1	43	12.2	43	12.2	0.024	6.7	LOS A	0.0	0.0	0.00	0.64	0.00	62.3
Approach		43	12.2	43	12.2	0.024	6.7	NA	0.0	0.0	0.00	0.64	0.00	62.3
All Vehicles		71	17.9	71	17.9	0.024	4.2	NA	0.0	0.0	0.00	0.41	0.00	67.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.226	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	99.6
5	T1	417	8.3	417	8.3	0.226	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.6
Approach		418	8.3	418	8.3	0.226	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.6
NorthWest: Little River Rd														
11	T1	131	26.6	131	26.6	0.039	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	2	50.0	2	50.0	0.003	8.1	LOS A	0.0	0.0	0.51	0.61	0.51	42.2
Approach		133	27.0	133	27.0	0.039	0.1	NA	0.0	0.0	0.01	0.01	0.01	97.9
SouthWest: Slip Road														
1	L2	1	0.0	1	0.0	0.098	5.5	LOS A	0.1	1.1	0.60	0.81	0.60	15.6
3	R2	42	12.5	42	12.5	0.098	9.5	LOS A	0.1	1.1	0.60	0.81	0.60	15.6
Approach		43	12.2	43	12.2	0.098	9.4	LOS A	0.1	1.1	0.60	0.81	0.60	15.6
All Vehicles		594	12.8	594	12.8	0.226	0.7	NA	0.1	1.1	0.05	0.06	0.05	84.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	25	25.0	25	25.0	0.015	7.2	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	406	8.5	406	8.5	0.225	7.1	LOS A	0.0	0.0	0.00	0.65	0.00	74.5
Approach		432	9.5	432	9.5	0.225	7.1	NA	0.0	0.0	0.00	0.65	0.00	74.5
NorthWest: Little River Rd														
27a	L1	173	23.2	173	23.2	0.052	3.7	LOS A	0.0	0.0	0.00	0.60	0.00	51.0
Approach		173	23.2	173	23.2	0.052	3.7	NA	0.0	0.0	0.00	0.60	0.00	51.0
All Vehicles		604	13.4	604	13.4	0.225	6.1	NA	0.0	0.0	0.00	0.64	0.00	72.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	439	10.3	439	10.3	0.120	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	375	15.7	375	15.7	* 0.199	7.8	LOS A	0.6	4.6	0.61	0.72	0.61	52.1
Approach		814	12.8	814	12.8	0.199	3.7	LOS A	0.6	4.6	0.28	0.33	0.28	55.0
North: Central Access														
7	L2	80	73.7	80	73.7	0.099	14.3	LOS B	0.3	3.0	0.72	0.70	0.72	41.8
Approach		80	73.7	80	73.7	0.099	14.3	LOS B	0.3	3.0	0.72	0.70	0.72	41.8
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	7.2	LOS A	0.0	0.0	0.44	0.57	0.44	53.0
11	T1	173	23.2	173	23.2	* 0.191	9.8	LOS A	0.6	5.4	0.81	0.62	0.81	46.6
Approach		174	23.0	174	23.0	0.191	9.8	LOS A	0.6	5.4	0.80	0.62	0.80	46.6
All Vehicles		1067	19.0	1067	19.0	0.199	5.5	LOS A	0.6	5.4	0.40	0.41	0.40	53.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	815	12.8	815	12.8	0.226	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		815	12.8	815	12.8	0.226	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Little River Rd														
11	T1	253	39.2	253	39.2	0.081	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12u	U	1	0.0	1	0.0	0.004	17.5	LOS C	0.0	0.0	0.74	0.77	0.74	41.8
Approach		254	39.0	254	39.0	0.081	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		1068	19.0	1068	19.0	0.226	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	814	12.7	814	12.7	* 0.565	8.0	LOS A	3.0	23.3	0.82	0.70	0.82	42.5
6	R2	34	18.8	34	18.8	0.069	13.2	LOS B	0.2	1.7	0.67	0.70	0.67	46.6
Approach		847	12.9	847	12.9	0.565	8.2	LOS A	3.0	23.3	0.82	0.70	0.82	43.0
North: Kangaroo Rd														
7	L2	6	33.3	6	33.3	0.008	7.6	LOS A	0.0	0.1	0.45	0.59	0.45	48.2
9	R2	1	100.0	1	100.0	* 0.005	17.7	LOS B	0.0	0.1	0.82	0.59	0.82	38.2
Approach		7	42.9	7	42.9	0.008	9.0	LOS A	0.0	0.1	0.50	0.59	0.50	46.5
West: Little River Rd														
10	L2	4	75.0	4	75.0	0.005	12.2	LOS B	0.0	0.2	0.67	0.65	0.67	70.1
11	T1	251	39.5	251	39.5	0.135	7.2	LOS A	0.6	5.5	0.78	0.61	0.78	86.8
Approach		255	40.1	255	40.1	0.135	7.3	LOS A	0.6	5.5	0.78	0.61	0.78	86.3
All Vehicles		1109	19.4	1109	19.4	0.565	8.0	LOS A	3.0	23.3	0.81	0.68	0.81	65.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	84	13.8	84	13.8	0.083	9.3	LOS A	0.1	1.0	0.45	0.68	0.45	57.2
2	T1	1	0.0	1	0.0	0.024	19.4	LOS C	0.0	0.2	0.72	0.86	0.72	58.9
3	R2	6	0.0	6	0.0	0.024	16.7	LOS C	0.0	0.2	0.72	0.86	0.72	46.0
Approach		92	12.6	92	12.6	0.083	9.9	LOS A	0.1	1.0	0.47	0.69	0.47	56.4
East: Little River Rd														
5	T1	759	12.3	759	12.3	0.213	0.0	LOS A	0.0	0.2	0.00	0.01	0.00	99.6
6	R2	6	50.0	6	50.0	0.213	9.3	LOS A	0.0	0.2	0.01	0.01	0.01	63.4
Approach		765	12.7	765	12.7	0.213	0.1	NA	0.0	0.2	0.00	0.01	0.00	98.6
West: Little River Rd														
10	L2	232	38.2	232	38.2	0.079	7.0	LOS A	0.0	0.0	0.00	0.60	0.00	56.0
11	T1	25	50.0	25	50.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		257	39.3	257	39.3	0.079	6.3	NA	0.0	0.0	0.00	0.54	0.00	56.6
All Vehicles		1114	18.8	1114	18.8	0.213	2.3	NA	0.1	1.0	0.04	0.18	0.04	75.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406 [Little River Road Interchange East - Initial - 2035 AM (Site Folder: Initial - 2035 AM)]

