Vegate Pty Ltd

Lots 507, 526 & 300 Lancaster Road, McKail
Local Structure Plan Amendment

Transport Impact Assessment

August 2024

Project Code: 07524/A

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Version Control and Approval

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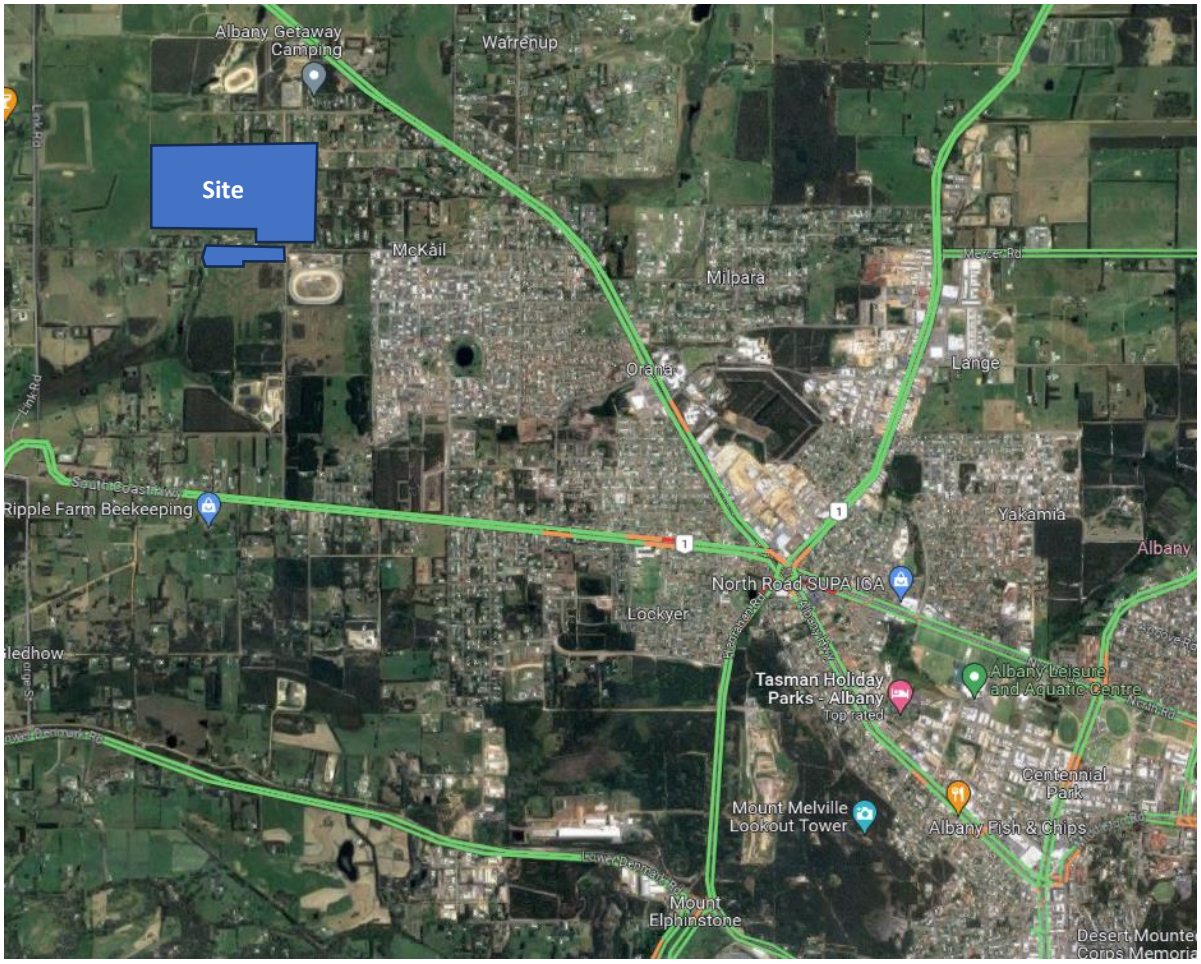
1 Introduction

1.1 Introduction and Background

1.1.1 This Transport Impact Assessment (TIA) has been prepared by PJA for Acumen Development Solutions on behalf of Vegate Pty Ltd. Its purpose is to support a Local Structure Plan (LSP) Amendment for up to a proposed 570 residential lots, a primary school (~3.5ha) and total public open space including a school oval (~6.5ha) on land at Lots 507, 526 and 300 Lancaster Road in McKail in the City of Albany. The original Outline Development Plan over the site was approved in August 2015.

Figure 1-1: Site Location Plan



Source: Google Maps

1.2 Purpose of this Report

1.2.1 The *Western Australia Planning Commission Transport Assessment Guidelines* (WAPC Guidelines) sets out what level of assessment is necessary, based on the expected traffic impact of a proposed development. This specifies that where a development is forecast to generate more than 100 trips per hour in the peaks, a Transport Impact Assessment is required, whilst where this is not the case a Transport Impact Statement (TIS) would suffice. A TIA has a greater focus on the external traffic impact resulting from the development.

1.2.2 Based on the proposed scale of development, which is nominal 570 residential lots and a primary school, the impact could be considered 'high' and a TIA would be required. A TIA has therefore been prepared, the subject of this report.

1.3 Transport Assessment Objectives

1.3.1 In line with the WAPC Guidelines, this TIA seeks to demonstrate that the proposed LSP Amendment would:

- *"Provide safe and efficient access for all modes;*
- *be well integrated with the surrounding land uses;*
- *not adversely impact the surrounding land uses; and*
- *not adversely impact the surrounding transport networks or the users of those networks."*

1.3.2 This TIA considers all transport modes, including public transport, walking, and cycling, as well as private motor vehicles, servicing, and delivery vehicles.

1.4 Layout of this Report

1.4.1 The remaining chapters of this TIA cover the following:

- **Chapter 2** sets out details of the proposed LSP Amendment
- **Chapter 3** provides details of the existing situation
- **Chapter 4** establishes the proposals for the internal transport networks
- **Chapter 5** sets out changes proposed to external transport networks
- **Chapter 6** demonstrates how the development will integrate with the surrounding area
- **Chapter 7** analyses the internal transport networks
- **Chapter 8** analyses the external transport networks
- **Chapter 9** includes a review of safety issues
- **Chapter 10** concludes the TIA.

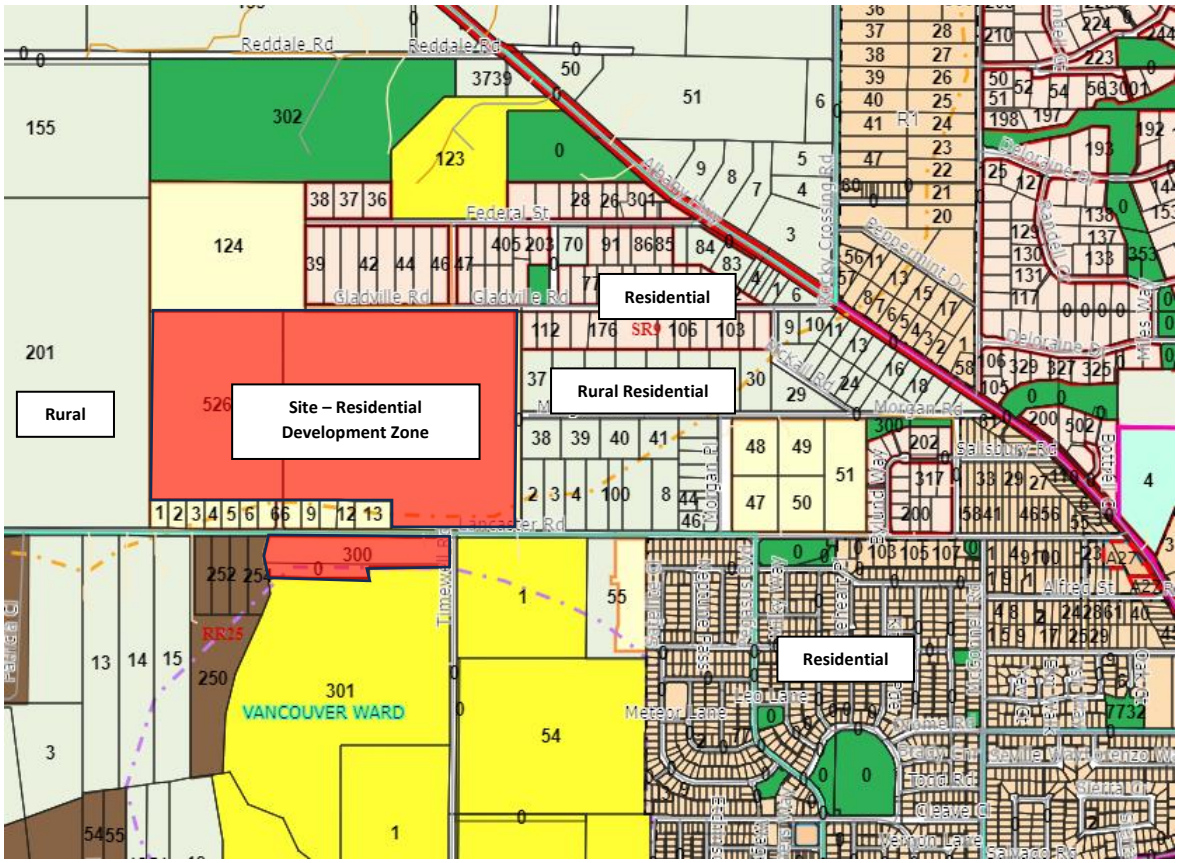
2 LSP Proposal

2.1 Regional Context

2.1.1 The LSP Amendment area is zoned for 'Future Urban' in the City of Albany's Local Planning Scheme No.1 (LPS1) and consists of the same area as the LSP Amendment, shown in Figure 2-1. The LPS1 was originally gazetted in 2014 and a draft LPS2 is presently under consideration to replace it. The zoning under LPS2 for the LSP Amendment area is proposed to be 'Urban Development'.

2.1.2 Albany is a major coastal town on the great southern coast of Western Australia. The LSP Amendment site is located in the locality of McKail approximately 7.5km north-west of the centre of Albany town within the Local Government Authority of the City of Albany. The site is located on Lancaster Road and has access to the regional road networks via Lancaster Road and Gladville Road (both to Albany Highway) and Timewell Road (to South Coast Highway).

Figure 2-1: LSP Boundary and LPS1



Source: https://albanywa.maps.arcgis.com/apps/webappviewer/index.html?id=738bbc232a654c5386ad196811c36d85

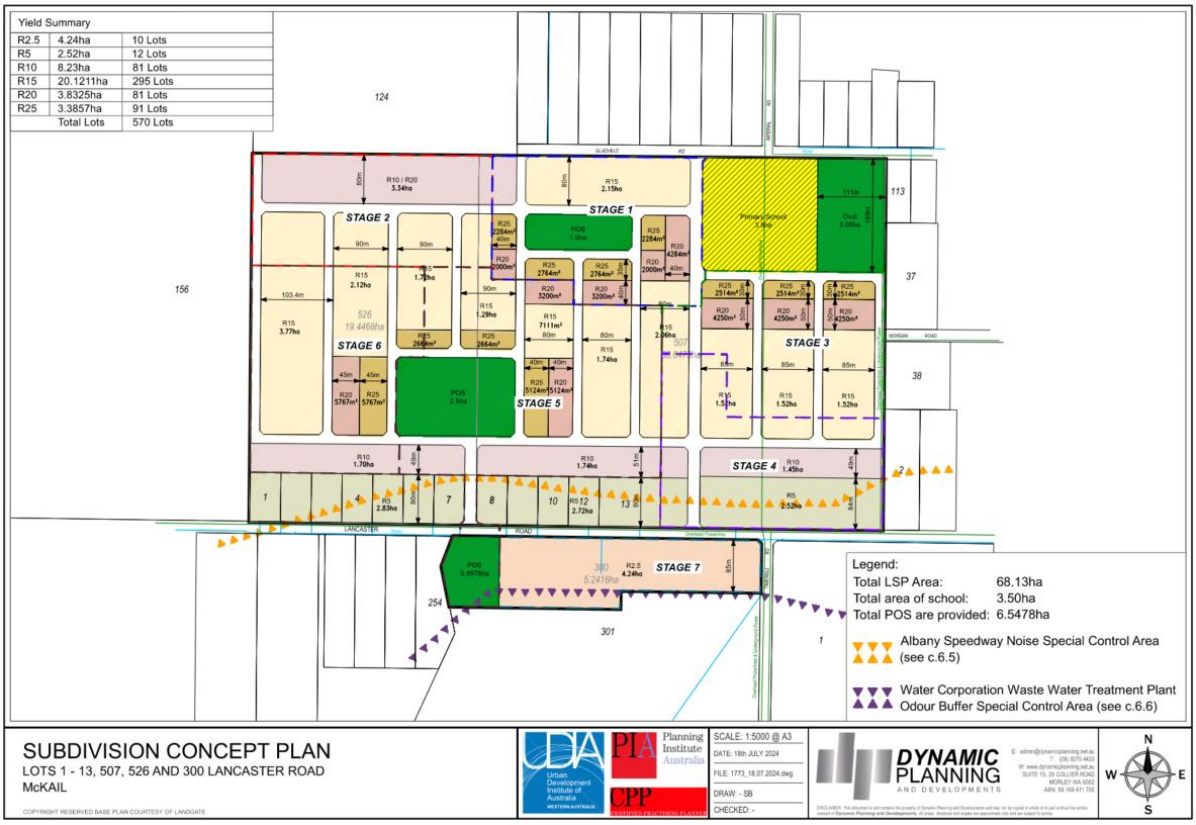
2.2 Proposed Land Uses

2.2.1 The LSP Amendment proposal of 68.13ha of land at Lancaster Road includes the following:

- Up to 570 freehold residential lots are proposed, varying in zoning size from R2.5 to R25. The site will be mostly low-density with dwelling codes of R15 and below;
- Public Open Space and the School Oval (POS) totalling approximately 6.5ha, equating to approximately 9.6% of the site area, in the north east and southern side of the site; and
- Road reserves in width of 15m mostly across the site with a single 20m wide north-south street connecting Lancaster Road to Gladville Road and running past the primary school site. Pedestrian links and multiple vehicular access points will be provided across the site boundaries.

Refer to Figure 2-2 for a figure showing the Local Structure Plan.

Figure 2-2: Local Structure Plan



Source: Dynamic Planning, July 2024

2.2.2 The lots will be sized as shown in Table 2-1.

Table 2-1: Possible LSP Amendment Lots and Sizes

Size of Lot	Number of Lots
R2.5	10
R5	12
R10	81
R15	295
R20	81
R25	91
Total	**570**

2.2.3 A plan showing the proposed LSP Amendment is provided in **Appendix A**.

2.3 Parking and the Low-Density Design Code

2.3.1 The WAPC *State Planning Policy 7.3 Residential Design Codes Volume 1* (R-Codes) (SPP 7.3) refers to parking standards for new residential developments. Paragraph C3.3 states the minimum standards required.

2.3.2 On the basis that the proposed LSP Amendment is not located near public transport, across all dwellings the site will be required to have at least an average of 2 spaces per dwelling. Therefore, equating to, a total of 1,140 parking spaces across the site under the General R-Codes.

2.3.3 These spaces will be provided on each lot in private garages.

2.4 Cycling Facilities

2.4.1 SPP 7.3 does not set specific cycle parking standards for single dwelling housing. It would be envisaged that each lot would have sufficient space within the curtilage of their dwelling that could be used for cycle storage.

2.5 Deliveries and Servicing

2.5.1 The Main Roads WA Functional Road Hierarchy designates Lancaster Road as a Local Distributor whilst Gladville and Timewell Roads are classified as Access Roads.

2.5.2 Lancaster Road, as a Local Distributor, is defined to "*carry traffic within a cell and link District Distributors or Regional Distributors at the boundary, to access roads. The route of Local Distributors should discourage through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to, or serving the area. These roads should accommodate buses, but discourage trucks*."

2.5.3 However, access to the LSP Amendment area via Lancaster Road for deliveries and service vehicles can be accommodated by the number and proximity of the street connections in the design, as well as the additional north-south connection proposed between Lancaster Road and Gladville Road to help service the site. The anticipated type of servicing vehicles will be the weekly refuse collection vehicle and the occasional heavy rigid for furniture deliveries or a semi-trailer (potentially) to the primary school. This level of servicing provision is in line with the expected servicing demand at the site and the design and function of Lancaster Road.

2.6 Specific Issues

2.6.1 There are no specific transport issues that have been identified in relation to the proposed LSP Amendment.

2.6.2 Notwithstanding the above, the biggest challenge from a transport engineering perspective for this site is that there are no nearby public transport services and facilities and therefore walking, wheeling, and cycling are the only other modes of travel beyond the private car. Given the location on the fringes of the Albany townsite, where existing walking and cycling facilities are also limited to connect to/from, the sharing of road reserve space between the different modes in a safe manner will be the most important consideration. Design must therefore focus on lowering speeds per Safe System Principles, wherever practical and the provision of good active transport infrastructure within the LSP amendment area to provide local access to/from the primary school.

2.6.3 The access to the LSP Amendment area via the primary road network (Albany Highway and South Coast Highway) are both under the control of Main Roads Western Australia which means consultation and approvals will need to be undertaken with Main Roads.

3 Existing Situation

3.1 Existing (2024) Land Uses

3.1.1 The LSP Amendment area is vacant land, except for a small number of scattered sheds from the use of the site as farmland. These sheds and the previous farm use will be removed from the area and replaced by the proposed residential development and primary school.

3.2 Existing (2024) Road Network

3.2.1 Figure 3-1 shows the existing road network surrounding LSP Amendment area application site.

Figure 3-1: Main Roads WA Functional Road Hierarchy

Source: Main Roads WA Road Information Mapping System (https://mrwebapps.mainroads.wa.gov.au/PublicMaps/RoadInformationMapping)

Lancaster Road

3.2.2 Lancaster Road is a Local Distributor (Main Roads WA Road Hierarchy) running from east to west which previously connected Albany Highway in the east (at a T junction) with Link Road in the west. The connection to Link Road has now been closed as part of the Albany Ring Road project. Link Road is to become the Albany Ring Road between Albany Highway and South Coast Highway. Thus, Lancaster Road will only retain the access to Albany Highway, as well as the existing local road connections along it. Lancaster Road currently measures approximately 6.5 to 7.0m in pavement width, across both lanes with 1-2m wide unsealed gravel shoulders and typically has no centreline.

3.2.3 In the vicinity of the LSP Amendment area, Lancaster Road comprises a two-lane single-carriageway and is subject to an 80km/h speed limit with a central white dividing line at its intersection with Timewell Road. As Lancaster Road approaches Albany Highway, the speed limit reduces to the general built up area limit of 50km/h, which in this case is sign posted, approximately 350m east of the eastern boundary of the LSP Amendment area.

3.2.4 Lancaster Road intersects with Albany Highway as an AUR/BAL intersection treatment.

Timewell Road

3.2.5 Timewell Road is an Access Road (Main Roads WA Road Hierarchy) running from north to south which connects Lancaster Road in the north to South Coast Highway in the south, both as T-junctions. Timewell Road measures approximately 6.5 to 7.0m in pavement width, across both lanes with 1-2m wide unsealed gravel shoulders and includes a centreline.

3.2.6 In the vicinity of the LSP Amendment area, Timewell Road comprises a two-lane single-carriageway and is not speed zoned but is subject to a speed limit of up to 110km/h if safe to do so, with a central white dividing line.

3.2.7 Timewell Road intersects with South Coast Highway as a BAR/BAL intersection treatment.

Gladville Road

3.2.8 Gladville Road is an Access Road (Main Roads WA Road Hierarchy) running from east to west which connects Albany Highway in the east (at a 4-way junction) and terminates near the LSP Amendment area as a cul-de-sac. Timewell Road carriageway measures approximately 6.3m width, across both lanes with 1-2m wide unsealed shoulders and no centreline. West of the intersection of Imperial Street, Gladville Road is an unsealed road.

3.2.9 Gladville Road comprises a two-lane single-carriageway and is not speed zoned but is subject to a speed limit of up to 110km/h if safe to do so.

3.2.10 Gladville Road intersects with Albany Highway as a BAR/BAL intersection treatment.

Albany Highway

3.2.11 Albany Highway is a Primary Distributor Road (Main Roads WA Road Hierarchy) which commences in Perth and continues south and terminates in Albany. Albany Highway carriageway measures approximately 7.0m in width, across both lanes with 1.5m wide sealed shoulders and a further 1-2m unsealed gravel shoulders.

3.2.12 In the vicinity of Lancaster and Gladville Roads, Albany Highway comprises a two-lane single-carriageway and is subject to a 60km/h posted speed limit with a central white dividing line.

South Coast Highway

3.2.13 South Coast Highway is a Primary Distributor Road (Main Roads WA Road Hierarchy) which commences in Albany and continues westwards to join with the South Western Highway. South Coast Highway measures approximately 7.0m in carriageway width, across both lanes with 1.5m wide sealed shoulders and a further 1-2m unsealed gravel shoulders.

3.2.14 In the vicinity of Timewell Road, South Coast Highway comprises a two-lane single-carriageway and is subject to a 60km/h posted speed limit with a central white dividing line.

3.3 Existing Traffic Flows

3.3.1 Traffic count data has been obtained from Main Roads WA Traffic Map and from the City of Albany, where available.

3.3.2 One count point was identified on Albany Highway, approximately 950m north of Gladville Road (Count Site 52411). Another count site was identified on South Coast Highway, just east of Timewell Road (Count Site 15516). Three weekly vehicle counts have also been undertaken by the City (in 2023, 2013 and 2015) on Lancaster Road, Gladville Road and Timewell Road, respectively.

3.3.3 The results of the counts are provided in full in **Appendix B,** summarised below in Table 3-1.

3.3.4 Traffic growth rates were assessed at these count sites over extended periods (11 years to 2022 for Albany Highway and 17 years to 2022 for South Coast Highway). These were found to show a uniform growth rate of +1.9% per annum for Albany Highway, while South Coast Highway has shown a -0.2% per annum decrease in traffic. Local roads were assumed to have no growth, as there were no major developments in the area in the past decade or so.

Table 3-1: Traffic Flows

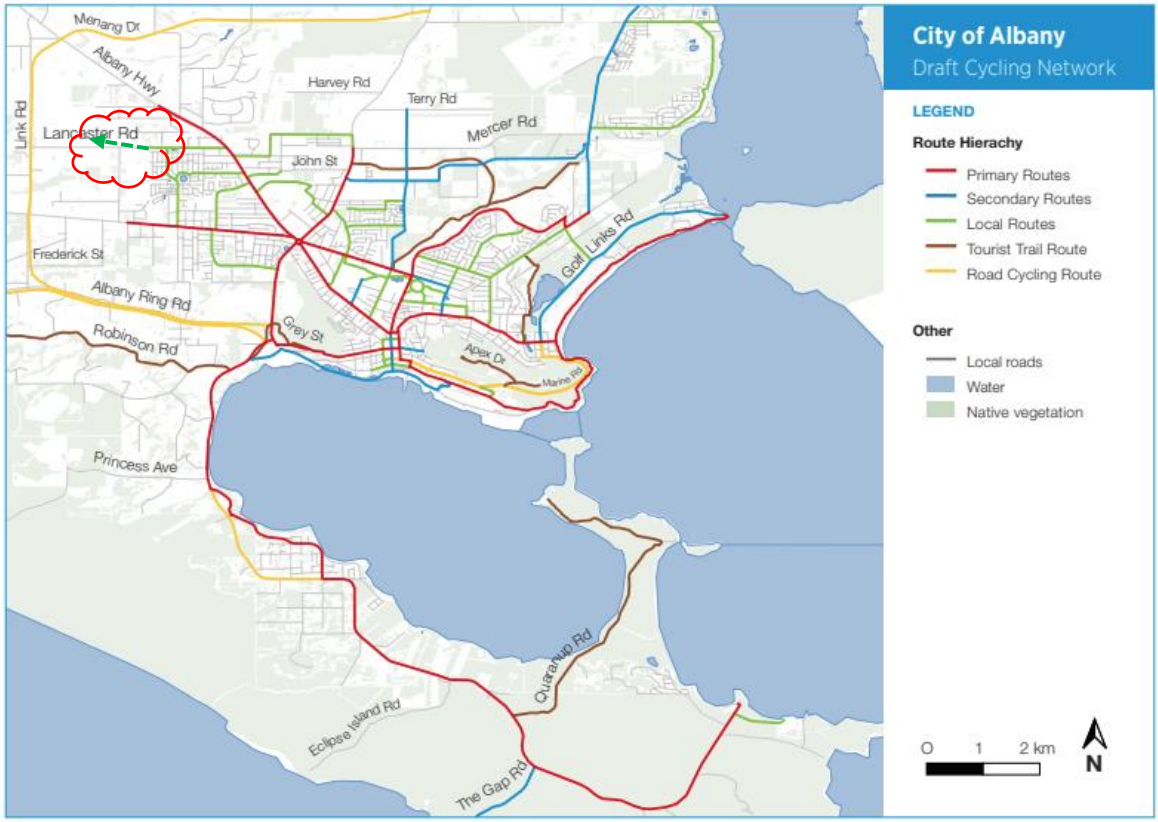
Road	Direction	Eastbound/Southbound	Westbound/Northbound	Total
Albany Highway (2022/23)	AM Peak (08:00-09:00)	246	232	478
	PM Peak (15:00-16:00)	3531	222	573
+1.9%pa growth	Daily	3,169	3,037	6,206 (12.5% Trucks)
South Coast Highway (2022/23)	AM Peak (08:00-09:00)	240	116	356
	PM Peak (15:00-16:00)	147	202	349
-0.2%pa growth	Daily	1,857	1,802	3,659 (9.5% Trucks)
Lancaster Road (2023)	AM Peak (08:00-09:00)	117	54	171
	PM Peak (17:00-18:00)	64	113	177
+0.0%pa growth	Daily	968	983	1,955 (12.8% Trucks)
Gladville Road (2013)	AM Peak (07:00-08:00)	17	7	24
	PM Peak (17:00-18:00)	11	27	38
+0.0%pa growth	Daily	167	167	334 (~6% Trucks)
Timewell Road (2015)	AM Peak (09:00-10:00)	13	7	20
	PM Peak (17:00-18:00)	12	10	22
+0.0%pa growth	Daily	112	101	213 (13.4% Trucks)

3.4 Existing Pedestrian and Cycle Provision

3.4.1 Pedestrian and cycle infrastructure surrounding the LSP Amendment area is limited due to the semi-rural nature of the area. In some of the more built-up areas of McKail, footpaths are present on at least one of side of the carriageway facilitating some pedestrian routes. With the development of this LSP Amendment area, pedestrian routes will be enabled for use to facilitate movements to/from the Primary School and into the wider locality of McKail.

3.4.2 For longer-distance cycling, the Great Southern 2050 Cycling Strategy (currently in draft format and out for public comment) has identified Lancaster Road as a future Local Route (green) as far as the current urban development extends on Lancaster Road. This route then connects to a Primary Route (red) on Alany Highway and then into Albany townsite. This Local Route designation should be extended further west to the proposed LSP Amendment area.

Figure 3-2: Great Southern 2050 Cycling Strategy



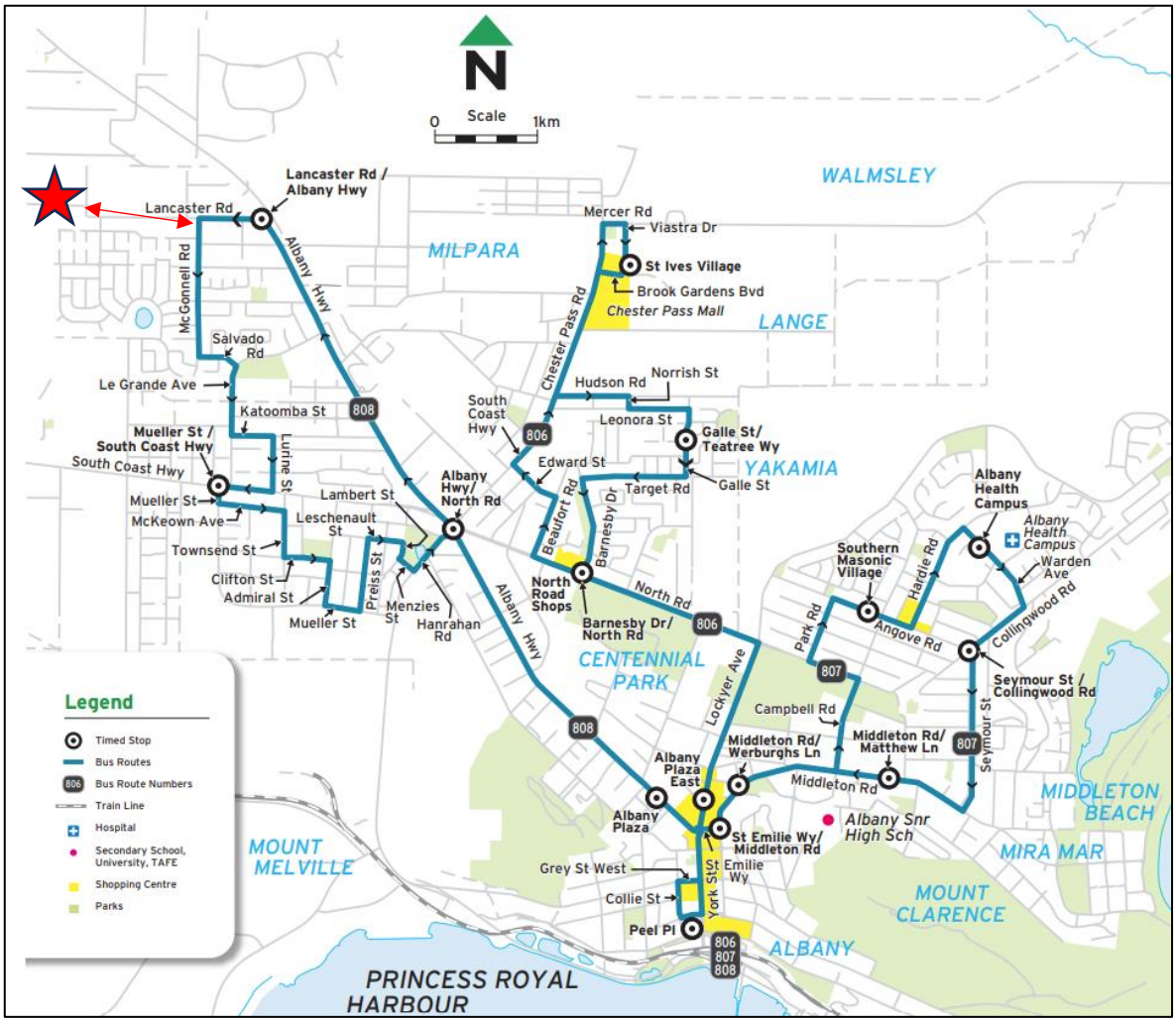
Source: Department of Transport

3.4.3 However, beyond the above noted facilitates, cyclists are currently required to cycle on-road and pedestrians are currently required to make use of verges next to the carriageway to access nearby areas by walking. These should only be in low-speed environments (30km/hr or less under Safe System Principles) unless the modes are physically separated, and the most vulnerable of road users have a level of protection such as separated facilities.

3.5 Existing Public Transport Provision

Given the rural location of the site, access to public transport is non-existent with no bus stops or railway stations within typical walking or cycling distances. The nearest bus stops for Route 808 (located in McGonnell Road), is located approximately 1.2km from the south east corner of the LSP Amendment area and generally run once every hour in each direction. These bus stops can be reached in approximately a 15-minute walk for the able bodied if residents of the proposed LSP Amendment area do need to use public transport as their only means of access.

Figure 3-3: Albany Bus Routes



Source: Transperth

3.6 RAV Routes

Both Albany Highway and South Coast Highway are Restricted Access Vehicle (RAV) routes and neither Lancaster Road, Timewell Road nor Gladville Road are RAV routes.

Albany Highway allows vehicles up to Network 7 size (typically 36.5m long road trains). South Coast Highway allows access up to Network 4 size (typically 27.5m long B-doubles and short road trains).

The Albany Ring Road project is expected to reduce the number of RAVs on both Albany Highway and South Coast Highway (and also the number of general heavy vehicles) near Lancaster, Gladville and Timewell Road as this new road will provide a new access into the Port of Albany. The Albany Ring Road bypasses the roads and highways currently used by numerous other vehicles that are currently not accessing the Port.