Network: N101 [2035 Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	1	0.0	1	0.0	0.003	8.4	LOS A	0.0	0.0	0.05	0.16	0.05	84.3
11	T1	3	100.0	3	100.0	0.003	0.0	LOS A	0.0	0.0	0.05	0.16	0.05	88.3
Approach		4	75.0	4	75.0	0.003	2.1	NA	0.0	0.0	0.05	0.16	0.05	86.7
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.757	7.3	LOS A	3.2	24.9	0.37	0.59	0.37	68.1
2	T1	1	100.0	1	100.0	0.757	8.6	LOS A	3.2	24.9	0.37	0.59	0.37	52.5
3	R2	765	12.7	765	12.7	0.757	7.9	LOS A	3.2	24.9	0.37	0.59	0.37	59.2
Approach		767	12.8	767	12.8	0.757	7.9	LOS A	3.2	24.9	0.37	0.59	0.37	59.2
West: Little River Rd														
5	T1	4	0.0	4	0.0	0.022	0.0	LOS A	0.0	0.4	0.04	0.59	0.04	84.4
6	R2	27	46.2	27	46.2	0.022	8.9	LOS A	0.0	0.4	0.04	0.59	0.04	57.9
Approach		32	40.0	32	40.0	0.022	7.7	NA	0.0	0.4	0.04	0.59	0.04	60.4
All Vehicles		803	14.2	803	14.2	0.757	7.8	NA	3.2	24.9	0.36	0.59	0.36	59.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Western Access - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
22	T1	68	9.2	68	9.2	0.037	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
23	R2	212	19.4	212	19.4	0.108	7.2	LOS A	0.2	1.8	0.45	0.67	0.45	49.1
Approach		280	16.9	280	16.9	0.108	5.5	LOS A	0.2	1.8	0.34	0.50	0.34	56.1
NorthEast: Western Access														
24	L2	371	11.1	371	11.1	* 0.269	12.5	LOS B	1.2	9.0	0.71	0.74	0.71	42.8
Approach		371	11.1	371	11.1	0.269	12.5	LOS B	1.2	9.0	0.71	0.74	0.71	42.8
NorthWest: Little River Rd														
27	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	52.8
28	T1	72	4.4	72	4.4	* 0.189	11.6	LOS B	0.6	4.2	0.87	0.65	0.87	61.6
Approach		73	4.3	73	4.3	0.189	11.5	LOS B	0.6	4.2	0.86	0.65	0.86	61.3
All Vehicles		723	12.7	723	12.7	0.269	9.7	LOS A	1.2	9.0	0.58	0.64	0.58	49.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Western Access/OM - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: RoadName														
22	T1	269	13.7	269	13.7	0.150	4.3	LOS A	0.0	0.0	0.00	0.53	0.00	41.9
Approach		269	13.7	269	13.7	0.150	4.3	NA	0.0	0.0	0.00	0.53	0.00	41.9
NorthWest: RoadName														
28	T1	432	7.8	432	7.8	0.116	4.2	LOS A	0.0	0.0	0.00	0.53	0.00	47.4
29u	U	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.00	0.67	0.00	42.2
Approach		433	7.8	433	7.8	0.116	4.2	NA	0.0	0.0	0.00	0.53	0.00	47.4
All Vehicles		702	10.0	702	10.0	0.150	4.2	NA	0.0	0.0	0.00	0.53	0.00	45.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	44	7.1	44	7.1	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		44	7.1	44	7.1	0.024	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
Approach		1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
West: Old Melbourne Rd														
10a	L1	24	17.4	24	17.4	0.014	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	62.3
Approach		24	17.4	24	17.4	0.014	6.8	NA	0.0	0.0	0.00	0.65	0.00	62.3
All Vehicles		69	10.6	69	10.6	0.024	2.4	NA	0.0	0.0	0.00	0.23	0.00	73.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.149	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	99.4
5	T1	267	13.0	267	13.0	0.149	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.4
Approach		268	12.9	268	12.9	0.149	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.4
NorthWest: Little River Rd														
11	T1	432	7.8	432	7.8	0.116	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
12	R2	1	0.0	1	0.0	0.001	6.3	LOS A	0.0	0.0	0.36	0.55	0.36	46.8
Approach		433	7.8	433	7.8	0.116	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.7
SouthWest: Slip Road														
1	L2	2	100.0	2	100.0	0.063	6.2	LOS A	0.1	0.7	0.63	0.82	0.63	14.2
3	R2	22	9.5	22	9.5	0.063	11.1	LOS B	0.1	0.7	0.63	0.82	0.63	14.2
Approach		24	17.4	24	17.4	0.063	10.7	LOS B	0.1	0.7	0.63	0.82	0.63	14.2
All Vehicles		725	10.0	725	10.0	0.149	0.4	NA	0.1	0.7	0.02	0.03	0.02	92.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	44	7.1	44	7.1	0.024	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	267	13.0	267	13.0	0.153	7.2	LOS A	0.0	0.0	0.00	0.66	0.00	74.5
Approach		312	12.2	312	12.2	0.153	7.2	NA	0.0	0.0	0.00	0.65	0.00	74.6
NorthWest: Little River Rd														
27a	L1	454	7.9	454	7.9	0.125	3.6	LOS A	0.0	0.0	0.00	0.60	0.00	51.0
Approach		454	7.9	454	7.9	0.125	3.6	NA	0.0	0.0	0.00	0.60	0.00	51.0
All Vehicles		765	9.6	765	9.6	0.153	5.1	NA	0.0	0.0	0.00	0.62	0.00	67.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	308	12.6	308	12.6	0.086	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	213	27.7	213	27.7	0.136	9.2	LOS A	0.5	4.0	0.80	0.75	0.80	51.0
Approach		521	18.8	521	18.8	0.136	3.9	LOS A	0.5	4.0	0.33	0.30	0.33	54.7
North: Central Access														
7	L2	388	15.2	388	15.2	* 0.386	15.3	LOS B	1.5	11.7	0.83	0.77	0.83	40.3
Approach		388	15.2	388	15.2	0.386	15.3	LOS B	1.5	11.7	0.83	0.77	0.83	40.3
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	7.2	LOS A	0.0	0.0	0.44	0.57	0.44	53.0
11	T1	454	7.9	454	7.9	* 0.408	9.6	LOS A	1.7	13.0	0.84	0.69	0.84	46.7
Approach		455	7.9	455	7.9	0.408	9.6	LOS A	1.7	13.0	0.84	0.69	0.84	46.8
All Vehicles		1364	14.1	1364	14.1	0.408	9.1	LOS A	1.7	13.0	0.64	0.57	0.64	48.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	521	18.8	521	18.8	0.150	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		521	18.8	521	18.8	0.150	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Little River Rd														
11	T1	842	11.3	842	11.3	0.232	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12u	U	1	0.0	1	0.0	0.002	11.7	LOS B	0.0	0.0	0.55	0.66	0.55	46.4
Approach		843	11.2	843	11.2	0.232	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		1364	14.1	1364	14.1	0.232	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	514	18.9	514	18.9	0.370	7.2	LOS A	1.7	13.9	0.74	0.62	0.74	44.9
6	R2	6	0.0	6	0.0	0.018	14.5	LOS B	0.0	0.3	0.72	0.66	0.72	46.3
Approach		520	18.6	520	18.6	0.370	7.3	LOS A	1.7	13.9	0.74	0.62	0.74	45.0
North: Kangaroo Rd														
7	L2	51	12.5	51	12.5	0.069	8.1	LOS A	0.2	1.2	0.54	0.66	0.54	47.6
9	R2	7	14.3	7	14.3	* 0.022	16.7	LOS B	0.1	0.4	0.82	0.64	0.82	39.2
Approach		58	12.7	58	12.7	0.069	9.2	LOS A	0.2	1.2	0.58	0.66	0.58	46.3
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	10.4	LOS B	0.0	0.0	0.70	0.61	0.70	72.9
11	T1	840	11.4	840	11.4	* 0.386	8.8	LOS A	2.3	17.4	0.90	0.75	0.90	84.3
Approach		841	11.4	841	11.4	0.386	8.8	LOS A	2.3	17.4	0.90	0.75	0.90	84.3
All Vehicles		1419	14.1	1419	14.1	0.386	8.3	LOS A	2.3	17.4	0.83	0.70	0.83	77.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	46	22.7	46	22.7	0.041	8.8	LOS A	0.1	0.5	0.36	0.61	0.36	58.0
2	T1	1	0.0	1	0.0	0.017	25.7	LOS D	0.0	0.2	0.67	0.80	0.67	59.0
3	R2	4	25.0	4	25.0	0.017	14.6	LOS B	0.0	0.2	0.67	0.80	0.67	47.0
Approach		52	22.4	52	22.4	0.041	9.6	LOS A	0.1	0.5	0.39	0.63	0.39	57.0
East: Little River Rd														
5	T1	473	17.8	473	17.8	0.141	0.0	LOS A	0.1	0.6	0.02	0.03	0.02	97.0
6	R2	20	5.3	20	5.3	0.141	8.8	LOS A	0.1	0.6	0.04	0.06	0.04	81.7
Approach		493	17.3	493	17.3	0.141	0.4	NA	0.1	0.6	0.02	0.03	0.02	95.5
West: Little River Rd														
10	L2	804	11.0	804	11.0	0.233	7.4	LOS A	0.0	0.0	0.00	0.61	0.00	64.8
11	T1	86	13.4	86	13.4	0.048	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		891	11.2	891	11.2	0.233	6.7	NA	0.0	0.0	0.00	0.55	0.00	65.3
All Vehicles		1435	13.7	1435	13.7	0.233	4.6	NA	0.1	0.6	0.02	0.38	0.02	70.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406 [Little River Road Interchange East - Initial - 2035 PM (Site Folder: Initial - 2035 PM)]

Network: N101 [2035 Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	3	0.0	3	0.0	0.003	8.6	LOS A	0.0	0.0	0.17	0.37	0.17	79.4
11	T1	2	0.0	2	0.0	0.003	0.2	LOS A	0.0	0.0	0.17	0.37	0.17	76.4
Approach		5	0.0	5	0.0	0.003	5.2	NA	0.0	0.0	0.17	0.37	0.17	78.6
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.531	7.4	LOS A	1.3	10.5	0.31	0.65	0.32	68.3
2	T1	1	100.0	1	100.0	0.531	9.0	LOS A	1.3	10.5	0.31	0.65	0.32	52.5
3	R2	493	17.5	493	17.5	0.531	8.3	LOS A	1.3	10.5	0.31	0.65	0.32	59.4
Approach		495	17.7	495	17.7	0.531	8.3	LOS A	1.3	10.5	0.31	0.65	0.32	59.4
West: Little River Rd														
5	T1	1	100.0	1	100.0	0.053	0.0	LOS A	0.1	0.8	0.02	0.68	0.02	81.2
6	R2	88	13.1	88	13.1	0.053	7.9	LOS A	0.1	0.8	0.02	0.68	0.02	66.9
Approach		89	14.1	89	14.1	0.053	7.8	NA	0.1	0.8	0.02	0.68	0.02	67.1
All Vehicles		589	17.0	589	17.0	0.531	8.2	NA	1.3	10.5	0.27	0.65	0.27	61.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Western Access - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
22	T1	44	9.5	44	9.5	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
23	R2	374	11.0	374	11.0	* 0.180	7.2	LOS A	0.4	3.2	0.47	0.69	0.47	49.5
Approach		418	10.8	418	10.8	0.180	6.5	LOS A	0.4	3.2	0.42	0.61	0.42	52.3
NorthEast: Western Access														
24	L2	88	46.4	88	46.4	0.079	12.4	LOS B	0.3	2.5	0.64	0.69	0.64	43.4
Approach		88	46.4	88	46.4	0.079	12.4	LOS B	0.3	2.5	0.64	0.69	0.64	43.4
NorthWest: Little River Rd														
27	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	52.8
28	T1	55	9.6	55	9.6	* 0.149	11.5	LOS B	0.4	3.3	0.86	0.64	0.86	61.8
Approach		56	9.4	56	9.4	0.149	11.4	LOS B	0.4	3.3	0.85	0.64	0.85	61.4
All Vehicles		562	16.3	562	16.3	0.180	7.9	LOS A	0.4	3.3	0.50	0.63	0.50	51.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Western Access/OM - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: RoadName														
22	T1	407	8.5	407	8.5	0.220	4.2	LOS A	0.0	0.0	0.00	0.53	0.00	41.9
Approach		407	8.5	407	8.5	0.220	4.2	NA	0.0	0.0	0.00	0.53	0.00	41.9
NorthWest: RoadName														
28	T1	132	26.4	132	26.4	0.040	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	47.4
29u	U	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.00	0.67	0.00	42.2
Approach		133	26.2	133	26.2	0.040	4.4	NA	0.0	0.0	0.00	0.53	0.00	47.4
All Vehicles		540	12.9	540	12.9	0.220	4.3	NA	0.0	0.0	0.00	0.53	0.00	43.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	25	25.0	25	25.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		25	25.0	25	25.0	0.015	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
Approach		2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
West: Old Melbourne Rd														
10a	L1	43	12.2	43	12.2	0.024	6.7	LOS A	0.0	0.0	0.00	0.64	0.00	62.3
Approach		43	12.2	43	12.2	0.024	6.7	NA	0.0	0.0	0.00	0.64	0.00	62.3
All Vehicles		71	17.9	71	17.9	0.024	4.2	NA	0.0	0.0	0.00	0.41	0.00	67.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.226	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	99.6
5	T1	417	8.3	417	8.3	0.226	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.6
Approach		418	8.3	418	8.3	0.226	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.6
NorthWest: Little River Rd														
11	T1	131	26.6	131	26.6	0.039	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
12	R2	2	50.0	2	50.0	0.003	8.1	LOS A	0.0	0.0	0.51	0.61	0.51	42.2
Approach		133	27.0	133	27.0	0.039	0.1	NA	0.0	0.0	0.01	0.01	0.01	97.9
SouthWest: Slip Road														
1	L2	1	0.0	1	0.0	0.098	5.5	LOS A	0.1	1.1	0.60	0.81	0.60	15.6
3	R2	42	12.5	42	12.5	0.098	9.5	LOS A	0.1	1.1	0.60	0.81	0.60	15.6
Approach		43	12.2	43	12.2	0.098	9.4	LOS A	0.1	1.1	0.60	0.81	0.60	15.6
All Vehicles		594	12.8	594	12.8	0.226	0.7	NA	0.1	1.1	0.05	0.06	0.05	84.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	25	25.0	25	25.0	0.015	7.2	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	406	8.5	406	8.5	0.225	7.1	LOS A	0.0	0.0	0.00	0.65	0.00	74.5
Approach		432	9.5	432	9.5	0.225	7.1	NA	0.0	0.0	0.00	0.65	0.00	74.5
NorthWest: Little River Rd														
27a	L1	173	23.2	173	23.2	0.052	3.7	LOS A	0.0	0.0	0.00	0.60	0.00	51.0
Approach		173	23.2	173	23.2	0.052	3.7	NA	0.0	0.0	0.00	0.60	0.00	51.0
All Vehicles		604	13.4	604	13.4	0.225	6.1	NA	0.0	0.0	0.00	0.64	0.00	72.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	439	10.3	439	10.3	0.120	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	375	15.7	375	15.7	* 0.199	7.6	LOS A	0.5	3.9	0.51	0.70	0.51	52.4
Approach		814	12.8	814	12.8	0.199	3.6	LOS A	0.5	3.9	0.24	0.32	0.24	55.2
North: Central Access														
7	L2	80	73.7	80	73.7	0.099	14.3	LOS B	0.3	3.0	0.72	0.70	0.72	41.8
Approach		80	73.7	80	73.7	0.099	14.3	LOS B	0.3	3.0	0.72	0.70	0.72	41.8
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	53.1
11	T1	173	23.2	173	23.2	* 0.191	9.8	LOS A	0.6	5.4	0.81	0.62	0.81	46.6
Approach		174	23.0	174	23.0	0.191	9.8	LOS A	0.6	5.4	0.80	0.62	0.80	46.6
All Vehicles		1067	19.0	1067	19.0	0.199	5.4	LOS A	0.6	5.4	0.36	0.40	0.36	53.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	815	12.8	815	12.8	0.226	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		815	12.8	815	12.8	0.226	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Little River Rd														
11	T1	253	39.2	253	39.2	0.081	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12u	U	1	0.0	1	0.0	0.004	17.2	LOS C	0.0	0.0	0.73	0.76	0.73	42.0
Approach		254	39.0	254	39.0	0.081	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		1068	19.0	1068	19.0	0.226	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	814	12.7	814	12.7	* 0.565	9.6	LOS A	3.5	27.0	0.94	0.81	0.94	38.0
6	R2	34	18.8	34	18.8	0.069	15.3	LOS B	0.3	2.2	0.87	0.73	0.87	44.8
Approach		847	12.9	847	12.9	0.565	9.8	LOS A	3.5	27.0	0.94	0.80	0.94	38.9
North: Kangaroo Rd														
7	L2	6	33.3	6	33.3	0.008	7.6	LOS A	0.0	0.1	0.45	0.59	0.45	48.2
9	R2	1	100.0	1	100.0	* 0.005	17.7	LOS B	0.0	0.1	0.82	0.59	0.82	38.2
Approach		7	42.9	7	42.9	0.008	9.0	LOS A	0.0	0.1	0.50	0.59	0.50	46.5
West: Little River Rd														
10	L2	4	75.0	4	75.0	0.005	12.2	LOS B	0.0	0.2	0.67	0.65	0.67	70.1
11	T1	251	39.5	251	39.5	0.135	7.2	LOS A	0.6	5.5	0.78	0.61	0.78	86.8
Approach		255	40.1	255	40.1	0.135	7.3	LOS A	0.6	5.5	0.78	0.61	0.78	86.3
All Vehicles		1109	19.4	1109	19.4	0.565	9.2	LOS A	3.5	27.0	0.90	0.76	0.90	62.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	84	13.8	84	13.8	0.101	9.7	LOS A	0.2	1.3	0.45	0.68	0.45	57.0
2	T1	1	0.0	1	0.0	0.023	19.2	LOS C	0.0	0.2	0.69	0.82	0.69	59.4
3	R2	6	0.0	6	0.0	0.023	16.2	LOS C	0.0	0.2	0.69	0.82	0.69	46.6
Approach		92	12.6	92	12.6	0.101	10.3	LOS B	0.2	1.3	0.47	0.69	0.47	56.2
East: Little River Rd														
5	T1	759	12.3	759	12.3	0.210	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
6	R2	6	50.0	6	50.0	0.005	9.3	LOS A	0.0	0.1	0.09	0.66	0.09	55.0
Approach		765	12.7	765	12.7	0.210	0.1	NA	0.0	0.1	0.00	0.01	0.00	98.4
West: Little River Rd														
10	L2	232	38.2	232	38.2	0.079	7.0	LOS A	0.0	0.0	0.00	0.60	0.00	56.0
11	T1	25	50.0	25	50.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		257	39.3	257	39.3	0.079	6.3	NA	0.0	0.0	0.00	0.54	0.00	56.6
All Vehicles		1114	18.8	1114	18.8	0.210	2.4	NA	0.2	1.3	0.04	0.18	0.04	75.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406v [Little River Road Interchange East - Interim - 2035 AM (Site Folder: Interim - 2035 AM)]

Network: N101 [2035 Interim - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	1	0.0	1	0.0	0.001	9.7	LOS A	0.0	0.0	0.41	0.62	0.41	72.6
11	T1	3	100.0	3	100.0	0.013	11.1	LOS B	0.0	0.3	0.82	0.52	0.82	62.5
Approach		4	75.0	4	75.0	0.013	10.8	LOS B	0.0	0.3	0.72	0.55	0.72	66.2
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.001	8.6	LOS A	0.0	0.0	0.41	0.60	0.41	67.7
2	T1	1	100.0	1	100.0	0.002	6.0	LOS A	0.0	0.1	0.61	0.37	0.61	74.0
3	R2	765	12.7	765	12.7	* 0.562	14.9	LOS B	2.8	21.9	0.82	0.82	0.82	48.9
Approach		767	12.8	767	12.8	0.562	14.9	LOS B	2.8	21.9	0.82	0.81	0.82	49.0
West: Little River Rd														
5	T1	4	0.0	4	0.0	0.011	8.1	LOS A	0.0	0.2	0.62	0.40	0.62	80.0
6	R2	27	46.2	27	46.2	* 0.080	16.7	LOS B	0.2	1.5	0.60	0.70	0.60	50.1
Approach		32	40.0	32	40.0	0.080	15.5	LOS B	0.2	1.5	0.60	0.66	0.60	52.7
All Vehicles		803	14.2	803	14.2	0.562	14.9	LOS B	2.8	21.9	0.81	0.81	0.81	49.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 407v [Little River Road/Western Access - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
22	T1	68	9.2	68	9.2	0.037	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
23	R2	212	19.4	212	19.4	0.108	7.2	LOS A	0.2	1.8	0.45	0.67	0.45	49.1
Approach		280	16.9	280	16.9	0.108	5.5	LOS A	0.2	1.8	0.34	0.50	0.34	56.1
NorthEast: Western Access														
24	L2	371	11.1	371	11.1	* 0.269	12.5	LOS B	1.2	9.0	0.71	0.74	0.71	42.8
Approach		371	11.1	371	11.1	0.269	12.5	LOS B	1.2	9.0	0.71	0.74	0.71	42.8
NorthWest: Little River Rd														
27	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	52.8
28	T1	72	4.4	72	4.4	* 0.189	11.6	LOS B	0.6	4.2	0.87	0.65	0.87	61.6
Approach		73	4.3	73	4.3	0.189	11.5	LOS B	0.6	4.2	0.86	0.65	0.86	61.3
All Vehicles		723	12.7	723	12.7	0.269	9.7	LOS A	1.2	9.0	0.58	0.64	0.58	49.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Western Access/OM - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: RoadName														
22	T1	269	13.7	269	13.7	0.150	4.3	LOS A	0.0	0.0	0.00	0.53	0.00	41.9
Approach		269	13.7	269	13.7	0.150	4.3	NA	0.0	0.0	0.00	0.53	0.00	41.9
NorthWest: RoadName														
28	T1	432	7.8	432	7.8	0.116	4.2	LOS A	0.0	0.0	0.00	0.53	0.00	47.4
29u	U	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.00	0.67	0.00	42.2
Approach		433	7.8	433	7.8	0.116	4.2	NA	0.0	0.0	0.00	0.53	0.00	47.4
All Vehicles		702	10.0	702	10.0	0.150	4.2	NA	0.0	0.0	0.00	0.53	0.00	45.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	44	7.1	44	7.1	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		44	7.1	44	7.1	0.024	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
Approach		1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
West: Old Melbourne Rd														
10a	L1	24	17.4	24	17.4	0.014	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	62.3
Approach		24	17.4	24	17.4	0.014	6.8	NA	0.0	0.0	0.00	0.65	0.00	62.3
All Vehicles		69	10.6	69	10.6	0.024	2.4	NA	0.0	0.0	0.00	0.23	0.00	73.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.149	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	99.4
5	T1	267	13.0	267	13.0	0.149	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.4
Approach		268	12.9	268	12.9	0.149	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.4
NorthWest: Little River Rd														
11	T1	432	7.8	432	7.8	0.116	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
12	R2	1	0.0	1	0.0	0.001	6.3	LOS A	0.0	0.0	0.36	0.55	0.36	46.8
Approach		433	7.8	433	7.8	0.116	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.7
SouthWest: Slip Road														
1	L2	2	100.0	2	100.0	0.063	6.2	LOS A	0.1	0.7	0.63	0.82	0.63	14.2
3	R2	22	9.5	22	9.5	0.063	11.1	LOS B	0.1	0.7	0.63	0.82	0.63	14.2
Approach		24	17.4	24	17.4	0.063	10.7	LOS B	0.1	0.7	0.63	0.82	0.63	14.2
All Vehicles		725	10.0	725	10.0	0.149	0.4	NA	0.1	0.7	0.02	0.03	0.02	92.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	44	7.1	44	7.1	0.024	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	267	13.0	267	13.0	0.153	7.2	LOS A	0.0	0.0	0.00	0.66	0.00	74.5
Approach		312	12.2	312	12.2	0.153	7.2	NA	0.0	0.0	0.00	0.65	0.00	74.6
NorthWest: Little River Rd														
27a	L1	454	7.9	454	7.9	0.125	3.6	LOS A	0.0	0.0	0.00	0.60	0.00	51.0
Approach		454	7.9	454	7.9	0.125	3.6	NA	0.0	0.0	0.00	0.60	0.00	51.0
All Vehicles		765	9.6	765	9.6	0.153	5.1	NA	0.0	0.0	0.00	0.62	0.00	67.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	308	12.6	308	12.6	0.086	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	213	27.7	213	27.7	0.136	8.6	LOS A	0.4	3.6	0.71	0.73	0.71	51.3
Approach		521	18.8	521	18.8	0.136	3.6	LOS A	0.4	3.6	0.29	0.30	0.29	54.9
North: Central Access														
7	L2	388	15.2	388	15.2	* 0.386	15.3	LOS B	1.5	11.7	0.83	0.77	0.83	40.3
Approach		388	15.2	388	15.2	0.386	15.3	LOS B	1.5	11.7	0.83	0.77	0.83	40.3
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	53.1
11	T1	454	7.9	454	7.9	* 0.408	9.6	LOS A	1.7	13.0	0.84	0.69	0.84	46.7
Approach		455	7.9	455	7.9	0.408	9.6	LOS A	1.7	13.0	0.84	0.69	0.84	46.8
All Vehicles		1364	14.1	1364	14.1	0.408	9.0	LOS A	1.7	13.0	0.63	0.56	0.63	48.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	521	18.8	521	18.8	0.150	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		521	18.8	521	18.8	0.150	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Little River Rd														
11	T1	842	11.3	842	11.3	0.232	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12u	U	1	0.0	1	0.0	0.002	11.7	LOS B	0.0	0.0	0.55	0.66	0.55	46.4
Approach		843	11.2	843	11.2	0.232	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		1364	14.1	1364	14.1	0.232	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	514	18.9	514	18.9	0.370	8.7	LOS A	2.1	17.0	0.89	0.74	0.89	40.4
6	R2	6	0.0	6	0.0	0.018	16.9	LOS B	0.1	0.4	0.92	0.67	0.92	44.3
Approach		520	18.6	520	18.6	0.370	8.8	LOS A	2.1	17.0	0.89	0.74	0.89	40.6
North: Kangaroo Rd														
7	L2	51	12.5	51	12.5	0.069	8.1	LOS A	0.2	1.2	0.54	0.66	0.54	47.6
9	R2	7	14.3	7	14.3	* 0.022	16.7	LOS B	0.1	0.4	0.82	0.64	0.82	39.2
Approach		58	12.7	58	12.7	0.069	9.2	LOS A	0.2	1.2	0.58	0.66	0.58	46.3
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	10.4	LOS B	0.0	0.0	0.70	0.61	0.70	72.9
11	T1	840	11.4	840	11.4	* 0.386	8.8	LOS A	2.3	17.4	0.90	0.75	0.90	84.3
Approach		841	11.4	841	11.4	0.386	8.8	LOS A	2.3	17.4	0.90	0.75	0.90	84.3
All Vehicles		1419	14.1	1419	14.1	0.386	8.8	LOS A	2.3	17.4	0.89	0.75	0.89	76.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	46	22.7	46	22.7	0.050	9.0	LOS A	0.1	0.6	0.35	0.61	0.35	58.1
2	T1	1	0.0	1	0.0	0.018	28.1	LOS D	0.0	0.2	0.65	0.78	0.65	58.4
3	R2	4	25.0	4	25.0	0.018	14.7	LOS B	0.0	0.2	0.65	0.78	0.65	46.3
Approach		52	22.4	52	22.4	0.050	9.8	LOS A	0.1	0.6	0.38	0.63	0.38	56.9
East: Little River Rd														
5	T1	473	17.8	473	17.8	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
6	R2	20	5.3	20	5.3	0.012	8.7	LOS A	0.0	0.2	0.16	0.63	0.16	69.2
Approach		493	17.3	493	17.3	0.135	0.4	NA	0.0	0.2	0.01	0.03	0.01	96.2
West: Little River Rd														
10	L2	804	11.0	804	11.0	0.233	7.4	LOS A	0.0	0.0	0.00	0.61	0.00	64.8
11	T1	86	13.4	86	13.4	0.048	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		891	11.2	891	11.2	0.233	6.7	NA	0.0	0.0	0.00	0.55	0.00	65.3
All Vehicles		1435	13.7	1435	13.7	0.233	4.6	NA	0.1	0.6	0.02	0.38	0.02	70.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406v [Little River Road Interchange East - Interim - 2035 PM (Site Folder: Interim - 2035 PM)]