4 Proposed Internal Transport Networks

4.1 Proposed Road Network

4.1.1 Five points of access are proposed to the LSP Amendment area to allow the site to be permeable via all modes to the surrounding areas. Each access will accommodate vehicular traffic, as well as pedestrian and cycle movements via the use of verges and/or shared roadway at appropriate differential speeds. These are as follows:

- Two accesses onto Gladville Road, both priority-controlled T-junctions
- Two access onto Lancaster Road, both priority-controlled T-junctions
- One access onto Morgan Road, being the continuation of Morgan Road into the LSP Amendment area.

4.1.2 The proposed road network within the LSP Amendment area can be seen in the plan included in **Appendix A**.

4.1.3 All road reserves within the site connecting to the external intersections, will be 15m in width and are therefore likely to be provided Road Type 'Access Street D' (per *WA Liveable Neighbourhoods Update 02*, dated January 2009). The only exception is a proposed 20m north south road reserve connecting Gladville Road to Lancaster Road, this also running past the proposed Primary School site, this being an 'Access Street C'.

4.1.4 'Access Street C' represents a yield (give way) street with a maximum design speed of 50km/h, a target speed of 40km/h including during school times and an indicative traffic volume of less than 3,000vpd.

4.1.5 'Access Street D' represents a yield (give way) street with a maximum design speed of 50km/h, a target speed of 30km/h and an indicative traffic volume of less than 1,000vpd. Refer to Figure 4-1.

4.1.6 On the 'Access Street C', the indicative street reserve width will be approximately 15.4m and a road pavement width will be 7.2m (or between 7-7.5m). Infrequent on-street parking is expected on both sides for this area, buses are not expected to use these routes and designated on-street cycle lanes are also not expected but adequately catered for off-street. Refer to Figure 4-2.

Figure 4-1: Access Street C Indicative Cross Section

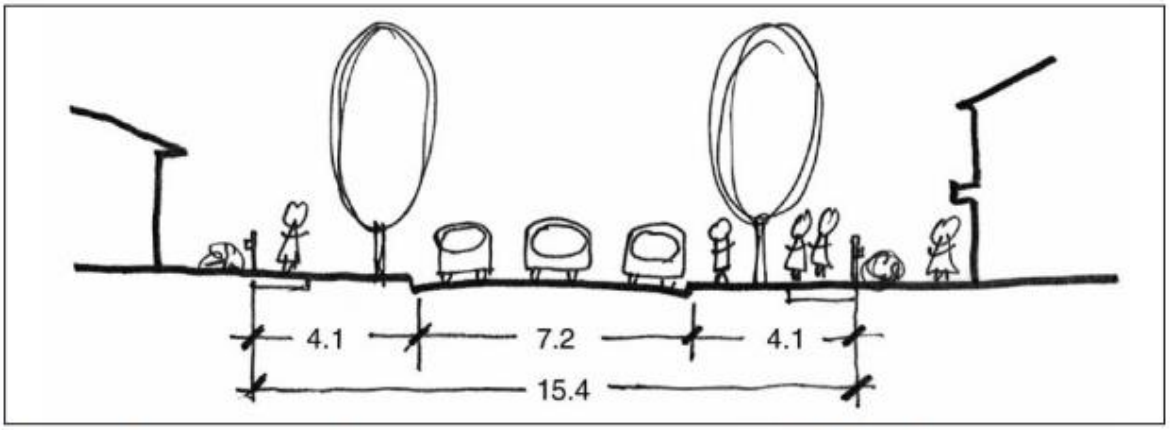


Figure 21: Access street C – yield (or give way) street – Target speed 40 km/hr (< 3000 vehicles per day).

Source: Liveable Neighbourhoods (WAPC, 2009)

4.1.7 On the 'Access Street D', the indicative reserve width will be about 14.2m and a pavement width will be 6.0m. Infrequent on-street parking is expected on both sides for this area, buses are not expected to use these routes and designated on-street cycle lanes are also not expected but adequately catered for off-street.

Figure 4-2: Access Street D Indicative Cross Section

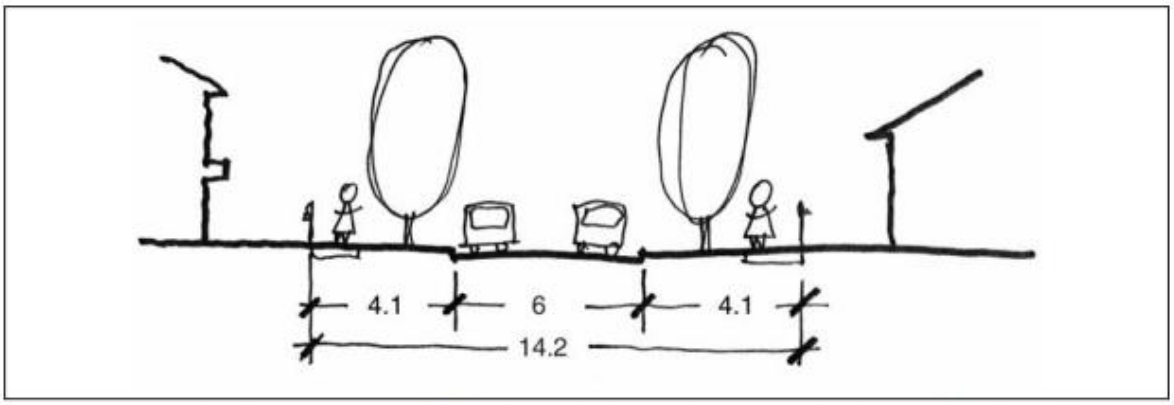


Figure 22: Access street D – narrow yield (or give way) street – Target speed 30 km/hr (< 1000 vehicles per day).

Source: Liveable Neighbourhoods (WAPC, 2009)

4.2 Intersection Controls

4.2.1 Due to the ultimately low volume and low-speed residential nature of the LSP Amendment area, all intersections within the area are intended to be constructed as priority-controlled (at T-junctions) or sign controlled (Give Way/Stop at 4-way junctions) intersections.

4.2.2 The majority of 4-way intersections are expected to have traffic flows less than 2,000vpd (passing through the intersection from all directions), with the exception being the 4-way intersections of the 'Access Street C' north-south street, perpendicular to Lancaster Road. The 4-way intersection near the school is recommended to be controlled via a roundabout to assist circulation for school peak times, subject to detailed design. The 4-way intersection near Lancaster Road is recommended for further investigation as to the appropriate control, being either a roundabout, restricted movements or Stop controlled, subject to detailed design.

4.2.3 The Stop/Give Way signs on the north-south road in the centre of the LSP, should be placed to face north-south vehicle, this creating very short slow speed approaches. This may then necessitate the installation of traffic calming devices or design treatments on the east-west streets, given these streets are straight and longer than the suggested 100 – 130m lengths in *Liveable Neighbourhoods*.

4.2.4 Refer to Figure 4-3 below for proposed intersection controls. Only exceptions to the priority control at T-junctions are shown.

Figure 4-3: LSP Proposed Intersection Controls

Base map: Dynamic Planning, July 2024

4.3 Pedestrian and Cycle Network

4.3.1 No footpaths are present in the existing semi-rural area and given the proposed R2.5 to R25 densities, this is likely not required as there are no connection opportunities in the short term outside the LSP area. However, to future proof the LSP Amendment area for more intense future development, space should be available in the verges for the future construction of footpaths at a minimum 1.5m in width with ramps at all intersections, this to allow connection to and from the school.

4.3.2 Due to the ultimate low traffic volume and low-speed nature of the residential LSP Amendment, cyclists are able to cycle within the LSP Amendment streets, if the streets continue to experience volumes typically less than 1,000 vehicles per day (as expected) and vehicles travel at 30km/hr or less.

4.4 Public Transport Routes

4.4.1 No public transport routes or stops will be provided within the LSP Amendment area.

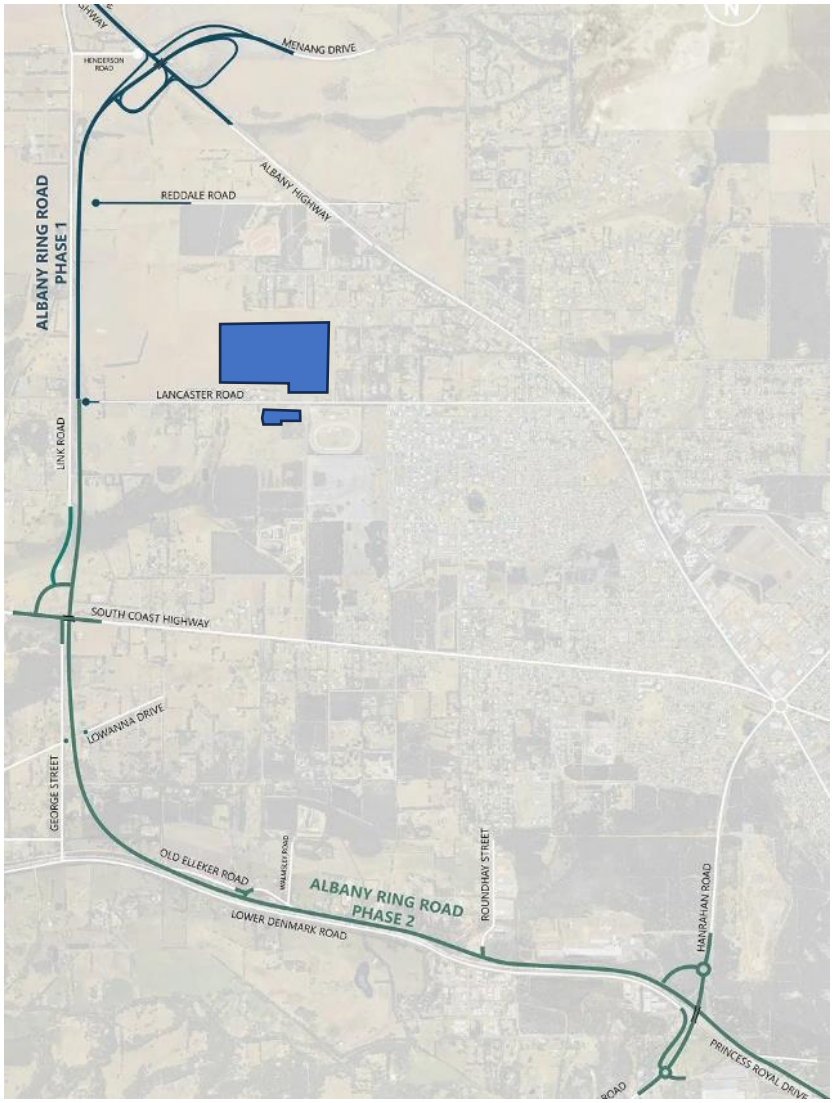
5 Changes to External Transport Networks

5.1 Albany Ring Road

This project is now compete and has been constructed to enable freight vehicles to be able to gain better access to the Port at Albany. This project will also reduce the number and size of heavy vehicles currently mixing with general traffic on South Coast Highway and Albany Highway, nearer to Albany, thereby improving immediate congestion and safety.

This project has used the Link Road alignment west of the proposed LSP Amendment area to connect Albany Highway to South Coast Highway and then continue on a new route south of South Coast Highway, into the Port of Albany. Refer to Figure 5-1 below.

Figure 5-1: Albany Ring Road Alignment



Source: MRWA

5.1.1 As previously mentioned, the Albany Ring Road project also includes the closure of Lancaster Road at Link Road, west of the LSP Amendment area. Assessment of traffic flows on Timewell Road (approximately 210vpd), Landcaster Road east of Timewell Road (approximately 800vpd) and locally generated traffic along Lancaster Road, indicates that this severance should decrease traffic flows on Lancaster Road in the order of 500vpd. Thus, traffic flows recorded on Lancaster Road should decrease from about 2,000vpd to about 1,500vpd closer to Albany Highway.

6 Integration with Surrounding Area

6.1 Local Attractors / Generators

6.1.1 Given the primarily residential uses on the LSP Amendment area, it is expected that the majority of the trips to/from the area by residents will be generated towards places of education, employment, retail and leisure uses, this mainly to and from the Albany town centre. Access to and from the Primary School will mainly be from the LSP Amendment area and possibly from areas of McKail within a 400-800m walkable catchment.

6.2 Travel Desire Lines

Pedestrian / Cycling

6.2.1 To access facilities east of the site by walk / cycle mode, pedestrians and cyclists will be able to follow routes along Lancaster Road, from the southeastern corner of the site. Pedestrian / cyclist use along these routes may be subject to pedestrian / cycling infrastructure improvements to prioritise user safety and enable these modes.

6.2.2 Further east of the LSP Amendment area, Lancaster Road does provide some footpaths to serve existing residential dwellings and access to bus stops, which could provide an opportunity for connections, though no formal pedestrian crossing opportunities are provided along Lancaster Road. Additionally, no dedicated infrastructure is provided for cyclists in the vicinity of the LSP Amendment area and cyclists are therefore required to cycle on the carriageway. Shared use should only be encouraged in low traffic volume and low-speed environments (30km/hr or less under Safe System Principles) unless the modes are physically separated, and the most vulnerable road users are protected.

Motor Vehicles

6.2.3 The LSP Amendment area is located adjacent to Lancaster Road, Gladville Road and Timewell Road, which all provide key connections eastwards and southwards from the site to major roads and then the central area of Albany. Morgan Road will allow access into the area for properties immediately east of the area. All intersections in the vicinity of the LSP Amendment area are (and will likely remain) priority controlled and this is not proposed to change with this development. All proposed intersection locations are considered appropriate with respect to available sight distances which has been reviewed at a high level (using Google StreetView and Nearmap) and is subject to detailed design checks.

6.2.4 The only intersection that is cause of some concern is the southern intersection on Lancaster Road west of Timewell Road, where there is a crest of the eastern approach to the proposed intersection. However, an assessment of available sight distance (using Google StreetView and Nearmap), indicates, that expected sight distance to/from the east would be approximately 285m. For the 80km/h speed limit a sight distance (in this case the Safe Intersection Sight Distance, SISD) of 226m would be required (this based on a 2.5s reaction time and a 90km/h approach speed as a safety buffer above the posted speed limit).

6.2.5 The section of Gladville Road, west of Imperial Road is presently unsealed. This section of road should be sealed to accommodate the expected increased traffic flows.

6.2.6 The existing and planned road provisions are deemed acceptable, and no remedial measures are required beyond as described above.

Public Transport

6.2.7 As mentioned above, no bus or rail services are available within a reasonable walking, wheeling, or cycling distance of the LSP Amendment area. Although, if required to access public transport, bus stops are accessible for an able-bodied person within about a 15-minute walk.

7 Analysis of Internal Transport Networks

7.1 Internal Road Network and Traffic Impact

7.1.1 Two-way, two-lane roads are proposed within the LSP Amendment area to accommodate the anticipated traffic flows, as detailed previously in Section 4.1.

7.1.2 Adequate sight distance is to be checked and provided at each intersection in the detailed designs.

7.1.3 As detailed in Section 4.1, most intersections will take the form of priority-controlled intersections which can adequately accommodate the anticipated traffic flows. Any delays to vehicles at these intersections would be minimal, given the low vehicular traffic volumes forecast. There are expected to be some 4-way intersections, and these are recommended to be controlled by Stop/Give Way signs at lower volume intersections and a roundabout near Lancaster Road.