Network: N101 [2035 Interim - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	3	0.0	3	0.0	0.003	10.0	LOS B	0.0	0.0	0.44	0.64	0.44	72.3
11	T1	2	0.0	2	0.0	0.005	10.7	LOS B	0.0	0.1	0.82	0.50	0.82	63.5
Approach		5	0.0	5	0.0	0.005	10.3	LOS B	0.0	0.1	0.59	0.58	0.59	69.9
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.001	8.6	LOS A	0.0	0.0	0.41	0.60	0.41	67.7
2	T1	1	100.0	1	100.0	0.002	6.1	LOS A	0.0	0.1	0.61	0.37	0.61	74.0
3	R2	493	17.5	493	17.5	* 0.373	14.3	LOS B	1.7	13.3	0.75	0.78	0.75	49.8
Approach		495	17.7	495	17.7	0.373	14.2	LOS B	1.7	13.3	0.74	0.78	0.74	50.0
West: Little River Rd														
5	T1	1	100.0	1	100.0	0.004	11.0	LOS B	0.0	0.1	0.71	0.43	0.71	74.8
6	R2	88	13.1	88	13.1	* 0.232	18.1	LOS B	0.6	5.0	0.78	0.75	0.78	55.5
Approach		89	14.1	89	14.1	0.232	18.0	LOS B	0.6	5.0	0.78	0.74	0.78	55.7
All Vehicles		589	17.0	589	17.0	0.373	14.8	LOS B	1.7	13.3	0.75	0.77	0.75	51.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 407v [Little River Road/Western Access - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
22	T1	44	9.5	44	9.5	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
23	R2	627	17.3	627	17.3	* 0.313	7.5	LOS A	0.8	6.2	0.52	0.71	0.52	49.0
Approach		672	16.8	672	16.8	0.313	7.0	LOS A	0.8	6.2	0.49	0.66	0.49	50.7
NorthEast: Western Access														
24	L2	300	36.1	300	36.1	0.254	12.8	LOS B	1.0	8.8	0.70	0.74	0.70	42.8
Approach		300	36.1	300	36.1	0.254	12.8	LOS B	1.0	8.8	0.70	0.74	0.70	42.8
NorthWest: Little River Rd														
27	L2	1	0.0	1	0.0	0.001	7.4	LOS A	0.0	0.0	0.48	0.57	0.48	52.6
28	T1	55	9.6	55	9.6	* 0.149	11.5	LOS B	0.4	3.3	0.86	0.64	0.86	61.8
Approach		56	9.4	56	9.4	0.149	11.4	LOS B	0.4	3.3	0.85	0.64	0.85	61.4
All Vehicles		1027	22.0	1027	22.0	0.313	8.9	LOS A	1.0	8.8	0.57	0.68	0.57	49.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Western Access/OM - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: RoadName														
22	T1	661	15.4	661	15.4	0.373	4.3	LOS A	0.0	0.0	0.00	0.53	0.00	41.9
Approach		661	15.4	661	15.4	0.373	4.3	NA	0.0	0.0	0.00	0.53	0.00	41.9
NorthWest: RoadName														
28	T1	344	30.0	344	30.0	0.105	4.5	LOS A	0.0	0.0	0.00	0.53	0.00	47.4
29u	U	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.00	0.67	0.00	42.2
Approach		345	29.9	345	29.9	0.105	4.5	NA	0.0	0.0	0.00	0.53	0.00	47.4
All Vehicles		1006	20.4	1006	20.4	0.373	4.4	NA	0.0	0.0	0.00	0.53	0.00	44.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	25	25.0	25	25.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		25	25.0	25	25.0	0.015	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
Approach		2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
West: Old Melbourne Rd														
10a	L1	43	12.2	43	12.2	0.024	6.7	LOS A	0.0	0.0	0.00	0.64	0.00	62.3
Approach		43	12.2	43	12.2	0.024	6.7	NA	0.0	0.0	0.00	0.64	0.00	62.3
All Vehicles		71	17.9	71	17.9	0.024	4.2	NA	0.0	0.0	0.00	0.41	0.00	67.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.373	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	99.5
5	T1	660	15.5	660	15.5	0.373	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.5
Approach		661	15.4	661	15.4	0.373	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.5
NorthWest: Little River Rd														
11	T1	342	29.8	342	29.8	0.105	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
12	R2	2	50.0	2	50.0	0.004	11.3	LOS B	0.0	0.1	0.64	0.70	0.64	34.2
Approach		344	30.0	344	30.0	0.105	0.1	NA	0.0	0.1	0.00	0.00	0.00	98.8
SouthWest: Slip Road														
1	L2	1	0.0	1	0.0	0.267	10.4	LOS B	0.4	2.8	0.88	0.97	0.99	6.0
3	R2	42	12.5	42	12.5	0.267	28.5	LOS D	0.4	2.8	0.88	0.97	0.99	6.0
Approach		43	12.2	43	12.2	0.267	28.0	LOS D	0.4	2.8	0.88	0.97	0.99	6.0
All Vehicles		1048	20.1	1048	20.1	0.373	1.2	NA	0.4	2.8	0.04	0.04	0.04	78.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	25	25.0	25	25.0	0.015	7.2	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	660	15.5	660	15.5	0.383	7.3	LOS A	0.0	0.0	0.00	0.66	0.00	74.4
Approach		685	15.8	685	15.8	0.383	7.3	NA	0.0	0.0	0.00	0.66	0.00	74.4
NorthWest: Little River Rd														
27a	L1	384	27.9	384	27.9	0.120	3.7	LOS A	0.0	0.0	0.00	0.60	0.00	51.0
Approach		384	27.9	384	27.9	0.120	3.7	NA	0.0	0.0	0.00	0.60	0.00	51.0
All Vehicles		1069	20.2	1069	20.2	0.383	6.0	NA	0.0	0.0	0.00	0.64	0.00	71.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	693	16.3	693	16.3	0.196	0.5	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	738	21.1	738	21.1	* 0.373	8.4	LOS A	1.5	12.1	0.50	0.71	0.50	51.8
Approach		1431	18.8	1431	18.8	0.373	4.6	LOS A	1.5	12.1	0.26	0.37	0.26	54.3
North: Central Access														
7	L2	383	40.7	383	40.7	0.280	13.1	LOS B	1.4	13.6	0.64	0.74	0.64	42.6
Approach		383	40.7	383	40.7	0.280	13.1	LOS B	1.4	13.6	0.64	0.74	0.64	42.6
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	7.2	LOS A	0.0	0.0	0.38	0.57	0.38	53.2
11	T1	384	27.9	384	27.9	* 0.517	15.8	LOS B	2.2	18.8	0.92	0.75	0.92	41.0
Approach		385	27.9	385	27.9	0.517	15.7	LOS B	2.2	18.8	0.92	0.75	0.92	41.0
All Vehicles		2199	24.2	2199	24.2	0.517	8.0	LOS A	2.2	18.8	0.44	0.50	0.44	50.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	1431	18.8	1431	18.8	0.412	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		1431	18.8	1431	18.8	0.412	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
West: Little River Rd														
11	T1	767	34.3	767	34.3	0.241	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
12u	U	1	0.0	1	0.0	0.020	69.1	LOS F	0.0	0.1	0.95	0.98	0.95	22.0
Approach		768	34.2	768	34.2	0.241	0.2	NA	0.0	0.1	0.00	0.00	0.00	59.7
All Vehicles		2199	24.2	2199	24.2	0.412	0.1	NA	0.0	0.1	0.00	0.00	0.00	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Eastern Access - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	1431	18.8	1431	18.8	0.412	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
6	R2	261	26.6	261	26.6	* 0.223	7.8	LOS A	0.4	3.2	0.36	0.66	0.36	48.7
Approach		1692	20.0	1692	20.0	0.412	1.3	LOS A	0.4	3.2	0.06	0.10	0.06	55.4
North: Eastern Access														
7	L2	218	31.9	218	31.9	0.411	23.2	LOS C	1.3	11.3	0.93	0.77	0.93	34.5
Approach		218	31.9	218	31.9	0.411	23.2	LOS C	1.3	11.3	0.93	0.77	0.93	34.5
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	6.5	LOS A	0.0	0.0	0.23	0.56	0.23	51.7
11	T1	766	34.3	766	34.3	* 0.458	5.0	LOS A	2.2	19.6	0.49	0.42	0.49	45.7
Approach		767	34.3	767	34.3	0.458	5.0	LOS A	2.2	19.6	0.49	0.42	0.49	45.7
All Vehicles		2677	25.0	2677	25.0	0.458	4.1	LOS A	2.2	19.6	0.25	0.25	0.25	49.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Eastern Access/Kangaroo Road - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: RoadName														
5	T1	1692	20.0	1692	20.0	0.490	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach		1692	20.0	1692	20.0	0.490	0.4	NA	0.0	0.0	0.00	0.00	0.00	59.6
West: RoadName														
11	T1	986	34.0	986	34.0	0.309	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
12u	U	1	0.0	1	0.0	0.027	90.3	LOS F	0.0	0.2	0.96	0.99	0.96	9.0
Approach		987	34.0	987	34.0	0.309	0.2	NA	0.0	0.2	0.00	0.00	0.00	59.4
All Vehicles		2679	25.1	2679	25.1	0.490	0.3	NA	0.0	0.2	0.00	0.00	0.00	59.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)] Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	1691	19.9	1691	19.9	* 0.890	20.5	LOS C	12.5	102.2	1.00	1.01	1.24	22.3
6	R2	34	18.8	34	18.8	0.112	18.8	LOS B	0.4	3.3	0.99	0.77	0.99	42.0
Approach		1724	19.9	1724	19.9	0.890	20.4	LOS C	12.5	102.2	1.00	1.01	1.23	23.1
North: Kangaroo Rd														
7	L2	6	33.3	6	33.3	0.011	7.9	LOS A	0.0	0.2	0.41	0.60	0.41	48.1
9	R2	1	100.0	1	100.0	* 0.006	23.3	LOS C	0.0	0.1	0.87	0.59	0.87	34.3
Approach		7	42.9	7	42.9	0.011	10.1	LOS B	0.0	0.2	0.48	0.60	0.48	45.5
West: Little River Rd														
10	L2	4	75.0	4	75.0	0.005	11.3	LOS B	0.0	0.1	0.33	0.64	0.33	64.3
11	T1	982	33.9	982	33.9	0.372	5.5	LOS A	2.2	20.1	0.59	0.50	0.59	84.2
Approach		986	34.0	986	34.0	0.372	5.5	LOS A	2.2	20.1	0.59	0.50	0.59	84.0
All Vehicles		2718	25.1	2718	25.1	0.890	15.0	LOS B	12.5	102.2	0.85	0.82	1.00	49.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	173	20.7	173	20.7	0.480	19.3	LOS C	0.8	7.0	0.76	1.00	1.13	44.3
2	T1	1	0.0	1	0.0	0.215	355.3	LOS F	0.2	1.7	0.97	1.00	1.01	22.5
3	R2	6	0.0	6	0.0	0.215	78.1	LOS F	0.2	1.7	0.97	1.00	1.01	13.2
Approach		180	19.9	180	19.9	0.480	23.3	LOS C	0.8	7.0	0.77	1.00	1.12	40.6
East: Little River Rd														
5	T1	1548	19.6	1548	19.6	0.522	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	99.5
6	R2	6	50.0	6	50.0	0.005	10.4	LOS B	0.0	0.1	0.19	0.63	0.19	54.7
Approach		1555	19.8	1555	19.8	0.522	0.1	NA	0.0	0.1	0.00	0.00	0.00	98.7
West: Little River Rd														
10	L2	889	33.6	889	33.6	0.297	7.7	LOS A	0.0	0.0	0.00	0.60	0.00	57.2
11	T1	99	37.2	99	37.2	0.063	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		988	34.0	988	34.0	0.297	7.0	NA	0.0	0.0	0.00	0.54	0.00	57.8
All Vehicles		2723	24.9	2723	24.9	0.522	4.1	NA	0.8	7.0	0.05	0.26	0.07	69.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406v [Little River Road Interchange East - Ultimate - 2050 AM (Site Folder: Ultimate - 2050 AM)]