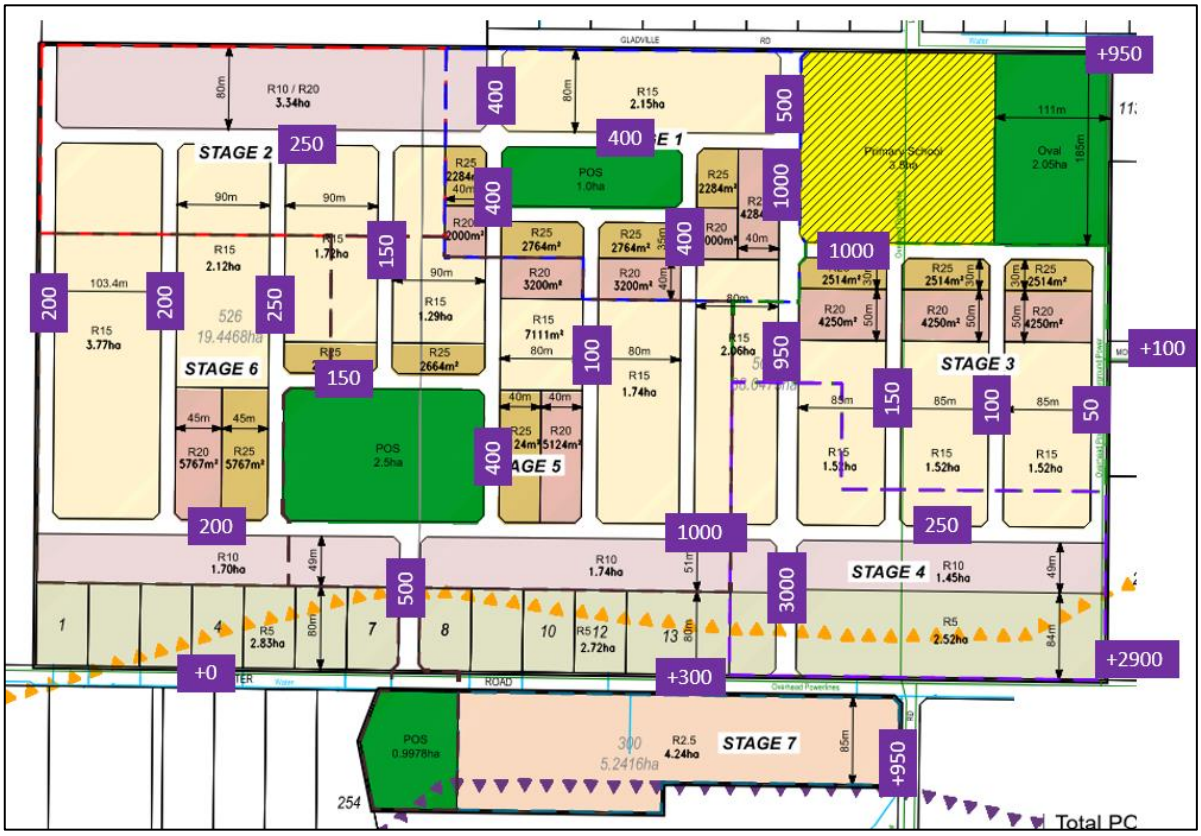
7.1.4 The maximum anticipated hourly two-way trips within the area is approximately 300 vehicles in each peak hour on the north-south 'Access Street C' near Lancaster Road, this as a result of LSP Amendment residential traffic and external traffic accessing the school site, with other through traffic is forecast to be negligible under current planning provisions. Other roads within the LSP Amendment area are not expected to carry more than around 40vph or no more than 400vpd. Therefore, it is acceptable that properties fronting roads are accessed directly from the streets.

7.1.5 The expected traffic flows on the streets within the LSP Amendment area are shown below in Figure 7-1.

7.1.6 With target speeds of 30 to 40km/h, the straight sections of roadway, may encourage speeds in excess of this desired speeds. To maintain speeds at these targets, sloe points should be considered at appropriate spacing as follows:

- Access Street C: 100 to 130m (for 40km/h target speed)
- Access Street D: 70 to 80m (for 30km/h target speed).

Figure 7-1: Expected Internal Traffic Flows (vehicles per day) – Ultimate Development



7.2 Internal Pedestrian/Cycle Network

7.2.1 As the internal roads within the LSP Amendment area are anticipated to have low volumes of traffic, with up to 300 two-way vehicle trips in both AM and PM peak periods (300vph), it is considered that none of the proposed roads within the LSP Amendment area would be difficult for pedestrians and cyclists to cross.

7.2.2 This is in line with Table 4 of the *WAPC Transport Impact Assessment Guidelines Volume 3*. This states that for a two-lane undivided road, the ability of pedestrians to cross would only be affected if there are more than 1,100 vph.

7.3 Safe Walk/Cycle to School Assessment

7.3.1 With a Primary School proposed to be located within the LSP Amendment area, all streets near the school should have a footpath on the school side of the roadway, and then ultimately on both sides of the street if demand for densities opposite the school site increase to R20. Emphasis in general by the City to enable walking, wheeling, and cycling as attractive modes to the primary school should be encouraged with adequate comfort facilities provided by the City such as rest spots and shelter for all weather conditions for any desire routes outside of the LSP Amendment area.

7.4 Pedestrian Permeability and Efficiency

7.4.1 The guidance set out within *Liveable Neighbourhoods* within Appendix 2, is not considered to be appropriate for the proposed LSP Amendment area as the site is not located within a 5-minute walk of a local centre or a 10-minute walk of a train station. Therefore, the specific guidelines set out within the *Liveable Neighbourhoods* for pedestrian permeability are not considered to be appropriate for this particular project.

7.4.2 The LSP Amendment road network enables accessibility for pedestrians with the bus stops for bus route 808 and other accessible within an approximate 15-minute walk of the site.

8 Analysis of External Transport Networks

8.1 Scope of Assessment

8.1.1 There are three logical access routes to/from the LSP Amendment area via Lancaster Road, Gladville Road and Timewell Road. These three roads intersect with the primary road network at Albany Highway and South Coast Highway and these intersections have therefore been assessed. Being a residential development, normally an AM peak assessment would suffice which includes the peak Primary School traffic movements but given the possible right turn access to the site from South Coast Highway into Timewell Road in the PM peak, a PM peak assessment was also undertaken.

8.2 Proposed Residential Trip Rates and Generation

8.2.1 For the proposed residential use, PJA has adopted the following trip rates and generation based on the *WAPC Transport Impact Assessment Planning Guidelines (Volume 2: Planning Schemes, Structure Plans & Activity Centre Plans, August 2016)*.

8.2.2 Table 8-1 summarises the adopted trip rates and the resultant trip generation for the proposed LSP Amendment for the 570 proposed lots and for a Primary School catering for some 650 students for the weekday AM peak (between 07:00-09:00) and PM peak (15:00-17:00) periods.

8.2.3 The majority of the school vehicular trips will be linked to internal trips as residents may drive to work and drop children at the school or pick them up on the way home. It has been assumed that the school will have 80% of trips related to this linking (internal school trips). Thus 20% of the total trips expected to be generated by the school will be external trips to and from the LSP Amendment area.

Table 8-1: Weekday AM and PM Residential Peak Hour Trip Rates and Generation

Period	Weekday AM Peak			Weekday PM Peak		
	In	Out	Two-way	In	Out	Two-way
Per Residential Dwellings (WAPC Guidelines)	0.2	0.6	0.8	0.5	0.3	0.8
Per Primary School Student (WAPC Guidelines)	0.5	0.5	1	0.5	0.5	1
Total Trip Generation (allowing for primary school adjustment)	180	405	585	350	235	585

8.2.4 From the vehicle trip rates in Table 8-1, in the AM peak hour approximately 585 two-way trips (180 inbound, 405 outbound) were predicted to be generated by the LSP and in the PM peak hour 585 two-way trips (350 inbound, 235 outbound) are forecast to be generated. Over a full day there is expected to be approximately 4,800 trips to and from the proposed LSP Amendment area.

8.3 Trip Distribution

8.3.1 For the purposes of estimating vehicle movements, the directional distributions shown in Table 8-2 have been assumed for the LSP Amendment area. The proportions have been based on assessment of both the proximity of LSP Amendment lots to these roads and also likely routes between the LSP Amendment area and the most likely destination, being Albany.

Table 8-2: Trip Distribution

External Route to/from	Percentage Distribution
Gladville Road to Albany Highway	20%
Lancaster Road to Albany Highway	60%
Timewell Road to South Coast Highway	20%

8.3.2 Applying these distribution proportions with the trip generation in Table 8-1 (these do not include primary school traffic) results in the following anticipated traffic flows onto the surrounding external roads. Primary School traffic has been excluded as this traffic will access the current developed areas of McKail southeast of the LSP Amendment area and not need to use these intersections.

Table 8-3: Resulting Trips Distributed

External Roads	AM peak hour trips		PM peak hour trips	
	In	Out	In	Out
Gladville Road	35	80	70	45
Lancaster Road	105	245	210	140
Timewell Road	35	80	70	45

8.4 Traffic Impacts

To determine the impact of the LSP Amendment area on the intersections of Lancaster Road and Gladville Road with Albany Highway and Timewell Road / South Coast Highway, traffic modelling was undertaken using Sidra Intersection for the following scenarios:

- 2023 base case
- 2036 without development
- 2036 with development (full build out).

The assessment utilised the available traffic volumes for Albany Highway and South Coast Highway. Then using TomTom Traffic OD Data[1], the directional split of current traffic flows was determined at each intersection. This TomTom data indicated that 90% of movements from Lancaster Road and Gladville Road intersections would be to/from the south, and 10% to/from the north. For the Timewell intersection with South Coast Highway, the current flows were more evenly distributed in each direction.

An assessment of the current and expected traffic flows has shown that the roads will be carrying traffic within their midblock traffic carrying ability. This assessment is shown below in Table 8-4.

The only exception to this is Lancaster Road, where traffic flows are expected to be slightly more than the indicative volume range. However, given the free flow nature of traffic on Lancaster Road and the exceedance is not significant, the current layout of Lancaster Road is considered acceptable.

Table 8-4: Resulting Midblock Daily Traffic Flows

Road	Current Flows	Without Development (2036)	With Development (2036)	Theoretical Maximum Capacity
Albany Highway (2022/23)	6,206	7,740	10,300	15,000
South Coast Highway (2022/23)	3,659	3,660	4,140	15,000
Lancaster Road (2023)	1,955	1,960	4,840	7,000
Gladville Road (2013)	334	330	1,290	3,000
Timewell Road (2015)	213	210	1,170	3,000

[1] move.tomtom.com

8.5 SIDRA Analysis

8.5.1 The operation of each intersection has been analysed using SIDRA Intersection (Version 9.1). The key outputs of SIDRA are summarised below:

- **Degree of Saturation (DOS)** is the ratio of the volume of traffic observed making a particular movement compared to the maximum capacity for that movement.
- The **95th Percentile (95th %ile) Queue** represents the maximum queue length that can be expected in 95% of observed queue lengths in the peak hour.
- **Average Delay** is the delay time that can be expected over all vehicles making a particular movement in the peak hour.

8.5.2 The WAPC Guidelines indicate an average delay for each vehicle passing through an intersection to be less than 35 seconds for a priority intersection approach and 45 seconds for any individual movement.

8.5.3 The SIDRA results for the intersections for the current 2024 and future 2036 estimated future volumes is presented in the tables Table 8-4 to Table 8-6.

8.5.4 For the assessments it has been assumed that the current geometry of the intersections will remain unchanged.

8.5.5 For the 2036 assessment 'with the development' scenario, all intersections are expected to operate well. For the intersection with the highest traffic flows, Lancaster Road, there is expected to be a slight worsening in the LoS for the Lancaster Road intersection from LoS B to C, but overall, the intersection is expected to be entirely acceptable in its present layout. Delays, at worst on Lancaster Road right turn approach is expected to be 24s in the PM peak (compared to 21s in 2036 without the development), whilst the DoS is expected to be no worse than 0.60 for the same right turn in the AM peak.

8.5.6 These excellent operational results confirm that the current intersection formats can cater for the expected traffic flow increases due to the proposed LSP Amendment.

Table 8-5: Gladville Road/Albany Highway – SIDRA Results

Lane	AM Peak				PM Peak			
	Degree of Saturation	Average Delay (s)	Level of Service	95th %ile Q (m)	Degree of Saturation	Average Delay (s)	Level of Service	95th %ile Q (m)
Current								
South: Albany Hwy LT/Th	0.17	0.2		0	0.19	0.4		0
North: Albany Hwy Th	0.22	0.1		0	0.26	0.1		0
North: Albany Hwy RT	0.01	7		0.2	0.002	7		0.1
West: Gladville Rd LT	0.002	6		0.1	0.001	6		0
West: Gladville Rd RT	0.05	11		1	0.03	12		0.7
Intersection (based on minor leg approach)	**0.05**	**10**	**B**	**1**	**0.03**	**12**	**B**	**0.7**
2036 No Development								
South: Albany Hwy LT/Th	0.22	0.2		0	0.24	0.3		0
North: Albany Hwy Th	0.28	0.1		0	0.32	0.1		0
North: Albany Hwy RT	0.01	7		0.2	0.002	7		0.1
West: Gladville Rd LT	0.002	6		0.1	0.001	6		0
West: Gladville Rd RT	0.07	14		2	0.04	17		1
Intersection (based on minor leg approach)	**0.07**	**13**	**B**	**2**	**0.04**	**16**	**C**	**1**
2036 with Development								
South: Albany Hwy LT/Th	0.23	1		0	0.27	1		0
North: Albany Hwy Th	0.28	0.1		0	0.32	0.1		0
North: Albany Hwy RT	0.01	7		0.3	0.01	7		0.3
West: Gladville Rd LT	0.01	6		0.2	0.01	6		0.2
West: Gladville Rd RT	0.28	16		8	0.19	18		5
Intersection (based on minor leg approach)	**0.28**	**16**	**C**	**8**	**0.19**	**18**	**C**	**5**

Table 8-6: Lancaster Road/Albany Highway – SIDRA Results

Lane	AM Peak				PM Peak			
	Degree of Saturation	Average Delay (s)	Level of Service	95th %ile Q (m)	Degree of Saturation	Average Delay (s)	Level of Service	95th %ile Q (m)
Current								
South: Albany Hwy LT/Th	0.18	0.6		0	0.26	2		0
North: Albany Hwy Th	0.22	0.1		0	0.26	0.1		0
North: Albany Hwy RT	0.003	7		0.1	0.01	7		0.4
West: Lancaster Rd LT	0.01	6		0.2	0.02	6		0.4
West: Lancaster Rd RT	0.29	13		9	0.20	14		5
Intersection (based on minor leg appr)	**0.29**	**12**	**B**	**9**	**0.20**	**13**	**B**	**5**
2036 No Development								
South: Albany Hwy LT/Th	0.23	0.5		0	0.30	2		0
North: Albany Hwy Th	0.28	0.1		0	0.32	0.1		0
North: Albany Hwy RT	0.003	7		0.1	0.01	8		0.4
West: Lancaster Rd LT	0.01	6		0.2	0.02	6		0.5
West: Lancaster Rd RT	0.39	18		13	0.28	21		8
Intersection (based on minor leg appr)	**0.39**	**17**	**C**	**13**	**0.28**	**18**	**C**	**8**
2036 with Development								
South: Albany Hwy LT/Th	0.27	2		0	0.39	2		0
North: Albany Hwy Th	0.28	0.1		0	0.32	0.1		0
North: Albany Hwy RT	0.01	7		0.3	0.04	9		1
West: Lancaster Rd LT	0.03	7		1	0.03	6		1
West: Lancaster Rd RT	0.87	35		63	0.67	29		26
Intersection (based on minor leg appr)	**0.87**	**35**	**E**	**63**	**0.67**	**29**	**D**	**26**

Table 8-7: Timewell Road/South Coast Highway – SIDRA Results

Lane	AM Peak				PM Peak			
	Degree of Saturation	Average Delay (s)	Level of Service	95th %ile Q (m)	Degree of Saturation	Average Delay (s)	Level of Service	95th %ile Q (m)
Current								
East: South Coast Hwy Th/RT	0.08	0.3		0.3	0.13	0.2		0.4
North: Timewell Rd LT	0.01	8		0.2	0.005	8		0.2
North: Timewell Rd RT	0.03	9		0.8	0.02	9		0.4
West: South Coast Hwy LT/Th	0.14	0.3		0	0.09	0.5		0
Intersection (based on minor leg appr)	**0.03**	**9**	**A**	**0.8**	**0.02**	**8**	**A**	**0.4**
2036 No Development								
East: South Coast Hwy Th/RT	0.08	0.3		0.3	0.13	0.2		0.4
North: Timewell Rd LT	0.01	8		0.2	0.005	8		0.2
North: Timewell Rd RT	0.03	9		0.8	0.02	9		0.4
West: South Coast Hwy LT/Th	0.14	0.3		0	0.09	0.5		0
Intersection (based on minor leg appr)	**0.03**	**9**	**A**	**0.8**	**0.02**	**8**	**A**	**0.4**
2036 with Development								
East: South Coast Hwy Th/RT	0.09	2		2	0.15	2		2
North: Timewell Rd LT	0.04	8		1	0.02	8		1
North: Timewell Rd RT	0.08	9		2	0.04	9		1
West: South Coast Hwy LT/Th	0.15	1		0	0.11	2		0
Intersection (based on minor leg appr)	**0.08**	**9**	**A**	**2**	**0.04**	**9**	**A**	**1**

8.6 Road Safety

8.6.1 The ultimate low levels of traffic generated by the proposed LSP Amendment and the modelled levels of vehicle delays exiting or accessing the site directly from the major roads are not anticipated to worsen the existing relatively low-level crash history (refer to Section 9 for further discussion).

8.7 Analysis of Pedestrian / Cycle Networks

8.7.1 Table 4 of the WAPC Guidelines Volume 3 has been reproduced below.

Table 8-8: Traffic Volumes Affecting Pedestrian Crossing Amenity

Road Cross-Section	Traffic Volume Affecting the Ability of Pedestrians to Cross (vehicles per hour – two-way)
2 lane undivided	1,100 vph
2-lane divided (or with pedestrian refuge islands)	2,800 vph
4 lane undivided (without pedestrian refuge islands)	700 vph
4-lane divided (or with pedestrian refuge islands)	1,600 vph

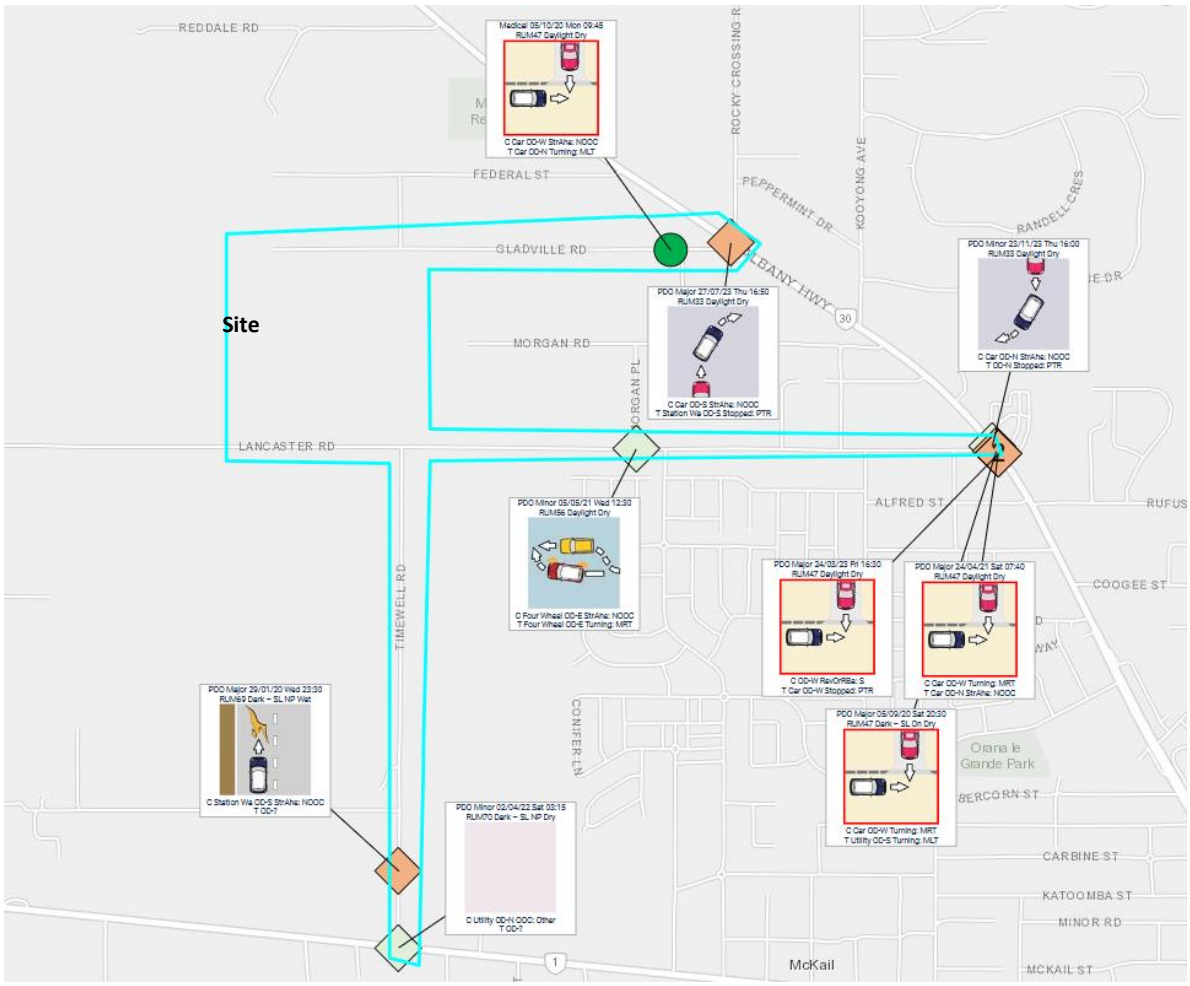
8.7.2 The roads surrounding the site are all categorised as two-lane undivided roads and therefore the ability of pedestrians to cross would only be affected if there are more than 1,100 vph. The distributed traffic flows for the LSP Amendment, demonstrates that the peak of the expected traffic within the LSP Amendment area should not exceed 300 two-way movements in a peak hour. The ability for pedestrians to cross internal streets and of any adjacent road for that matter should not be impacted by the level of volume experienced and this will not be worsened with the construction of the proposed development.

9 Safety Issues

9.1.1 The level of internal traffic and therefore exposure to vehicles has been shown to be relatively low given the residential nature of the LSP Amendment. Further, the internal roads will have a 15m to 20m road reserve with an anticipated 6m to 7.2m carriageway width or narrower and speed controls recommended at intervals along the lengths of east-west streets, to encourage slower vehicle speeds. These characteristics will inherently improve the safety of the LSP Amendment area.

9.1.2 Crash history has been reviewed from the Main Roads WA Crash Information map on streets in the vicinity of the development site. Crashes in the vicinity of the site were identified and the locations of which are shown in Figure 9-1.

Figure 9-1: Location of Crashes: 2019-2023



Source: Main Roads WA: Crash Map

9.1.3 Over the latest 5-year period, up to December 2023, nine (9) crashes were recorded on roads likely to be used as access routes to and from the LSP Amendment area. Apart from one crash requiring medical attention all other crashes were classified as Property Damage Only (PDO, Major/Minor). There is one cluster of crashes, with three crashes occurring near the intersection of Lancaster Road and Albany Highway, possibly related to access to and from the service station and liquor store on the south western corner of the intersection.

9.1.4 The crash resulting in medical attention involved a car travelling from west to east on Gladville Road, colliding with a truck exiting a driveway on the north side of the road, to head towards Albany Highway. The higher severity might be related to Gladville Road which is not speed signed and therefore subject to unrestricted speeds of up to 110km/h.

10 Summary and Conclusion

10.1.1 This Transport Impact Assessment (TIA) has been prepared by PJA for Acumen Development Solutions on behalf of Vegate Pty Ltd, in relation to a combined LSP Amendment on land at Lots 507, 526 & 300 Lancaster Road in McKail. The LSP Amendment proposal include the following.

- 570 freehold residential lots, varying in size from R2.5 to R25 density. The site will provide a low-density LSP with most dwellings codes at R15 (with flexibility for R25 opposite the school site if demand for this product increases in the future)
- Primary School with up to approximately 650 students
- Public Open Space (POS) totalling approximately 6.5ha
- Road reserves in width of generally 15m across the site and a main north-south road reserve of 20m width.

10.1.2 The LSP Amendment area, in totality, would generate 585 two-way vehicle trips in the weekday AM and PM peak periods, with no more than 300 two-way vehicle trips and the internal street network, and when distributed onto the adjacent road network, the Sidra modelling outputs represents a negligible impact to the local road network.

10.1.3 Due to the ultimately low traffic volume and low-speed residential nature of the LSP Amendment, all intersections within the LSP Amendment area are intended to be constructed as priority-controlled (at T-junctions) or sign controlled (Give Way/Stop at 4-way junctions) intersections. One of the two 4-way intersections is expected to have traffic flows less than 2,000vpd (passing through the intersection from all directions), whilst the other 4-way intersection nearer to Lancaster Road is recommended to be controlled via a roundabout to assist circulation for school peak times, subject to detailed design and as entry flows are expected to exceed 2,000vpd. The 4-way intersection near Gladville Road is recommended for further investigation as to the appropriate control, being either a roundabout, restricted movements or Stop controlled, subject to detailed design.

10.1.4 From a transport engineering perspective, this LSP Amendment area has no attractive nearby public transport services and facilities and therefore walking, wheeling, and cycling are the only other modes of travel beyond the private car. Given the location on the fringes of the Albany townsite where existing walking and cycling facilities are also limited to connect to/from, the sharing of road reserve space between the different modes in a safe manner will be the most important consideration in next stages of design. Design must therefore focus on lowering speeds per Safe System Principles, wherever practical and the provision of good active transport infrastructure within the LSP Amendment area to provide local access to/from the primary school.

10.1.5 The Albany Ring Road project will provide a new access into the Port of Albany and is expected to reduce the number of RAVs and general heavy vehicles on both Albany Highway and South Coast Highway near Lancaster, Gladville and Timewell Roads. The Albany Ring Road project also includes the closure of Lancaster Road at Link Road, west of the LSP Amendment area. Assessment of traffic flows on Timewell Road and locally generated traffic along Lancaster Road, indicates that this severance should decrease traffic flows on Lancaster Road in the order of 500vpd. Thus, traffic flows recorded on Lancaster Road should decrease from about 2,000vpd to about 1,500vpd closer to Albany Highway.

10.1.6 There will not be any upgrades or modifications needed to existing intersections to cater for the increased traffic flows from the LSP Amendment. Current road cross sections can be retained as they should cater for expected traffic flows.

10.1.7 This Transport Impact Assessment has been prepared in accordance with the *WAPC Transport Impact Assessment Guidelines Volume 3 for Planning Schemes, Structure Plans & Activity Centre Plans*, the completed checklist is provided in Appendix C.

Appendix A Proposed LSP Plan

Yield Summary		
R2.5	4.24ha	10 Lots
R5	2.52ha	12 Lots
R10	8.23ha	81 Lots
R15	20.1211ha	295 Lots
R20	3.8325ha	81 Lots
R25	3.3857ha	91 Lots
	Total Lots	570 Lots

Legend:

Total LSP Area: 68.13ha
Total area of school: 3.50ha
Total POS are provided: 6.5478ha

Albany Speedway Noise Special Control Area (see c.6.5)

Water Corporation Waste Water Treatment Plant Odour Buffer Special Control Area (see c.6.6)

SUBDIVISION CONCEPT PLAN

LOTS 1 - 13, 507, 526 AND 300 LANCASTER ROAD
McKAIL

Urban Development Institute of Australia WESTERN AUSTRALIA

PIA Planning Institute Australia

CPP CERTIFIED PRACTISING PLANNER

SCALE: 1:5000 @ A3
DATE: 18th JULY 2024
FILE: 1773_18.07.2024.dwg
DRAW: - SB
CHECKED: -

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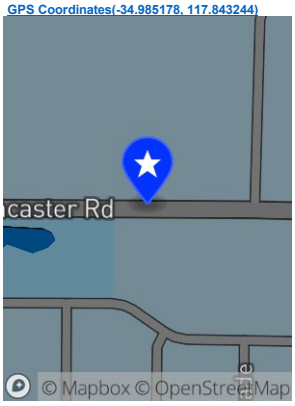
N W E S

Appendix B Traffic Counts

Lancaster Rd-SLK 0.8

Lancaster Rd-SLK 0.8

GPS Coordinates(-34.985178, 117.843244)



Data Summary
16 days data in total contribute to the report, which include:
2023: 16 days, From 2023-02-02 to 2023-02-17

Summary Data (2023)

	ADT	AWDT	AWEDT	85th	Avg	85th Weekday	Avg Weekday	85th Weekend	Avg Weekend
West	972	992	918	62.60km/h	56.38km/h	62.32km/h	56.16km/h	63.40km/h	56.95km/h
East	947	976	869	62.39km/h	55.69km/h	62.39km/h	55.66km/h	62.39km/h	55.76km/h
Both directions	1918	1966	1786	62.50km/h	56.02km/h	62.39km/h	55.91km/h	63.00km/h	56.38km/h

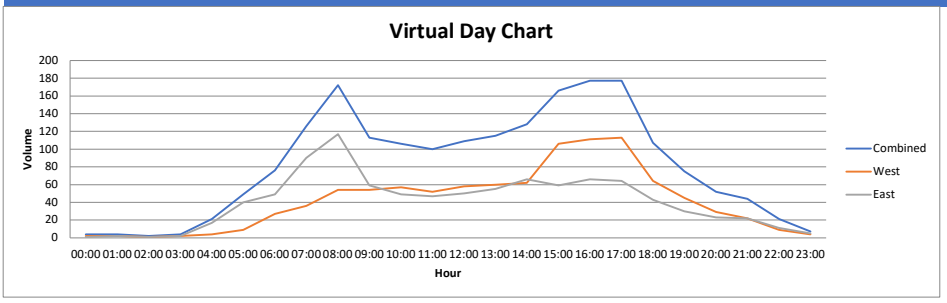
Virtual Day Summary Table(2023)

	Both directions				West		East	
	Weekday		Weekend		Weekday	Weekend	Weekday	Weekend
All day (0-24)	1955	100.00%	1777	100.00%	983	908	968	860
Daytime [7-19)	1596	81.64%	1531	86.16%	827	781	765	748
Evening [19-23)	192	9.82%	149	8.38%	105	82	86	65
Night [23-7)	167	8.54%	97	5.46%	51	45	117	47
2 Hours Morning Peak [7-9)	298	15.24%	135	7.60%	90	50	207	85
2 Hour Afternoon Peak [16-18)	354	18.11%	268	15.08%	224	142	130	126

Virtual Day Detail Table(2023)

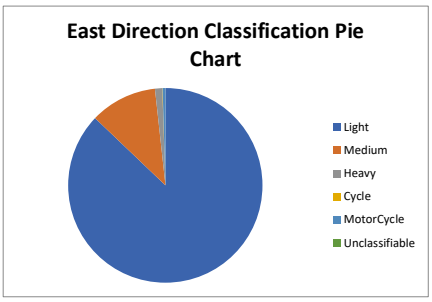
Time Range			Both directions				West		East	
			Weekday		Weekend		Weekday	Weekend	Weekday	Weekend
00:00	-	01:00	4	0.20%	13	0.73%	2	7	1	6
01:00	-	02:00	4	0.20%	9	0.51%	2	4	2	4
02:00	-	03:00	2	0.10%	3	0.17%	1	1	1	2
03:00	-	04:00	4	0.20%	5	0.28%	2	1	2	3
04:00	-	05:00	21	1.07%	8	0.45%	4	4	17	3
05:00	-	06:00	49	2.51%	15	0.84%	9	6	40	8
06:00	-	07:00	76	3.89%	30	1.69%	27	14	49	16
07:00	-	08:00	126	6.45%	47	2.64%	36	16	90	31
08:00	-	09:00	172	8.80%	88	4.95%	54	34	117	54
09:00	-	10:00	113	5.78%	132	7.43%	54	64	59	68
10:00	-	11:00	106	5.42%	159	8.95%	57	83	49	76
11:00	-	12:00	100	5.12%	165	9.29%	52	80	47	85
12:00	-	13:00	109	5.58%	158	8.89%	58	92	50	65
13:00	-	14:00	115	5.88%	142	7.99%	60	74	55	68
14:00	-	15:00	128	6.55%	142	7.99%	62	75	66	67
15:00	-	16:00	166	8.49%	148	8.33%	106	82	59	65
16:00	-	17:00	177	9.05%	144	8.10%	111	78	66	66
17:00	-	18:00	177	9.05%	124	6.98%	113	64	64	60
18:00	-	19:00	107	5.47%	82	4.61%	64	39	43	43
19:00	-	20:00	75	3.84%	59	3.32%	45	29	30	30
20:00	-	21:00	52	2.66%	45	2.53%	29	24	23	20
21:00	-	22:00	44	2.25%	27	1.52%	22	18	22	9
22:00	-	23:00	21	1.07%	18	1.01%	9	11	11	6
23:00	-	00:00	7	0.36%	14	0.79%	4	8	5	5

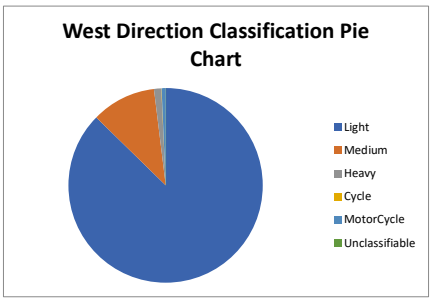
Weekday Virtual Day Graph(2023)