Network: N101 [2050 Ultimate - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	1	0.0	1	0.0	0.001	9.7	LOS A	0.0	0.0	0.33	0.63	0.33	73.1
11	T1	3	100.0	3	100.0	0.018	16.8	LOS B	0.0	0.5	0.87	0.56	0.87	52.6
Approach		4	75.0	4	75.0	0.018	15.0	LOS B	0.0	0.5	0.74	0.57	0.74	59.2
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.001	8.3	LOS A	0.0	0.0	0.31	0.61	0.31	68.2
2	T1	1	100.0	1	100.0	0.002	4.5	LOS A	0.0	0.1	0.46	0.28	0.46	76.4
3	R2	1555	19.8	1555	19.8	* 0.868	25.5	LOS C	11.6	95.3	0.93	0.99	1.31	38.3
Approach		1557	19.8	1557	19.8	0.868	25.5	LOS C	11.6	95.3	0.93	0.99	1.31	38.3
West: Little River Rd														
5	T1	4	0.0	4	0.0	0.014	11.9	LOS B	0.0	0.2	0.64	0.41	0.64	73.2
6	R2	101	36.5	101	36.5	* 0.386	21.6	LOS C	1.0	8.8	0.76	0.75	0.76	48.1
Approach		105	35.0	105	35.0	0.386	21.2	LOS C	1.0	8.8	0.75	0.74	0.75	48.8
All Vehicles		1666	20.9	1666	20.9	0.868	25.2	LOS C	11.6	95.3	0.91	0.98	1.27	39.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 407v [Little River Road/Western Access - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
22	T1	68	9.2	68	9.2	0.037	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
23	R2	381	28.5	381	28.5	0.204	7.5	LOS A	0.4	3.8	0.48	0.69	0.48	48.6
Approach		449	25.5	449	25.5	0.204	6.3	LOS A	0.4	3.8	0.41	0.58	0.41	52.7
NorthEast: Western Access														
24	L2	624	17.4	624	17.4	* 0.472	13.4	LOS B	2.2	17.7	0.78	0.78	0.78	42.1
Approach		624	17.4	624	17.4	0.472	13.4	LOS B	2.2	17.7	0.78	0.78	0.78	42.1
NorthWest: Little River Rd														
27	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	52.8
28	T1	72	4.4	72	4.4	* 0.189	11.6	LOS B	0.6	4.2	0.87	0.65	0.87	61.6
Approach		73	4.3	73	4.3	0.189	11.5	LOS B	0.6	4.2	0.86	0.65	0.86	61.3
All Vehicles		1146	19.7	1146	19.7	0.472	10.5	LOS B	2.2	17.7	0.64	0.70	0.64	47.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Western Access/OM - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: RoadName														
22	T1	439	23.7	439	23.7	0.260	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	41.9
Approach		439	23.7	439	23.7	0.260	4.4	NA	0.0	0.0	0.00	0.53	0.00	41.9
NorthWest: RoadName														
28	T1	685	14.7	685	14.7	0.193	4.3	LOS A	0.0	0.0	0.00	0.53	0.00	47.4
29u	U	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.00	0.67	0.00	42.2
Approach		686	14.7	686	14.7	0.193	4.3	NA	0.0	0.0	0.00	0.53	0.00	47.4
All Vehicles		1125	18.2	1125	18.2	0.260	4.3	NA	0.0	0.0	0.00	0.53	0.00	45.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	44	7.1	44	7.1	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		44	7.1	44	7.1	0.024	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
Approach		1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
West: Old Melbourne Rd														
10a	L1	24	17.4	24	17.4	0.014	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	62.3
Approach		24	17.4	24	17.4	0.014	6.8	NA	0.0	0.0	0.00	0.65	0.00	62.3
All Vehicles		69	10.6	69	10.6	0.024	2.4	NA	0.0	0.0	0.00	0.23	0.00	73.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.259	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	99.5
5	T1	437	23.4	437	23.4	0.259	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.5
Approach		438	23.3	438	23.3	0.259	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.5
NorthWest: Little River Rd														
11	T1	685	14.7	685	14.7	0.193	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.9
12	R2	1	0.0	1	0.0	0.001	7.2	LOS A	0.0	0.0	0.48	0.58	0.48	44.6
Approach		686	14.7	686	14.7	0.193	0.0	NA	0.0	0.0	0.00	0.00	0.00	99.7
SouthWest: Slip Road														
1	L2	2	100.0	2	100.0	0.150	9.8	LOS A	0.2	1.5	0.86	0.94	0.86	6.7
3	R2	22	9.5	22	9.5	0.150	26.5	LOS D	0.2	1.5	0.86	0.94	0.86	6.7
Approach		24	17.4	24	17.4	0.150	25.0	LOS D	0.2	1.5	0.86	0.94	0.86	6.7
All Vehicles		1148	18.1	1148	18.1	0.259	0.5	NA	0.2	1.5	0.02	0.02	0.02	89.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	DEMAND FLOWS HV] %	ARRIVAL FLOWS [Total veh/h]	ARRIVAL FLOWS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh]	AVERAGE BACK OF QUEUE Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	44	7.1	44	7.1	0.024	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	437	23.4	437	23.4	0.266	7.5	LOS A	0.0	0.0	0.00	0.66	0.00	74.5
Approach		481	21.9	481	21.9	0.266	7.4	NA	0.0	0.0	0.00	0.66	0.00	74.5
NorthWest: Little River Rd														
27a	L1	707	14.6	707	14.6	0.204	3.7	LOS A	0.0	0.0	0.00	0.60	0.00	51.0
Approach		707	14.6	707	14.6	0.204	3.7	NA	0.0	0.0	0.00	0.60	0.00	51.0
All Vehicles		1188	17.5	1188	17.5	0.266	5.2	NA	0.0	0.0	0.00	0.62	0.00	67.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	478	22.2	478	22.2	0.140	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	455	34.3	455	34.3	0.293	8.6	LOS A	0.8	7.6	0.42	0.68	0.42	51.3
Approach		933	28.1	933	28.1	0.293	4.4	LOS A	0.8	7.6	0.21	0.33	0.21	54.2
North: Central Access														
7	L2	752	20.7	752	20.7	* 0.619	17.6	LOS B	3.9	32.3	0.87	0.83	0.90	38.4
Approach		752	20.7	752	20.7	0.619	17.6	LOS B	3.9	32.3	0.87	0.83	0.90	38.4
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	7.0	LOS A	0.0	0.0	0.36	0.57	0.36	53.3
11	T1	707	14.6	707	14.6	* 0.611	13.1	LOS B	3.8	29.9	0.89	0.77	0.92	43.3
Approach		708	14.6	708	14.6	0.611	13.1	LOS B	3.8	29.9	0.89	0.77	0.92	43.3
All Vehicles		2393	21.8	2393	21.8	0.619	11.1	LOS B	3.9	32.3	0.62	0.62	0.63	46.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	933	28.1	933	28.1	0.283	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		933	28.1	933	28.1	0.283	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: Little River Rd														
11	T1	1459	17.7	1459	17.7	0.417	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
12u	U	1	0.0	1	0.0	0.006	23.9	LOS C	0.0	0.0	0.82	0.85	0.82	37.5
Approach		1460	17.7	1460	17.7	0.417	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.7
All Vehicles		2393	21.8	2393	21.8	0.417	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Eastern Access - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	933	28.1	933	28.1	0.283	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	174	40.0	174	40.0	0.215	10.5	LOS B	0.4	4.1	0.50	0.68	0.50	46.0
Approach		1106	30.0	1106	30.0	0.283	1.7	LOS A	0.4	4.1	0.08	0.11	0.08	54.1
North: Eastern Access														
7	L2	261	26.6	261	26.6	* 0.557	24.9	LOS C	1.6	14.0	0.97	0.81	1.04	33.4
Approach		261	26.6	261	26.6	0.557	24.9	LOS C	1.6	14.0	0.97	0.81	1.04	33.4
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.31	0.56	0.31	51.3
11	T1	1459	17.7	1459	17.7	* 0.759	10.4	LOS B	8.2	66.1	0.87	0.86	0.99	36.3
Approach		1460	17.7	1460	17.7	0.759	10.4	LOS B	8.2	66.1	0.87	0.86	0.99	36.3
All Vehicles		2827	23.3	2827	23.3	0.759	8.3	LOS A	8.2	66.1	0.57	0.56	0.64	41.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Eastern Access/Kangaroo Road - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: RoadName														
5	T1	1106	30.0	1106	30.0	0.339	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1106	30.0	1106	30.0	0.339	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.8
West: RoadName														
11	T1	1719	19.2	1719	19.2	0.496	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
12u	U	1	0.0	1	0.0	0.007	27.4	LOS D	0.0	0.0	0.85	0.88	0.85	22.1
Approach		1720	19.2	1720	19.2	0.496	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.5
All Vehicles		2826	23.4	2826	23.4	0.496	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)] Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	1099	30.1	1099	30.1	* 0.612	12.6	LOS B	6.4	56.5	0.99	0.87	0.99	31.8
6	R2	6	0.0	6	0.0	0.028	22.1	LOS C	0.1	0.6	1.00	0.69	1.00	40.4
Approach		1105	29.9	1105	29.9	0.612	12.6	LOS B	6.4	56.5	0.99	0.87	0.99	32.0
North: Kangaroo Rd														
7	L2	51	12.5	51	12.5	0.100	10.3	LOS B	0.3	2.2	0.61	0.68	0.61	45.1
9	R2	7	14.3	7	14.3	* 0.029	22.3	LOS C	0.1	0.6	0.88	0.65	0.88	35.1
Approach		58	12.7	58	12.7	0.100	11.8	LOS B	0.3	2.2	0.64	0.68	0.64	43.5
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	9.4	LOS A	0.0	0.0	0.36	0.63	0.36	67.6
11	T1	1718	19.2	1718	19.2	0.600	8.4	LOS A	5.6	45.6	0.85	0.75	0.85	77.8
Approach		1719	19.2	1719	19.2	0.600	8.4	LOS A	5.6	45.6	0.85	0.75	0.85	77.8
All Vehicles		2882	23.2	2882	23.2	0.612	10.1	LOS B	6.4	56.5	0.90	0.79	0.90	66.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)] Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	105	33.0	105	33.0	0.182	12.5	LOS B	0.3	2.5	0.57	0.82	0.57	53.1
2	T1	1	0.0	1	0.0	0.213	539.2	LOS F	0.2	1.8	0.97	1.00	1.01	18.2
3	R2	4	25.0	4	25.0	0.213	59.6	LOS F	0.2	1.8	0.97	1.00	1.01	10.4
Approach		111	32.4	111	32.4	0.213	19.3	LOS C	0.3	2.5	0.59	0.83	0.59	44.7
East: Little River Rd														
5	T1	1000	29.5	1000	29.5	0.306	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	99.8
6	R2	20	5.3	20	5.3	0.013	10.6	LOS B	0.0	0.2	0.24	0.62	0.24	68.8
Approach		1020	29.0	1020	29.0	0.306	0.2	NA	0.0	0.2	0.00	0.01	0.00	97.9
West: Little River Rd														
10	L2	1595	18.7	1595	18.7	0.487	13.2	LOS B	0.0	0.0	0.00	0.61	0.00	61.9
11	T1	175	20.5	175	20.5	0.102	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		1769	18.9	1769	18.9	0.487	11.9	NA	0.0	0.0	0.00	0.55	0.00	62.5
All Vehicles		2900	23.0	2900	23.0	0.487	8.1	NA	0.3	2.5	0.02	0.37	0.02	68.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406v [Little River Road Interchange East - Ultimate - 2050 PM (Site Folder: Ultimate - 2050 PM)]

Network: N101 [2050 Ultimate - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 40 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	3	0.0	3	0.0	0.003	10.2	LOS B	0.0	0.1	0.38	0.64	0.38	72.6
11	T1	2	0.0	2	0.0	0.006	15.0	LOS B	0.0	0.1	0.84	0.52	0.84	55.3
Approach		5	0.0	5	0.0	0.006	12.2	LOS B	0.0	0.1	0.57	0.59	0.57	67.3
North: East Interchange Exit														
1	L2	1	100.0	1	100.0	0.001	9.9	LOS A	0.0	0.0	0.31	0.59	0.31	50.1
2	T1	1	0.0	1	0.0	0.001	5.1	LOS A	0.0	0.0	0.48	0.29	0.48	79.7
3	R2	1020	29.1	1020	29.1	* 0.632	14.9	LOS B	4.5	39.8	0.76	0.83	0.77	49.3
Approach		1022	29.1	1022	29.1	0.632	14.9	LOS B	4.5	39.8	0.76	0.83	0.77	49.3
West: Little River Rd														
5	T1	1	100.0	1	100.0	0.005	11.0	LOS B	0.0	0.1	0.60	0.36	0.60	74.8
6	R2	177	20.2	177	20.2	* 0.571	20.7	LOS C	1.8	14.6	0.81	0.78	0.82	51.7
Approach		178	20.7	178	20.7	0.571	20.7	LOS C	1.8	14.6	0.81	0.78	0.82	51.8
All Vehicles		1205	27.8	1205	27.8	0.632	15.8	LOS B	4.5	39.8	0.77	0.82	0.78	49.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Construction AM (Site Folder: Construction AM)]

Network: N101 [Construction Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	25	25.0	25	25.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		25	25.0	25	25.0	0.015	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
Approach		2	50.0	2	50.0	0.002	2.9	LOS A	0.0	0.0	0.13	0.51	0.13	42.9
West: Old Melbourne Rd														
10a	L1	43	12.2	43	12.2	0.024	6.7	LOS A	0.0	0.0	0.00	0.64	0.00	62.3
Approach		43	12.2	43	12.2	0.024	6.7	NA	0.0	0.0	0.00	0.64	0.00	62.3
All Vehicles		71	17.9	71	17.9	0.024	4.2	NA	0.0	0.0	0.00	0.41	0.00	67.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Construction AM (Site Folder: Construction AM)]

Network: N101 [Construction Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.024	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	96.9
5	T1	43	9.8	43	9.8	0.024	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	99.7
Approach		44	9.5	44	9.5	0.024	0.1	NA	0.0	0.0	0.00	0.02	0.00	99.7
NorthWest: Little River Rd														
11	T1	53	8.0	53	8.0	0.030	0.0	LOS A	0.0	0.1	0.01	0.03	0.01	99.3
12	R2	2	50.0	2	50.0	0.030	9.0	LOS A	0.0	0.1	0.01	0.03	0.01	99.3
Approach		55	9.6	55	9.6	0.030	0.4	NA	0.0	0.1	0.01	0.03	0.01	99.3
SouthWest: Slip Road														
1	L2	1	0.0	1	0.0	0.039	3.5	LOS A	0.1	0.4	0.18	0.54	0.18	80.0
3	R2	42	12.5	42	12.5	0.039	3.4	LOS A	0.1	0.4	0.18	0.54	0.18	31.8
Approach		43	12.2	43	12.2	0.039	3.4	LOS A	0.1	0.4	0.18	0.54	0.18	39.4
All Vehicles		142	10.4	142	10.4	0.039	1.2	NA	0.1	0.4	0.06	0.18	0.06	94.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Construction AM (Site Folder: Construction AM)]

Network: N101 [Construction Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	25	25.0	25	25.0	0.015	7.2	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	43	9.8	43	9.8	0.024	7.3	LOS A	0.0	0.0	0.00	0.66	0.00	74.2
Approach		68	15.4	68	15.4	0.024	7.3	NA	0.0	0.0	0.00	0.66	0.00	74.6
NorthWest: Little River Rd														
27a	L1	95	10.0	95	10.0	0.053	3.8	LOS A	0.0	0.0	0.00	0.60	0.00	49.7
Approach		95	10.0	95	10.0	0.053	3.8	NA	0.0	0.0	0.00	0.60	0.00	49.7
All Vehicles		163	12.3	163	12.3	0.053	5.3	NA	0.0	0.0	0.00	0.62	0.00	67.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Construction AM (Site Folder: Construction AM)]