Classification (2023)

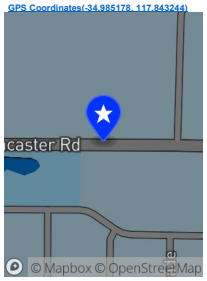
	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifiable	Total
West	87.32%	10.73%	1.21%	0.05%	0.68%	0.01%	14564
East	87.13%	11.16%	1.18%	0.05%	0.48%	0.00%	14187





Lancaster Rd-SLK 0.8
Lancaster Rd-SLK 0.8

GPS Coordinates(-34.985178, 117.843244)



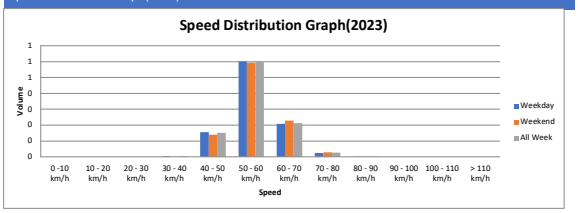
Speed Summary(2023)

	West			East			Both directions		
	Weekday	Weekend	All Week	Weekday	Weekend	All Week	Weekday	Weekend	All Week
85th	63.40	62.32	62.60	62.39	62.39	62.39	63.00	62.39	62.50
Avg	56.95	56.16	56.38	55.76	55.66	55.69	56.38	55.91	56.02

Speed Distribution(2023)

	West			East			Both directions		
	Weekday	Weekend	All Week	Weekday	Weekend	All Week	Weekday	Weekend	All Week
0 -10 km/h	0	0	0	0	0	0	0	0	0
10 - 20 km/h	0.02%	0.03%	0.02%	0.05%	0	0.04%	0.03%	0.01%	0.03%
20 - 30 km/h	0.16%	0.05%	0.13%	0.06%	0.03%	0.05%	0.11%	0.04%	0.09%
30 - 40 km/h	0.39%	0.30%	0.36%	0.37%	0.43%	0.39%	0.38%	0.36%	0.38%
40 - 50 km/h	12.53%	10.85%	12.11%	18.76%	17.35%	18.42%	15.62%	14.01%	15.22%
50 - 60 km/h	63.17%	60.52%	62.50%	57.18%	58.32%	57.46%	60.20%	59.45%	60.02%
60 - 70 km/h	20.84%	24.45%	21.75%	20.63%	21.10%	20.74%	20.74%	22.82%	21.25%
70 - 80 km/h	2.58%	3.16%	2.73%	2.53%	2.39%	2.50%	2.55%	2.79%	2.61%
80 - 90 km/h	0.26%	0.44%	0.30%	0.34%	0.29%	0.32%	0.30%	0.36%	0.31%
90 - 100 km/h	0.06%	0.11%	0.08%	0.07%	0.09%	0.07%	0.06%	0.10%	0.07%
100 - 110 km/h	0	0.03%	0.01%	0.01%	0	0.01%	0.00%	0.01%	0.01%
> 110 km/h	0	0.03%	0.01%	0.01%	0	0.01%	0.00%	0.01%	0.01%
	0.00%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%

Speed Distribution Graph(2023)



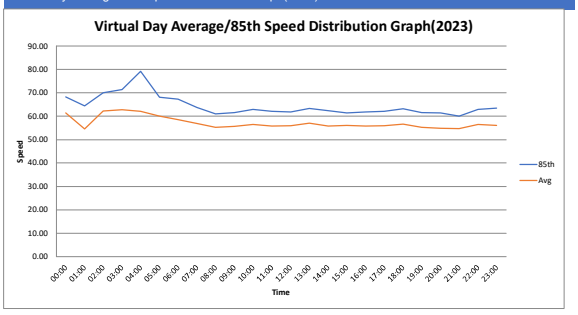
Virtual Day 85th Speed Distribution(2023)

Time Range			West			East			Both directions		
			Weekday	Weekend	All Week	Weekday	Weekend	All Week	Weekday	Weekend	All Week
00:00	-	01:00	68.26	68.65	68.65	68.51	64.30	66.42	68.62	66.46	68.26
01:00	-	02:00	64.48	63.40	63.97	63.58	64.08	64.01	64.30	63.76	64.12
02:00	-	03:00	70.02	82.01	71.50	69.70	62.86	70.02	70.24	71.10	70.81
03:00	-	04:00	71.35	65.20	70.16	64.26	64.94	64.91	69.44	64.98	67.72
04:00	-	05:00	79.20	77.00	79.31	63.40	63.61	63.47	64.91	71.96	65.45
05:00	-	06:00	68.11	68.11	68.18	64.51	59.22	64.12	65.09	64.44	65.09
06:00	-	07:00	67.28	64.12	66.24	62.24	63.50	62.32	63.50	64.12	63.50
07:00	-	08:00	63.83	62.71	63.79	60.52	62.35	60.52	61.42	62.60	61.42
08:00	-	09:00	61.02	64.73	61.81	60.41	60.84	60.55	60.70	62.50	60.91
09:00	-	10:00	61.60	62.78	61.92	62.21	61.20	61.96	61.88	61.99	61.99
10:00	-	11:00	62.89	63.29	63.00	62.71	61.88	62.32	62.78	62.60	62.71
11:00	-	12:00	62.10	62.24	62.21	62.89	61.99	62.64	62.39	62.24	62.32
12:00	-	13:00	61.88	63.18	62.32	62.50	62.60	62.50	62.10	63.00	62.32
13:00	-	14:00	63.40	64.01	63.65	62.06	63.40	62.60	62.89	63.83	63.11
14:00	-	15:00	62.39	63.22	62.60	62.32	61.45	61.99	62.32	62.42	62.32
15:00	-	16:00	61.49	62.89	61.88	63.25	61.78	62.89	62.21	62.50	62.39
16:00	-	17:00	61.81	63.11	62.10	63.18	62.39	63.00	62.32	63.00	62.50
17:00	-	18:00	62.06	62.82	62.21	63.18	63.43	63.22	62.39	63.29	62.50
18:00	-	19:00	63.22	63.68	63.29	62.82	63.36	63.00	63.11	63.50	63.22
19:00	-	20:00	61.52	64.44	62.10	62.53	61.70	62.28	61.81	62.89	62.21
20:00	-	21:00	61.38	62.35	61.70	62.24	64.69	63.11	61.70	63.50	62.10
21:00	-	22:00	60.08	62.03	60.55	63.79	63.97	63.86	62.78	62.64	62.75
22:00	-	23:00	62.86	62.89	62.96	63.18	62.68	63.14	63.18	63.04	63.18
23:00	-	00:00	63.47	62.35	63.22	64.08	61.42	64.01	63.65	62.32	63.58

Virtual Day Average Speed Distribution(2023)

Time Range			West			East			Both directions		
			Weekday	Weekend	All Week	Weekday	Weekend	All Week	Weekday	Weekend	All Week
00:00	-	01:00	61.45	60.44	60.95	58.46	58.21	58.32	60.44	59.40	59.87
01:00	-	02:00	54.65	57.56	55.80	55.19	57.56	56.27	54.90	57.56	56.02
02:00	-	03:00	62.28	70.96	64.19	61.88	59.22	60.77	62.17	64.55	62.89
03:00	-	04:00	62.86	59.47	62.14	58.07	59.47	58.46	60.01	59.47	59.87
04:00	-	05:00	62.10	62.17	62.10	55.73	54.61	55.66	56.92	58.82	57.17
05:00	-	06:00	60.12	60.73	60.26	56.27	54.22	56.12	56.99	57.06	56.99
06:00	-	07:00	58.54	57.82	58.43	55.73	55.51	55.73	56.74	56.63	56.74
07:00	-	08:00	56.95	57.92	57.10	54.36	55.30	54.47	55.08	56.20	55.22
08:00	-	09:00	55.30	57.46	55.69	54.76	54.65	54.76	54.94	55.73	55.04
09:00	-	10:00	55.69	57.28	56.20	55.19	55.01	55.15	55.44	56.12	55.66
10:00	-	11:00	56.48	57.17	56.74	55.51	55.30	55.44	56.05	56.27	56.12
11:00	-	12:00	55.84	56.27	55.98	56.12	55.76	55.98	55.98	56.02	55.98
12:00	-	13:00	55.98	56.74	56.23	55.80	56.05	55.87	55.87	56.45	56.09
13:00	-	14:00	56.99	57.02	56.99	55.58	55.87	55.66	56.30	56.48	56.34
14:00	-	15:00	55.87	56.48	56.05	55.80	55.33	55.66	55.84	55.94	55.87
15:00	-	16:00	56.05	56.88	56.23	56.48	56.16	56.41	56.20	56.56	56.30
16:00	-	17:00	55.87	56.48	56.02	56.38	55.51	56.12	56.05	56.05	56.05
17:00	-	18:00	56.02	56.99	56.20	56.34	56.41	56.34	56.12	56.70	56.27
18:00	-	19:00	56.70	56.95	56.74	55.84	56.16	55.91	56.34	56.52	56.38
19:00	-	20:00	55.30	57.24	55.66	55.76	55.69	55.73	55.48	56.45	55.69
20:00	-	21:00	54.94	56.59	55.30	55.66	57.89	56.20	55.22	57.17	55.69
21:00	-	22:00	54.72	55.98	55.01	56.56	56.59	56.56	55.62	56.20	55.73
22:00	-	23:00	56.52	57.24	56.74	55.66	57.89	56.02	56.05	57.46	56.38
23:00	-	00:00	56.12	56.30	56.20	57.02	57.71	57.28	56.52	56.84	56.63

Virtual Day Average/85th Speed Distribution Graph(2023)

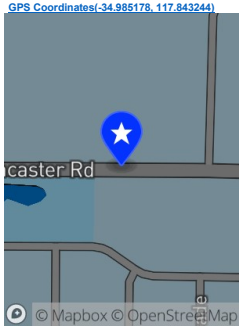


Virtual Week 85th/Average Speed Distribution(2023)

	West		East		Both directions	
	85th	Average	85th	Average	85th	Average
Monday	62.60	56.38	62.50	55.94	62.60	56.16
Tuesday	61.20	55.58	62.10	55.51	61.56	55.55
Wednesday	61.88	55.80	61.81	55.33	61.81	55.55
Thursday	62.50	56.30	62.89	55.80	62.71	56.05
Friday	63.11	56.56	62.50	55.62	62.78	56.09
Saturday	63.29	57.02	62.78	55.87	63.11	56.45
Sunday	63.50	56.92	61.88	55.62	62.78	56.27
All Week	62.32	56.16	62.39	55.66	62.39	55.91
Weekday	63.40	56.95	62.39	55.76	63.00	56.38

Lancaster Rd-SLK 0.8
Lancaster Rd-SLK 0.8

GPS Coordinates(-34.985178, 117.843244)



Virtual Day Class/Volume Matrix Weekday(2023)

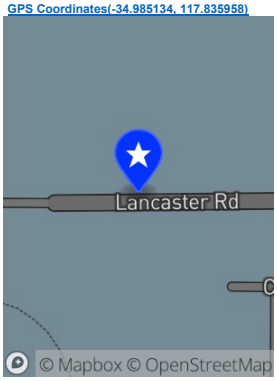
	West							East							Both directions						
	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifiable	Total	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifiable	Total	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifiable	Total
00:00 - 01:00	3	0	0	0	0	0	3	1	0	0	0	0	0	1	4	0	0	0	0	0	4
01:00 - 02:00	2	0	0	0	1	0	3	2	0	0	0	0	0	2	4	0	0	0	1	0	5
02:00 - 03:00	1	0	0	0	0	0	1	1	0	0	0	0	0	1	2	0	0	0	0	0	2
03:00 - 04:00	2	0	0	0	0	0	2	2	0	0	0	0	0	2	4	0	0	0	0	0	4
04:00 - 05:00	4	0	0	0	0	0	4	15	2	0	0	0	0	17	19	2	0	0	0	0	21
05:00 - 06:00	7	2	0	0	0	0	9	34	5	0	0	0	0	39	41	7	0	0	0	0	48
06:00 - 07:00	22	5	0	0	0	0	27	43	6	0	0	0	0	49	65	11	0	0	0	0	76
07:00 - 08:00	28	6	1	0	0	0	35	80	8	2	0	0	0	90	108	14	3	0	0	0	125
08:00 - 09:00	43	10	1	0	0	0	54	105	11	1	0	0	0	117	148	21	2	0	0	0	171
09:00 - 10:00	45	8	1	0	0	0	54	50	8	1	0	0	0	59	95	16	2	0	0	0	113
10:00 - 11:00	48	8	1	0	0	0	57	40	8	1	0	0	0	49	88	16	2	0	0	0	106
11:00 - 12:00	41	9	2	0	0	0	52	39	7	1	0	0	0	47	80	16	3	0	0	0	99
12:00 - 13:00	49	8	1	0	1	0	59	42	7	1	0	0	0	50	91	15	2	0	1	0	109
13:00 - 14:00	50	9	1	0	1	0	61	45	9	1	0	0	0	55	95	18	2	0	1	0	116
14:00 - 15:00	51	10	1	0	0	0	62	55	9	1	0	1	0	66	106	19	2	0	1	0	128
15:00 - 16:00	94	11	2	0	1	0	108	50	9	1	0	0	0	60	144	20	3	0	1	0	168
16:00 - 17:00	99	11	1	0	1	0	112	56	10	1	0	0	0	67	155	21	2	0	1	0	179
17:00 - 18:00	102	10	1	0	0	0	113	57	7	0	0	0	0	64	159	17	1	0	0	0	177
18:00 - 19:00	59	4	0	0	0	0	63	39	4	0	0	0	0	43	98	8	0	0	0	0	106
19:00 - 20:00	41	4	0	0	0	0	45	28	2	0	0	0	0	30	69	6	0	0	0	0	75
20:00 - 21:00	28	1	0	0	0	0	29	21	1	0	0	0	0	22	49	2	0	0	0	0	51
21:00 - 22:00	22	1	0	0	0	0	23	20	2	0	0	0	0	22	42	3	0	0	0	0	45
22:00 - 23:00	9	0	0	0	0	0	9	10	1	0	0	0	0	11	19	1	0	0	0	0	20
23:00 - 00:00	4	0	0	0	0	0	4	4	1	0	0	0	0	5	8	1	0	0	0	0	9
All day (0-24)	854	117	13	0	5	0	989	839	117	11	0	1	0	968	1693	234	24	0	6	0	1957
Daytime [7-19)	709	104	13	0	4	0	830	658	97	11	0	1	0	767	1367	201	24	0	5	0	1597
Evening [19-23)	100	6	0	0	0	0	106	79	6	0	0	0	0	85	179	12	0	0	0	0	191
Night [23-7)	45	7	0	0	1	0	53	102	14	0	0	0	0	116	147	21	0	0	1	0	169
2 Hours Morning Peak [7-9)	71	16	2	0	0	0	89	185	19	3	0	0	0	207	256	35	5	0	0	0	296
2 Hour Afternoon Peak [16-18)	201	21	2	0	1	0	225	113	17	1	0	0	0	131	314	38	3	0	1	0	356

Classification Speed Matrix, Absolute Volume(2023)

	West							East							Both directions						
	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifiable	Total	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifiable	Total	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifiable	Total
Under 10 km/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 - 20 km/h	3	0	0	0	0	0	3	1	3	0	0	1	0	5	4	3	0	0	1	0	8
20 - 30 km/h	13	4	0	1	1	0	19	2	2	1	1	1	0	7	15	6	1	2	2	0	26
30 - 40 km/h	46	5	0	1	1	0	53	34	17	0	4	0	0	55	80	22	0	5	1	0	108
40 - 50 km/h	1560	170	13	1	19	0	1763	2296	273	26	1	17	0	2613	3856	443	39	2	36	0	4376
50 - 60 km/h	7964	949	123	4	61	2	9103	7152	884	86	1	29	0	8152	15116	1833	209	5	90	2	17255
60 - 70 km/h	2742	376	37	0	13	0	3168	2528	353	48	0	14	0	2943	5270	729	85	0	27	0	6111
70 - 80 km/h	338	52	3	0	4	0	397	296	46	7	0	5	0	354	634	98	10	0	9	0	751
80 - 90 km/h	39	5	0	0	0	0	44	41	4	0	0	1	0	46	80	9	0	0	1	0	90
90 - 100 km/h	9	2	0	0	0	0	11	9	1	0	0	0	0	10	18	3	0	0	0	0	21
100 - 110 km/h	1	0	0	0	0	0	1	1	0	0	0	0	0	1	2	0	0	0	0	0	2
> 110 km/h	2	0	0	0	0	0	2	1	0	0	0	0	0	1	3	0	0	0	0	0	3

LANCASTER ROAD-SLK1450
2156

GPS Coordinates(-34.985134, 117.835958)



Data Summary
23 days data in total contribute to the report, which include:
2020: 23 days, From 2020-06-10 to 2020-07-02

Summary Data (2020)

	ADT	AWDT	AWEDT	85th	Avg	85th Weekday	Avg Weekday	85th Weekend	Avg Weekend
West	435	435	440	69.30km/h	60.23km/h	69.08km/h	60.01km/h	69.70km/h	60.73km/h
East	389	394	383	68.90km/h	59.80km/h	68.80km/h	59.69km/h	68.90km/h	60.05km/h
Both directions	824	829	818	69.08km/h	60.01km/h	69.01km/h	59.87km/h	69.30km/h	60.41km/h

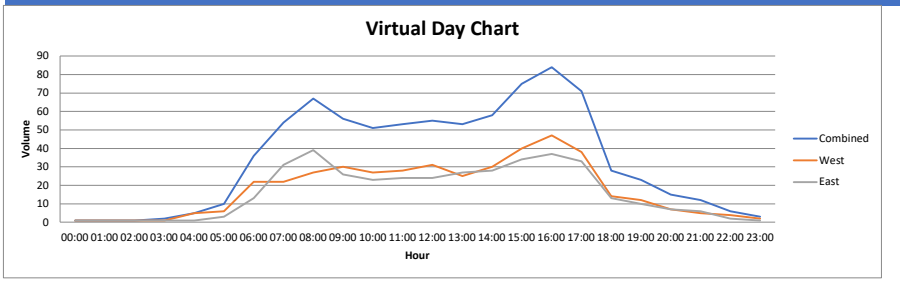
Virtual Day Summary Table(2020)

	Both directions				West		East	
	Weekday		Weekend		Weekday	Weekend	Weekday	Weekend
All day (0-24)	820	100.00%	808	100.00%	426	427	386	372
Daytime [7-19)	705	85.98%	724	89.60%	359	385	339	333
Evening [19-23)	56	6.83%	49	6.06%	28	23	25	22
Night [23-7)	59	7.20%	35	4.33%	39	19	22	17
2 Hours Morning Peak [7-9)	121	14.76%	50	6.19%	49	26	70	23
2 Hour Afternoon Peak [16-18)	155	18.90%	132	16.34%	85	56	70	74

Virtual Day Detail Table(2020)

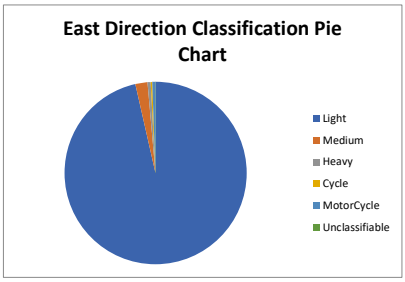
Time Range			Both directions				West		East	
			Weekday		Weekend		Weekday	Weekend	Weekday	Weekend
00:00	-	01:00	1	0.12%	8	0.99%	1	4	1	4
01:00	-	02:00	1	0.12%	2	0.25%	1	1	1	1
02:00	-	03:00	1	0.12%	4	0.50%	1	2	1	2
03:00	-	04:00	2	0.24%	1	0.12%	1	1	1	1
04:00	-	05:00	5	0.61%	3	0.37%	5	2	1	1
05:00	-	06:00	10	1.22%	2	0.25%	6	1	3	1
06:00	-	07:00	36	4.39%	8	0.99%	22	4	13	3
07:00	-	08:00	54	6.59%	17	2.10%	22	8	31	8
08:00	-	09:00	67	8.17%	33	4.08%	27	18	39	15
09:00	-	10:00	56	6.83%	61	7.55%	30	35	26	25
10:00	-	11:00	51	6.22%	78	9.65%	27	44	23	33
11:00	-	12:00	53	6.46%	76	9.41%	28	46	24	30
12:00	-	13:00	55	6.71%	75	9.28%	31	42	24	32
13:00	-	14:00	53	6.46%	72	8.91%	25	39	27	33
14:00	-	15:00	58	7.07%	73	9.03%	30	39	28	34
15:00	-	16:00	75	9.15%	82	10.15%	40	44	34	38
16:00	-	17:00	84	10.24%	76	9.41%	47	35	37	40
17:00	-	18:00	71	8.66%	56	6.93%	38	21	33	34
18:00	-	19:00	28	3.41%	25	3.09%	14	14	13	11
19:00	-	20:00	23	2.80%	19	2.35%	12	8	10	10
20:00	-	21:00	15	1.83%	11	1.36%	7	4	7	6
21:00	-	22:00	12	1.46%	10	1.24%	5	6	6	3
22:00	-	23:00	6	0.73%	9	1.11%	4	5	2	3
23:00	-	00:00	3	0.37%	7	0.87%	2	4	1	4

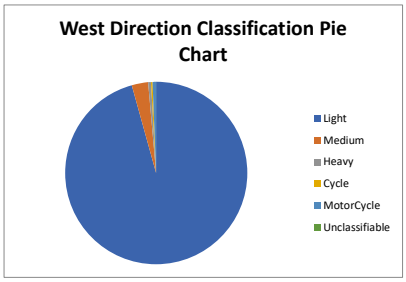
Weekday Virtual Day Graph(2020)



Classification (2020)

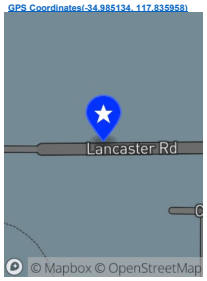
	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifiable	Total
West	95.69%	2.89%	0.51%	0.27%	0.64%	0.00%	8791
East	96.43%	2.17%	0.53%	0.28%	0.55%	0.04%	7863





LANCASTER ROAD-SLK1450
2156

GPS Coordinates(-34.985134, 117.835958)



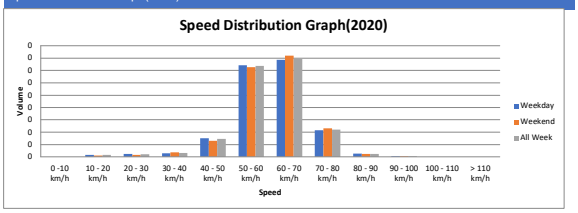
Speed Summary(2020)

	West			East			Both directions		
	Weekday	Weekend	All Week	Weekday	Weekend	All Week	Weekday	Weekend	All Week
85th	69.70	69.08	69.30	68.90	68.80	68.90	69.30	69.01	69.08
Avg	60.73	60.01	60.23	60.05	59.69	59.80	60.41	59.87	60.01

Speed Distribution(2020)

	West			East			Both directions		
	Weekday	Weekend	All Week	Weekday	Weekend	All Week	Weekday	Weekend	All Week
0 -10 km/h	0	0	0	0	0	0	0	0	0
10 - 20 km/h	0.40%	0.42%	0.41%	1.32%	0.71%	1.14%	0.84%	0.55%	0.76%
20 - 30 km/h	1.36%	0.92%	1.23%	1.02%	0.62%	0.90%	1.20%	0.78%	1.07%
30 - 40 km/h	1.36%	1.19%	1.31%	1.53%	2.52%	1.82%	1.44%	1.81%	1.55%
40 - 50 km/h	8.15%	6.80%	7.75%	7.03%	6.24%	6.80%	7.62%	6.54%	7.30%
50 - 60 km/h	37.51%	36.43%	37.19%	36.73%	36.21%	36.58%	37.14%	36.33%	36.90%
60 - 70 km/h	38.35%	39.98%	38.84%	40.35%	42.05%	40.84%	39.31%	40.94%	39.79%
70 - 80 km/h	10.88%	12.31%	11.31%	10.66%	10.67%	10.66%	10.78%	11.55%	11.00%
80 - 90 km/h	1.38%	1.38%	1.38%	1.20%	0.89%	1.11%	1.29%	1.15%	1.25%
90 - 100 km/h	0.44%	0.42%	0.43%	0.12%	0.09%	0.11%	0.29%	0.27%	0.28%
100 - 110 km/h	0.11%	0.08%	0.10%	0.04%	0	0.03%	0.08%	0.04%	0.07%
> 110 km/h	0.03%	0	0.02%	0	0	0	0.02%	0	0.01%
	0.02%	0.08%	0.03%	0.00%	0.00%	0.00%	0.01%	0.04%	0.02%

Speed Distribution Graph(2020)



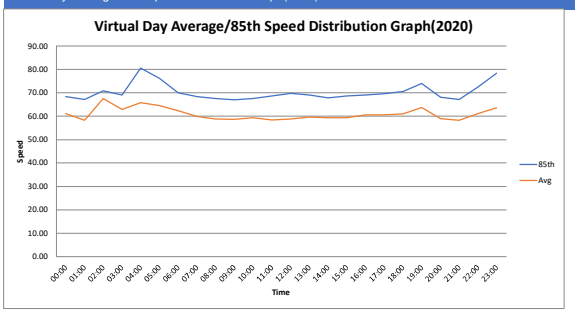
Virtual Day 85th Speed Distribution(2020)

Time Range			West			East			Both directions		
			Weekday	Weekend	All Week	Weekday	Weekend	All Week	Weekday	Weekend	All Week
00:00	-	01:00	68.36	74.99	72.22	55.58	68.69	68.65	68.33	71.50	69.08
01:00	-	02:00	67.10	66.28	70.24	77.62	57.10	60.59	74.45	62.57	68.80
02:00	-	03:00	70.85	81.61	77.04	67.79	66.74	70.56	71.96	74.59	72.14
03:00	-	04:00	69.08	77.69	69.41	73.01	57.31	69.80	69.48	72.83	70.20
04:00	-	05:00	80.53	83.38	80.68	82.51	59.62	71.10	81.04	77.18	80.64
05:00	-	06:00	76.25	66.96	75.28	65.63	77.87	67.21	73.48	71.71	73.30
06:00	-	07:00	70.06	69.01	70.02	69.37	63.40	69.34	69.80	68.80	69.73
07:00	-	08:00	68.36	70.49	68.69	66.89	68.29	67.10	67.28	69.34	67.61
08:00	-	09:00	67.57	68.69	68.26	70.20	69.34	69.91	68.90	69.08	69.01
09:00	-	10:00	67.03	68.98	67.90	68.08	68.80	68.47	67.61	68.90	68.11
10:00	-	11:00	67.50	68.72	68.29	66.96	67.97	67.61	67.18	68.36	67.90
11:00	-	12:00	68.65	70.06	69.19	68.18	68.83	68.80	68.54	69.70	68.90
12:00	-	13:00	69.80	69.30	69.70	69.26	69.70	69.52	69.70	69.52	69.62
13:00	-	14:00	69.08	69.01	69.08	69.70	70.24	70.09	69.52	69.80	69.59
14:00	-	15:00	67.90	70.70	68.80	69.08	68.69	69.05	68.62	69.59	68.98
15:00	-	16:00	68.69	69.70	68.98	68.80	68.18	68.51	68.69	69.19	68.87
16:00	-	17:00	69.08	69.70	69.26	67.72	67.46	67.64	68.51	68.69	68.62
17:00	-	18:00	69.59	70.99	69.80	67.39	68.58	67.75	68.18	69.26	68.62
18:00	-	19:00	70.60	68.44	69.88	68.65	67.64	68.40	69.55	68.40	69.19
19:00	-	20:00	73.98	69.52	72.43	70.49	68.29	69.62	72.18	68.69	71.24
20:00	-	21:00	68.15	72.32	68.76	73.44	68.65	72.79	72.11	69.26	72.00
21:00	-	22:00	67.18	68.62	67.82	71.39	74.41	71.71	70.20	69.91	70.20
22:00	-	23:00	72.47	66.64	69.77	72.25	69.52	71.57	72.47	68.83	70.88
23:00	-	00:00	78.44	71.50	73.69	77.26	69.84	71.78	78.34	70.70	72.79

Virtual Day Average Speed Distribution(2020)

Time Range			West			East			Both directions		
			Weekday	Weekend	All Week	Weekday	Weekend	All Week	Weekday	Weekend	All Week
00:00	-	01:00	61.13	61.63	61.52	55.08	62.32	60.30	58.10	61.96	60.95
01:00	-	02:00	58.21	62.46	60.88	77.62	44.78	48.89	63.04	52.16	54.86
02:00	-	03:00	67.61	67.00	67.21	61.67	62.96	62.46	65.09	65.30	65.23
03:00	-	04:00	62.93	62.68	62.89	62.93	46.80	58.90	62.93	59.15	62.10
04:00	-	05:00	65.77	74.92	67.14	67.86	54.25	61.06	65.95	67.32	66.24
05:00	-	06:00	64.62	61.81	64.40	49.75	63.18	51.55	59.26	62.50	59.58
06:00	-	07:00	62.39	60.30	62.24	57.74	57.13	57.67	60.66	58.93	60.52
07:00	-	08:00	59.90	62.21	60.23	58.00	62.28	58.46	58.82	62.24	59.22
08:00	-	09:00	58.86	60.80	59.29	61.20	60.01	61.02	60.23	60.44	60.26
09:00	-	10:00	58.72	61.13	59.51	59.11	60.55	59.54	58.90	60.88	59.54
10:00	-	11:00	59.36	59.80	59.54	58.64	60.44	59.33	59.04	60.08	59.44
11:00	-	12:00	58.36	61.20	59.51	58.50	59.83	58.97	58.43	60.66	59.29
12:00	-	13:00	58.79	60.19	59.33	60.05	60.70	60.26	59.33	60.41	59.72
13:00	-	14:00	59.72	60.16	59.90	59.08	61.34	59.80	59.40	60.70	59.87
14:00	-	15:00	59.40	61.09	59.98	60.16	59.83	60.05	59.76	60.52	60.01
15:00	-	16:00	59.40	61.27	59.98	60.44	59.51	60.16	59.90	60.44	60.05
16:00	-	17:00	60.62	59.47	60.34	59.33	60.05	59.54	60.05	59.80	59.98
17:00	-	18:00	60.59	62.14	60.88	59.58	59.33	59.51	60.12	60.37	60.19
18:00	-	19:00	60.95	60.80	60.91	61.02	57.89	60.19	60.98	59.54	60.59
19:00	-	20:00	63.76	58.10	62.46	61.56	59.44	60.91	62.75	58.82	61.74
20:00	-	21:00	59.00	59.18	59.04	63.29	59.36	62.28	61.09	59.29	60.66
21:00	-	22:00	58.28	61.24	59.29	63.40	62.75	63.29	61.13	61.74	61.27
22:00	-	23:00	61.09	58.93	60.26	59.51	57.96	58.90	60.48	58.54	59.72
23:00	-	00:00	63.61	62.75	63.22	73.44	61.60	66.42	66.89	62.17	64.51

Virtual Day Average/85th Speed Distribution Graph(2020)

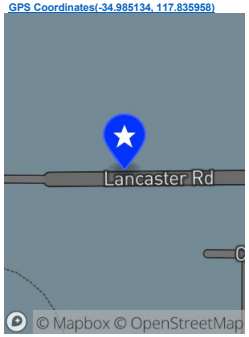


Virtual Week 85th/Average Speed Distribution(2020)

	West		East		Both directions	
	85th	Average	85th	Average	85th	Average
Monday	69.70	60.59	69.70	60.26	69.70	60.44
Tuesday	68.90	59.94	69.41	60.08	69.08	60.01
Wednesday	68.87	59.87	68.11	59.22	68.51	59.58
Thursday	68.98	59.98	68.62	59.80	68.80	59.90
Friday	69.19	59.62	68.00	58.93	68.62	59.29
Saturday	70.09	60.80	69.19	59.94	69.59	60.41
Sunday	69.30	60.62	68.62	60.12	68.90	60.41
All Week	69.08	60.01	68.80	59.69	69.01	59.87
Weekday	69.70	60.73	68.90	60.05	69.30	60.41

LANCASTER ROAD-SLK1450
2156

GPS Coordinates(-34.985134, 117.835958)



Virtual Day Class/Volume Matrix Weekday(2020)