Network: N101 [Construction Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	76	19.4	76	19.4	0.022	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	345	32.3	345	32.3	* 0.186	8.5	LOS A	0.6	5.6	0.77	0.76	0.77	51.1
Approach		421	30.0	421	30.0	0.186	6.9	LOS A	0.6	5.6	0.63	0.62	0.63	52.0
North: Central Access														
7	L2	112	100.0	112	100.0	0.129	13.3	LOS B	0.3	4.4	0.66	0.70	0.66	42.0
Approach		112	100.0	112	100.0	0.129	13.3	LOS B	0.3	4.4	0.66	0.70	0.66	42.0
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	7.4	LOS A	0.0	0.0	0.48	0.57	0.48	52.9
11	T1	95	10.0	95	10.0	* 0.129	11.4	LOS B	0.4	2.9	0.85	0.63	0.85	44.9
Approach		96	9.9	96	9.9	0.129	11.4	LOS B	0.4	2.9	0.85	0.63	0.85	45.1
All Vehicles		628	39.4	628	39.4	0.186	8.7	LOS A	0.6	5.6	0.67	0.64	0.67	50.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Construction AM (Site Folder: Construction AM)]

Network: N101 [Construction Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	421	30.0	421	30.0	0.129	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		421	30.0	421	30.0	0.129	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Little River Rd														
11	T1	206	58.7	206	58.7	0.073	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12u	U	1	0.0	1	0.0	0.002	10.6	LOS B	0.0	0.0	0.49	0.64	0.49	47.4
Approach		207	58.4	207	58.4	0.073	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		628	39.4	628	39.4	0.129	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Construction AM (Site Folder: Construction AM)]

Network: N101 [Construction Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	420	29.8	420	29.8	* 0.321	7.1	LOS A	1.4	12.1	0.73	0.60	0.73	45.4
6	R2	34	18.8	34	18.8	0.068	13.0	LOS B	0.2	1.7	0.67	0.71	0.67	46.4
Approach		454	29.0	454	29.0	0.321	7.5	LOS A	1.4	12.1	0.72	0.61	0.72	45.7
North: Kangaroo Rd														
7	L2	6	33.3	6	33.3	0.008	7.6	LOS A	0.0	0.1	0.45	0.59	0.45	48.2
9	R2	1	100.0	1	100.0	* 0.005	17.7	LOS B	0.0	0.1	0.82	0.59	0.82	38.2
Approach		7	42.9	7	42.9	0.008	9.0	LOS A	0.0	0.1	0.50	0.59	0.50	46.5
West: Little River Rd														
10	L2	4	75.0	4	75.0	0.005	11.6	LOS B	0.0	0.1	0.48	0.64	0.48	70.8
11	T1	204	59.3	204	59.3	0.181	6.4	LOS A	0.6	6.4	0.66	0.52	0.66	88.0
Approach		208	59.6	208	59.6	0.181	6.5	LOS A	0.6	6.4	0.65	0.52	0.65	87.4
All Vehicles		669	38.7	669	38.7	0.321	7.2	LOS A	1.4	12.1	0.70	0.58	0.70	70.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Construction AM (Site Folder: Construction AM)]

Network: N101 [Construction Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	45	32.6	45	32.6	0.041	8.8	LOS A	0.1	0.6	0.34	0.60	0.34	58.1
2	T1	1	0.0	1	0.0	0.014	12.2	LOS B	0.0	0.1	0.54	0.70	0.54	65.2
3	R2	6	0.0	6	0.0	0.014	10.8	LOS B	0.0	0.1	0.54	0.70	0.54	54.2
Approach		53	28.0	53	28.0	0.041	9.2	LOS A	0.1	0.6	0.37	0.61	0.37	57.9
East: Little River Rd														
5	T1	405	28.1	405	28.1	0.125	0.0	LOS A	0.0	0.2	0.00	0.01	0.00	99.3
6	R2	6	50.0	6	50.0	0.125	9.5	LOS A	0.0	0.2	0.01	0.02	0.01	63.2
Approach		412	28.4	412	28.4	0.125	0.2	NA	0.0	0.2	0.00	0.01	0.00	97.4
West: Little River Rd														
10	L2	189	57.2	189	57.2	0.144	6.9	LOS A	0.0	0.0	0.00	0.58	0.00	51.1
11	T1	21	75.0	21	75.0	0.016	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		211	59.0	211	59.0	0.144	6.2	NA	0.0	0.0	0.00	0.52	0.00	51.7
All Vehicles		675	37.9	675	37.9	0.144	2.8	NA	0.1	0.6	0.03	0.22	0.03	68.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406 [Little River Road Interchange East - Construction AM (Site Folder: Construction AM)]

Network: N101 [Construction Initial - AM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	1	0.0	1	0.0	0.003	8.4	LOS A	0.0	0.0	0.04	0.16	0.04	84.3
11	T1	3	100.0	3	100.0	0.003	0.0	LOS A	0.0	0.0	0.04	0.16	0.04	88.4
Approach		4	75.0	4	75.0	0.003	2.1	NA	0.0	0.0	0.04	0.16	0.04	86.7
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.438	7.3	LOS A	0.9	8.1	0.19	0.63	0.19	68.9
2	T1	1	100.0	1	100.0	0.438	7.8	LOS A	0.9	8.1	0.19	0.63	0.19	52.9
3	R2	412	28.4	412	28.4	0.438	7.8	LOS A	0.9	8.1	0.19	0.63	0.19	60.4
Approach		414	28.5	414	28.5	0.438	7.8	LOS A	0.9	8.1	0.19	0.63	0.19	60.4
West: Little River Rd														
5	T1	4	0.0	4	0.0	0.021	0.0	LOS A	0.0	0.4	0.04	0.58	0.04	86.8
6	R2	23	68.2	23	68.2	0.021	9.5	LOS A	0.0	0.4	0.04	0.58	0.04	53.1
Approach		27	57.7	27	57.7	0.021	8.0	NA	0.0	0.4	0.04	0.58	0.04	56.5
All Vehicles		445	30.7	445	30.7	0.438	7.8	NA	0.9	8.1	0.18	0.62	0.18	60.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 402 [Little River Rd/Old Melbourne Rd West - Construction PM (Site Folder: Construction PM)]

Network: N101 [Construction Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Old Melbourne Rd														
5	T1	44	7.1	44	7.1	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		44	7.1	44	7.1	0.024	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
NorthEast: Slip Road														
26a	R1	1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
Approach		1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.12	0.50	0.12	63.3
West: Old Melbourne Rd														
10a	L1	24	17.4	24	17.4	0.014	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	62.3
Approach		24	17.4	24	17.4	0.014	6.8	NA	0.0	0.0	0.00	0.65	0.00	62.3
All Vehicles		69	10.6	69	10.6	0.024	2.4	NA	0.0	0.0	0.00	0.23	0.00	73.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 403 [Little River Rd/Old Melbourne Rd North - Construction PM (Site Folder: Construction PM)]

Network: N101 [Construction Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Little River Rd														
4	L2	1	0.0	1	0.0	0.036	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	98.0
5	T1	66	6.3	66	6.3	0.036	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	99.8
Approach		67	6.3	67	6.3	0.036	0.1	NA	0.0	0.0	0.00	0.01	0.00	99.8
NorthWest: Little River Rd														
11	T1	72	4.4	72	4.4	0.038	0.0	LOS A	0.0	0.0	0.01	0.01	0.01	99.6
12	R2	1	0.0	1	0.0	0.038	7.6	LOS A	0.0	0.0	0.01	0.01	0.01	99.6
Approach		73	4.3	73	4.3	0.038	0.1	NA	0.0	0.0	0.01	0.01	0.01	99.6
SouthWest: Slip Road														
1	L2	1	0.0	1	0.0	0.021	3.6	LOS A	0.0	0.2	0.21	0.54	0.21	79.8
3	R2	22	9.5	22	9.5	0.021	3.5	LOS A	0.0	0.2	0.21	0.54	0.21	31.3
Approach		23	9.1	23	9.1	0.021	3.5	LOS A	0.0	0.2	0.21	0.54	0.21	43.9
All Vehicles		163	5.8	163	5.8	0.038	0.6	NA	0.0	0.2	0.03	0.09	0.03	97.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Project: C:\Users\hellakalagamageh\OneDrive - AECOM\Files\Transport Planning\Project Tasman\ProjectTasman_25052023.sip9

MOVEMENT SUMMARY

Site: 401 [Little River Rd/Old Melbourne Rd East - Construction PM (Site Folder: Construction PM)]

Network: N101 [Construction Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	44	7.1	44	7.1	0.024	6.8	LOS A	0.0	0.0	0.00	0.65	0.00	75.2
6a	R1	66	6.3	66	6.3	0.036	7.2	LOS A	0.0	0.0	0.00	0.66	0.00	74.2
Approach		111	6.7	111	6.7	0.036	7.0	NA	0.0	0.0	0.00	0.65	0.00	74.6
NorthWest: Little River Rd														
27a	L1	94	5.6	94	5.6	0.051	3.8	LOS A	0.0	0.0	0.00	0.60	0.00	49.7
Approach		94	5.6	94	5.6	0.051	3.8	NA	0.0	0.0	0.00	0.60	0.00	49.7
All Vehicles		204	6.2	204	6.2	0.051	5.6	NA	0.0	0.0	0.00	0.63	0.00	69.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 407v [Little River Road/Central Access - Construction PM (Site Folder: Construction PM)]

Network: N101 [Construction Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	107	7.8	107	7.8	0.029	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
6	R2	112	100.0	112	100.0	0.079	9.4	LOS A	0.2	2.7	0.77	0.72	0.77	47.8
Approach		219	54.8	219	54.8	0.079	4.8	LOS A	0.2	2.7	0.39	0.37	0.39	51.5
North: Central Access														
7	L2	345	32.3	345	32.3	* 0.286	12.9	LOS B	1.1	10.0	0.71	0.75	0.71	42.7
Approach		345	32.3	345	32.3	0.286	12.9	LOS B	1.1	10.0	0.71	0.75	0.71	42.7
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	6.9	LOS A	0.0	0.0	0.41	0.57	0.41	53.1
11	T1	94	5.6	94	5.6	* 0.124	11.4	LOS B	0.4	2.7	0.85	0.63	0.85	44.9
Approach		95	5.6	95	5.6	0.124	11.3	LOS B	0.4	2.7	0.85	0.63	0.85	45.1
All Vehicles		659	35.9	659	35.9	0.286	10.0	LOS A	1.1	10.0	0.63	0.60	0.63	46.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 101 [U-turn b/w Central Access/Eastern Access - Construction PM (Site Folder: Construction PM)]

Network: N101 [Construction Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	219	54.8	219	54.8	0.076	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		219	54.8	219	54.8	0.076	0.1	NA	0.0	0.0	0.00	0.00	0.00	60.0
West: Little River Rd														
11	T1	439	26.6	439	26.6	0.132	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12u	U	1	0.0	1	0.0	0.001	8.6	LOS A	0.0	0.0	0.36	0.61	0.36	49.4
Approach		440	26.6	440	26.6	0.132	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		659	35.9	659	35.9	0.132	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 404v [Little River Rd/Kangaroo Road - Construction PM (Site Folder: Construction PM)]

Network: N101 [Construction Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 30 seconds (Network Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Little River Rd														
5	T1	212	56.2	212	56.2	0.185	6.7	LOS A	0.7	6.8	0.68	0.54	0.68	46.9
6	R2	6	0.0	6	0.0	0.014	13.4	LOS B	0.0	0.3	0.69	0.66	0.69	46.9
Approach		218	54.6	218	54.6	0.185	6.9	LOS A	0.7	6.8	0.68	0.54	0.68	46.9
North: Kangaroo Rd														
7	L2	51	12.5	51	12.5	0.062	7.7	LOS A	0.1	1.0	0.50	0.65	0.50	47.9
9	R2	7	14.3	7	14.3	* 0.022	16.7	LOS B	0.1	0.4	0.82	0.65	0.82	39.1
Approach		58	12.7	58	12.7	0.062	8.9	LOS A	0.1	1.0	0.54	0.65	0.54	46.6
West: Little River Rd														
10	L2	1	0.0	1	0.0	0.001	9.7	LOS A	0.0	0.0	0.45	0.62	0.45	73.9
11	T1	437	27.0	437	27.0	* 0.329	7.0	LOS A	1.4	12.3	0.73	0.60	0.73	87.0
Approach		438	26.9	438	26.9	0.329	7.0	LOS A	1.4	12.3	0.72	0.60	0.72	87.0
All Vehicles		714	34.2	714	34.2	0.329	7.1	LOS A	1.4	12.3	0.70	0.59	0.70	79.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: 405 [Little River Road Interchange West - Construction PM (Site Folder: Construction PM)]

Network: N101 [Construction Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: West Interchange Exit														
1	L2	17	81.2	17	81.2	0.017	9.4	LOS A	0.0	0.3	0.27	0.56	0.27	58.7
2	T1	1	0.0	1	0.0	0.009	13.9	LOS B	0.0	0.1	0.48	0.65	0.48	65.2
3	R2	4	25.0	4	25.0	0.009	10.1	LOS B	0.0	0.1	0.48	0.65	0.48	55.4
Approach		22	66.7	22	66.7	0.017	9.8	LOS A	0.0	0.3	0.32	0.58	0.32	58.6
East: Little River Rd														
5	T1	201	51.8	201	51.8	0.074	0.0	LOS A	0.1	0.5	0.03	0.06	0.03	92.6
6	R2	20	5.3	20	5.3	0.074	8.8	LOS A	0.1	0.5	0.05	0.13	0.05	78.6
Approach		221	47.6	221	47.6	0.074	0.8	NA	0.1	0.5	0.03	0.06	0.03	89.6
West: Little River Rd														
10	L2	442	24.5	442	24.5	0.280	6.9	LOS A	0.0	0.0	0.00	0.60	0.00	60.0
11	T1	46	31.8	46	31.8	0.029	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	100.0
Approach		488	25.2	488	25.2	0.280	6.2	NA	0.0	0.0	0.00	0.55	0.00	60.6
All Vehicles		732	33.2	732	33.2	0.280	4.7	NA	0.1	0.5	0.02	0.40	0.02	65.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 406 [Little River Road Interchange East - Construction PM (Site Folder: Construction PM)]

Network: N101 [Construction Initial - PM (Network Folder: Networks)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: 160 S Rd														
10	L2	3	0.0	3	0.0	0.003	8.5	LOS A	0.0	0.0	0.12	0.37	0.12	79.8
11	T1	2	0.0	2	0.0	0.003	0.1	LOS A	0.0	0.0	0.12	0.37	0.12	77.0
Approach		5	0.0	5	0.0	0.003	5.1	NA	0.0	0.0	0.12	0.37	0.12	79.1
North: East Interchange Exit														
1	L2	1	0.0	1	0.0	0.264	7.3	LOS A	0.4	4.3	0.17	0.64	0.17	69.0
2	T1	1	100.0	1	100.0	0.264	7.9	LOS A	0.4	4.3	0.17	0.64	0.17	53.0
3	R2	221	48.1	221	48.1	0.264	8.4	LOS A	0.4	4.3	0.17	0.64	0.17	60.5
Approach		223	48.1	223	48.1	0.264	8.3	LOS A	0.4	4.3	0.17	0.64	0.17	60.5
West: Little River Rd														
5	T1	1	100.0	1	100.0	0.032	0.0	LOS A	0.1	0.5	0.02	0.67	0.02	81.4
6	R2	48	30.4	48	30.4	0.032	8.4	LOS A	0.1	0.5	0.02	0.67	0.02	61.1
Approach		49	31.9	49	31.9	0.032	8.2	NA	0.1	0.5	0.02	0.67	0.02	61.4
All Vehicles		278	44.3	278	44.3	0.264	8.3	NA	0.4	4.3	0.14	0.64	0.14	61.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix E

Assumptions

Construction Phase

No.	Assumption
1	In the absence of a detailed construction phase planning (which will be further refined following the appointment of a construction contractor), it is assumed that construction phase traffic volumes will reflect those required to deliver the Moorebank Intermodal Terminal
2	2029 Background traffic assumed to ensure conservative assessment (in likelihood construction peak will be earlier than this)
3	Only AM and PM peaks assessed
4	Truck origin-destination distribution 10% to/from Geelong via Little River Road interchange 90% to/from Melbourne via Little River Road interchange
5	Terminal access distribution (trucks) only through Central Access
6	Worker origin-destination distribution 10% to/from Geelong via Little River Road interchange 90% to/from Melbourne via Little River Road interchange
7	Terminal access distribution (workers) only through Central Access

Operational Phase

No.	Area	Assumption
1	All	HV origin-destination distribution: 10% to/from Geelong via Little River Road interchange 90% to/from Melbourne via Little River Road interchange
2	All	LV staff origin-destination distribution: 10% to/from Geelong via Little River Road interchange 90% to/from Melbourne via Little River Road interchange
3	All	The most recent staging plan, provided by PN, was used to assume construction and operations staging
4	All	Access intersections were modelled, as per BG&E design, for: 2029 and 2035; Central and Western accesses fully built out 2050; Eastern access fully built out
5	All	All analysis conducted with assumption made that Little River Road interchange is operational throughout the project life cycle
6	All	TEU forecast provided PN used to assume future growth of terminal for calculations
7	IMT HV	Split of total IMT HV across interstate rail and cargo link, based on staging of operations, assumed: 2029; Interstate Rail 100% 2035; Interstate Rail 70%, Cargo Link West 15%, Cargo Link East 15% 2050; same as 2035
8	IMT HV	IMT HV access distribution: Interstate Rail; in/out using Central access Cargo Link West; in/out using Western access Cargo Link West; in/out using Central access
9	IMT HV	The following assumptions were provided PN for calculations of IMT HV volumes: Day shift (6am-2pm); 40% of total IMT HV volume Evening shift (2pm-10pm); 40% of total IMT HV volume Night shift (10pm-6am); 20% of total IMT HV volume

10	IMT HV	The following ratios were assumed for calculating IMT HV: TEU/Container ratio of 1.89 Container/Truck ratio of 1.5
11	IMT Staff LV – Cargo Link	For 2035, provision rate of 1 per 520m^2 adopted for cargo link staff LV volumes. This was derived from rate of 1 per 260m^2, based on Linfox Perth numbers, but halved with the assumption of increased automation
12	IMT Staff LV – Cargo Link	For 2050, 20% increase from 2035 volume due to expected nominal increase given efficiencies of automation of operations
13	IMT Staff LV – Cargo Link	60% staff working day shift (in during AM peak and out during PM peak), 40% staff working afternoon shift (in during PM peak)
14	IMT Staff LV – Additional IMT employees	Volumes for any shifts starting/ending 2 hours either side of a peak hour included in either AM and PM peak. Therefore, AM peak considers volumes occurring from 6am-11am and PM peak considers volumes occurring from 3pm-8pm.
15	IMEX HV	Daily volume distribution over shifts: Day Shift (0600-1400): 40% of IMEX HV Evening Shift (1400-2200): 40% of IMEX HV Night Shift (2200-0600): 20% of IMEX HV
16	IMEX HV	IMEX peak times: AM peak assumed to occur during “Day Shift” PM peak assumed to occur during “Evening Shift”
17	IMEX HV	The following ratios were assumed for calculating IMT HV: TEU/Container ratio of 1.5 Container/Truck ratio of 2.5
18	MT Park HV	MT Park HV volume as 25% of IMEX HV volume per hour
19	MT Park LV	24 staff spread across two shifts; 12 in and out in AM peak and 12 in and out in PM peak
20	Warehousing Volume	Rate of 4/100m^2 of total warehousing GFA adopted to determine total combined movements associated with warehousing – both HV and LV
21	Warehousing Volume throughout day	The warehousing movement volume in/out assumptions were: 60% assumed to travel during “daylight” hours between 6am and 6pm, 30% assumed to travel between 6pm to 6am, and 10% of total volume assumed to be staff LV that enter/exit around shift start and end times.
22	Warehousing LV associated with shift peaks	It is assumed this staff arrive in the hour before the start of a shift and leave in the hour after the end of a shift. This total volume was divided into 25% per each different shift type as follows: Three 8 hour shifts; 0500-1300, 1300-2100, 2100-0500 Two 12 hour shifts; 0800-2000, 2000-0800 Two 8 hour shifts; 0600-1400, 1400-2200 One 8 hour shift; 0900-1700
23	Warehousing volumes (non-shift related)	60% were assumed to be light vehicles (additional staff, smaller trucks) and 40% were assumed to be heavy vehicles
24	Warehousing volumes distribution	All warehouse movements were distributed across the three accesses based on the proportional area of warehousing being accessed by each entry/exit point, as follows: Central (Gen Warehouse Stage 1); 230 000sqm – 41.37% Western (Gen Warehouse Stage 3); 160 600sqm – 28.90% Eastern (Gen Warehouse Stage 2); 165 300sqm – 29.73%