	West							East							Both directions						
	Light	Medium	Heavy	Cycle	MotorCycle	Unclassificable	Total	Light	Medium	Heavy	Cycle	MotorCycle	Unclassificable	Total	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifcable	Total
00:00 - 01:00	1	0	0	0	0	0	1	1	0	0	0	0	0	1	2	0	0	0	0	0	2
01:00 - 02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 - 03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 - 04:00	2	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	2
04:00 - 05:00	5	0	0	0	0	0	5	1	0	0	0	0	0	1	6	0	0	0	0	0	6
05:00 - 06:00	6	0	0	0	0	0	6	4	0	0	0	0	0	4	10	0	0	0	0	0	10
06:00 - 07:00	22	0	0	0	0	0	22	13	0	0	0	0	0	13	35	0	0	0	0	0	35
07:00 - 08:00	21	1	0	0	0	0	22	30	1	0	0	0	0	31	51	2	0	0	0	0	53
08:00 - 09:00	25	2	1	0	0	0	28	38	1	0	0	0	0	39	63	3	1	0	0	0	67
09:00 - 10:00	28	2	0	0	0	0	30	25	1	0	0	0	0	26	53	3	0	0	0	0	56
10:00 - 11:00	26	1	0	0	0	0	27	22	1	0	0	0	0	23	48	2	0	0	0	0	50
11:00 - 12:00	27	2	0	0	0	0	29	24	1	0	0	0	0	25	51	3	0	0	0	0	54
12:00 - 13:00	29	2	0	0	0	0	31	23	1	0	0	0	0	24	52	3	0	0	0	0	55
13:00 - 14:00	24	1	0	0	0	0	25	26	1	0	0	0	0	27	50	2	0	0	0	0	52
14:00 - 15:00	29	1	0	0	0	0	30	28	1	0	0	0	0	29	57	2	0	0	0	0	59
15:00 - 16:00	39	1	0	0	0	0	40	34	0	0	0	0	0	34	73	1	0	0	0	0	74
16:00 - 17:00	45	2	0	0	0	0	47	36	0	1	0	0	0	37	81	2	1	0	0	0	84
17:00 - 18:00	38	1	0	0	0	0	39	33	0	0	0	0	0	33	71	1	0	0	0	0	72
18:00 - 19:00	15	0	0	0	0	0	15	13	0	0	0	0	0	13	28	0	0	0	0	0	28
19:00 - 20:00	13	0	0	0	0	0	13	11	0	0	0	0	0	11	24	0	0	0	0	0	24
20:00 - 21:00	8	0	0	0	0	0	8	8	0	0	0	0	0	8	16	0	0	0	0	0	16
21:00 - 22:00	6	0	0	0	0	0	6	7	0	0	0	0	0	7	13	0	0	0	0	0	13
22:00 - 23:00	4	0	0	0	0	0	4	3	0	0	0	0	0	3	7	0	0	0	0	0	7
23:00 - 00:00	2	0	0	0	0	0	2	1	0	0	0	0	0	1	3	0	0	0	0	0	3
All day (0-24)	415	16	1	0	0	0	432	381	8	1	0	0	0	390	796	24	2	0	0	0	822
Daytime [7-19]	346	16	1	0	0	0	363	332	8	1	0	0	0	341	678	24	2	0	0	0	704
Evening [19-23]	31	0	0	0	0	0	31	29	0	0	0	0	0	29	60	0	0	0	0	0	60
Night [23-7]	38	0	0	0	0	0	38	20	0	0	0	0	0	20	58	0	0	0	0	0	58
2 Hours Morning Peak [7-9]	46	3	1	0	0	0	50	68	2	0	0	0	0	70	114	5	1	0	0	0	120
2 Hour Afternoon Peak [16-18]	83	3	0	0	0	0	86	69	0	1	0	0	0	70	152	3	1	0	0	0	156

Classification Speed Matrix, Absolute Volume(2020)

	West							East							Both directions						
	Light	Medium	Heavy	Cycle	MotorCycle	Unclassificable	Total	Light	Medium	Heavy	Cycle	MotorCycle	Unclassificable	Total	Light	Medium	Heavy	Cycle	MotorCycle	Unclassifcable	Total
Under 10 km/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 - 20 km/h	17	1	0	18	0	0	36	89	1	0	0	0	0	90	106	2	0	18	0	0	126
20 - 30 km/h	98	6	0	4	0	0	108	43	8	2	16	1	1	71	141	14	2	20	1	1	179
30 - 40 km/h	103	9	2	0	1	0	115	133	5	0	4	0	1	143	236	14	2	4	1	1	258
40 - 50 km/h	613	52	8	1	7	0	681	496	31	7	0	1	0	535	1109	83	15	1	8	0	1216
50 - 60 km/h	3119	124	16	0	10	0	3269	2773	68	15	2	17	1	2876	5892	192	31	2	27	1	6145
60 - 70 km/h	3334	50	16	1	13	0	3414	3133	49	14	0	15	0	3211	6467	99	30	1	28	0	6625
70 - 80 km/h	972	8	3	0	11	0	994	818	9	4	0	7	0	838	1790	17	7	0	18	0	1832
80 - 90 km/h	116	2	0	0	3	0	121	85	0	0	0	2	0	87	201	2	0	0	5	0	208
90 - 100 km/h	31	2	0	0	5	0	38	9	0	0	0	0	0	9	40	2	0	0	5	0	47
100 - 110 km/h	5	0	0	0	4	0	9	2	0	0	0	0	0	2	7	0	0	0	4	0	11
> 110 km/h	3	0	0	0	2	0	5	0	0	0	0	0	0	0	3	0	0	0	2	0	5

MetroCount Traffic Executive
Daily Classes

DailyClass-15 -- English (ENA)

Datasets:

Site:	**[1514] Gladville R374 (Albany - McKail) 0.09 / 0.00 - 0.18**
Attribute:	SLK 0.09
Direction:	6 - West bound A>B, East bound B>A. **Lane:** 0
Survey Duration:	0:00 Tuesday, 30 April 2013 => 14:32 Tuesday, 14 May 2013,
Zone:	
File:	151414May2013.EC0 (Plus)
Identifier:	K329W9WR MC56-6 [MC55] (c)Microcom 02/03/01
Algorithm:	Factory default axle (v5.05)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**0:00 Tuesday, 30 April 2013 => 14:32 Tuesday, 14 May 2013 (14.6059)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound), P = East, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 100 metre
Name:	Default Profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (metre, kilometre, m/s, km/h, kg, tonne)
In profile:	Vehicles = 4722 / 4731 (99.81%)

Daily Classes

DailyClass-15
Site: 1514.0.1WE
Description: **Gladville R374 (Albany - McKail) 0.09 / 0.00 - 0.18**
Filter time: **0:00 Tuesday, 30 April 2013 => 14:32 Tuesday, 14 May 2013**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1-12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Monday, 29 April 2013

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue	328	18	11	0	0	1	0	0	0	0	0	0	358
(%)	91.6	5.0	3.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	
Wed	284	19	13	4	0	0	1	0	0	0	0	0	321
(%)	88.5	5.9	4.0	1.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	
Thu	275	13	16	1	0	0	0	0	0	0	0	0	305
(%)	90.2	4.3	5.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri	317	11	17	5	1	0	0	0	0	0	0	0	351
(%)	90.3	3.1	4.8	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat	337	17	8	0	0	0	2	0	0	0	0	0	364
(%)	92.6	4.7	2.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	
Sun	253	10	9	0	0	0	0	0	0	0	0	0	272
(%)	93.0	3.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

Entire week													
	299	15	12	2	0	0	1	0	0	0	0	0	329
(%)	91.0	4.5	3.8	0.5	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	
Weekdays													
	301	15	14	3	0	0	0	0	0	0	0	0	334
(%)	90.2	4.6	4.3	0.7	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	
Weekend													
	295	14	9	0	0	0	1	0	0	0	0	0	318
(%)	92.8	4.2	2.7	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	

*** - Incomplete**

Daily Classes

DailyClass-15
Site: 1514.0.1WE
Description: **Gladville R374 (Albany - McKail) 0.09 / 0.00 - 0.18**
Filter time: **0:00 Tuesday, 30 April 2013 => 14:32 Tuesday, 14 May 2013**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1-12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Monday, 6 May 2013

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	302	15	12	6	0	1	0	0	0	0	0	0	336
(%)	89.9	4.5	3.6	1.8	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	
Tue	335	6	16	2	0	1	0	0	0	0	0	0	360
(%)	93.1	1.7	4.4	0.6	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	
Wed	277	8	11	3	0	0	0	0	0	0	0	0	299
(%)	92.6	2.7	3.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu	311	1	11	0	0	1	1	0	0	0	0	0	325
(%)	95.7	0.3	3.4	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	
Fri	318	11	19	0	0	0	1	0	0	0	0	0	349
(%)	91.1	3.2	5.4	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	
Sat	309	21	7	1	0	0	0	0	0	0	0	0	338
(%)	91.4	6.2	2.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun	261	11	6	0	0	0	0	0	0	0	0	0	278
(%)	93.9	4.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

Entire week													
	302	10	12	2	0	0	0	0	0	0	0	0	326
(%)	92.5	3.2	3.6	0.5	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	
Weekdays													
	309	8	14	2	0	1	0	0	0	0	0	0	334
(%)	92.5	2.5	4.1	0.7	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	
Weekend													
	285	16	7	1	0	0	0	0	0	0	0	0	308
(%)	92.5	5.2	2.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*** - Incomplete**

Daily Classes

DailyClass-15
Site: 1514.0.1WE
Description: **Gladville R374 (Albany - McKail) 0.09 / 0.00 - 0.18**
Filter time: **0:00 Tuesday, 30 April 2013 => 14:32 Tuesday, 14 May 2013**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1-12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Monday, 13 May 2013

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	292	10	8	0	0	0	0	0	0	0	0	0	310
(%)	94.2	3.2	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue*	147	1	7	1	0	0	0	0	0	0	0	0	156
(%)	94.2	0.6	4.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

Entire week

	292	10	8	0	0	0	0	0	0	0	0	0	310
(%)	94.2	3.2	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Weekdays

	292	10	8	0	0	0	0	0	0	0	0	0	310
(%)	94.2	3.2	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Weekend No complete days.

*** - Incomplete**

MetroCount Traffic Executive
Daily Classes

DailyClass-14 -- English (ENA)

Datasets:

Site:	**[1703] R432 (South Coast - Beaudon) SLK 0.05 / 0.0 - 0.44**
Attribute:	Timewell Rd
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 0
Survey Duration:	12:00 Friday, 16 January 2015 => 8:24 Monday, 2 February 2015,
Zone:	
File:	1703 Timewell Rd 2015-02-02 0824.EC0 (Plus)
Identifier:	GY50GV51 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.05)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**12:00 Friday, 16 January 2015 => 8:24 Monday, 2 February 2015 (16.8501)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound), P = North, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 100 metre
Name:	Default Profile
Scheme:	Vehicle classification (AustRoads94)
Units:	Metric (metre, kilometre, m/s, km/h, kg, tonne)
In profile:	Vehicles = 3235 / 3240 (99.85%)

Daily Classes

DailyClass-14
Site: 1703.0.1NS
Description: **R432 (South Coast - Beaudon) SLK 0.05 / 0.0 - 0.44**
Filter time: **12:00 Friday, 16 January 2015 => 8:24 Monday, 2 February 2015**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1-12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Monday, 12 January 2015

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri*	111	6	2	0	0	1	0	0	0	0	0	0	120
(%)	92.5	5.0	1.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	
Sat	272	18	9	0	1	0	12	0	0	0	0	0	312
(%)	87.2	5.8	2.9	0.0	0.3	0.0	3.8	0.0	0.0	0.0	0.0	0.0	
Sun	220	3	10	0	2	0	5	0	0	0	0	0	240
(%)	91.7	1.3	4.2	0.0	0.8	0.0	2.1	0.0	0.0	0.0	0.0	0.0	

Average daily volume

Entire week

	246	11	10	0	2	0	9	0	0	0	0	0	276
(%)	89.1	3.8	3.4	0.0	0.5	0.0	3.1	0.0	0.0	0.0	0.0	0.0	

Weekdays No complete days.

Weekend

	246	11	10	0	2	0	9	0	0	0	0	0	276
(%)	89.1	3.8	3.4	0.0	0.5	0.0	3.1	0.0	0.0	0.0	0.0	0.0	

*** - Incomplete**

Daily Classes

DailyClass-14
Site: 1703.0.1NS
Description: **R432 (South Coast - Beaudon) SLK 0.05 / 0.0 - 0.44**
Filter time: **12:00 Friday, 16 January 2015 => 8:24 Monday, 2 February 2015**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1-12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Monday, 19 January 2015

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	170	5	8	9	1	0	8	1	0	0	0	0	202
(%)	84.2	2.5	4.0	4.5	0.5	0.0	4.0	0.5	0.0	0.0	0.0	0.0	
Tue	170	8	13	0	0	0	6	0	1	0	0	0	198
(%)	85.9	4.0	6.6	0.0	0.0	0.0	3.0	0.0	0.5	0.0	0.0	0.0	
Wed	171	13	20	2	0	2	8	0	0	0	0	0	216
(%)	79.2	6.0	9.3	0.9	0.0	0.9	3.7	0.0	0.0	0.0	0.0	0.0	
Thu	166	15	17	1	0	2	10	0	0	0	0	0	211
(%)	78.7	7.1	8.1	0.5	0.0	0.9	4.7	0.0	0.0	0.0	0.0	0.0	
Fri	200	3	17	0	0	2	14	0	0	0	0	0	236
(%)	84.7	1.3	7.2	0.0	0.0	0.8	5.9	0.0	0.0	0.0	0.0	0.0	
Sat	183	10	15	0	0	0	4	0	0	0	0	0	212
(%)	86.3	4.7	7.1	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	
Sun	291	19	22	2	0	0	13	0	0	0	0	0	347
(%)	83.9	5.5	6.3	0.6	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	

Average daily volume

Entire week													
	193	10	16	2	0	1	9	0	0	0	0	0	232
(%)	83.3	4.5	6.9	0.9	0.1	0.4	3.9	0.1	0.1	0.0	0.0	0.0	
Weekdays													
	175	9	15	2	0	1	9	0	0	0	0	0	213
(%)	82.5	4.1	7.1	1.1	0.1	0.6	4.3	0.1	0.1	0.0	0.0	0.0	
Weekend													
	237	15	19	1	0	0	9	0	0	0	0	0	280
(%)	84.8	5.2	6.6	0.4	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	

*** - Incomplete**

Daily Classes

DailyClass-14
Site: 1703.0.1NS
Description: **R432 (South Coast - Beaudon) SLK 0.05 / 0.0 - 0.44**
Filter time: **12:00 Friday, 16 January 2015 => 8:24 Monday, 2 February 2015**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1-12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Monday, 26 January 2015

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon	176	8	13	4	1	0	5	0	0	0	0	0	207
(%)	85.0	3.9	6.3	1.9	0.5	0.0	2.4	0.0	0.0	0.0	0.0	0.0	
Tue	180	9	12	0	0	0	8	0	0	0	0	0	209
(%)	86.1	4.3	5.7	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	
Wed	172	8	11	0	2	1	9	0	0	0	0	0	203
(%)	84.7	3.9	5.4	0.0	1.0	0.5	4.4	0.0	0.0	0.0	0.0	0.0	
Thu	184	5	22	1	0	0	7	0	0	0	0	0	219
(%)	84.0	2.3	10.0	0.5	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	
Fri	90	1	9	1	0	0	2	0	0	0	0	0	103
(%)	87.4	1.0	8.7	1.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	
Sat	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

Entire week													
	115	4	10	1	0	0	4	0	0	0	0	0	134
(%)	85.2	3.3	7.1	0.6	0.3	0.1	3.3	0.0	0.0	0.0	0.0	0.0	
Weekdays													
	160	6	13	1	1	0	6	0	0	0	0	0	188
(%)	85.2	3.3	7.1	0.6	0.3	0.1	3.3	0.0	0.0	0.0	0.0	0.0	
Weekend													
	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*** - Incomplete**

Daily Classes

DailyClass-14
Site: 1703.0.1NS
Description: **R432 (South Coast - Beaudon) SLK 0.05 / 0.0 - 0.44**
Filter time: **12:00 Friday, 16 January 2015 => 8:24 Monday, 2 February 2015**
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1-12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100) Lane(0-16)

Monday, 2 February 2015

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Tue*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wed*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Thu*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fri*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sat*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sun*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Average daily volume

Entire week No complete days.
Weekdays No complete days.
Weekend No complete days.

*** - Incomplete**

SITE 15516

Hourly Volume

South Coast Hwy (H009)

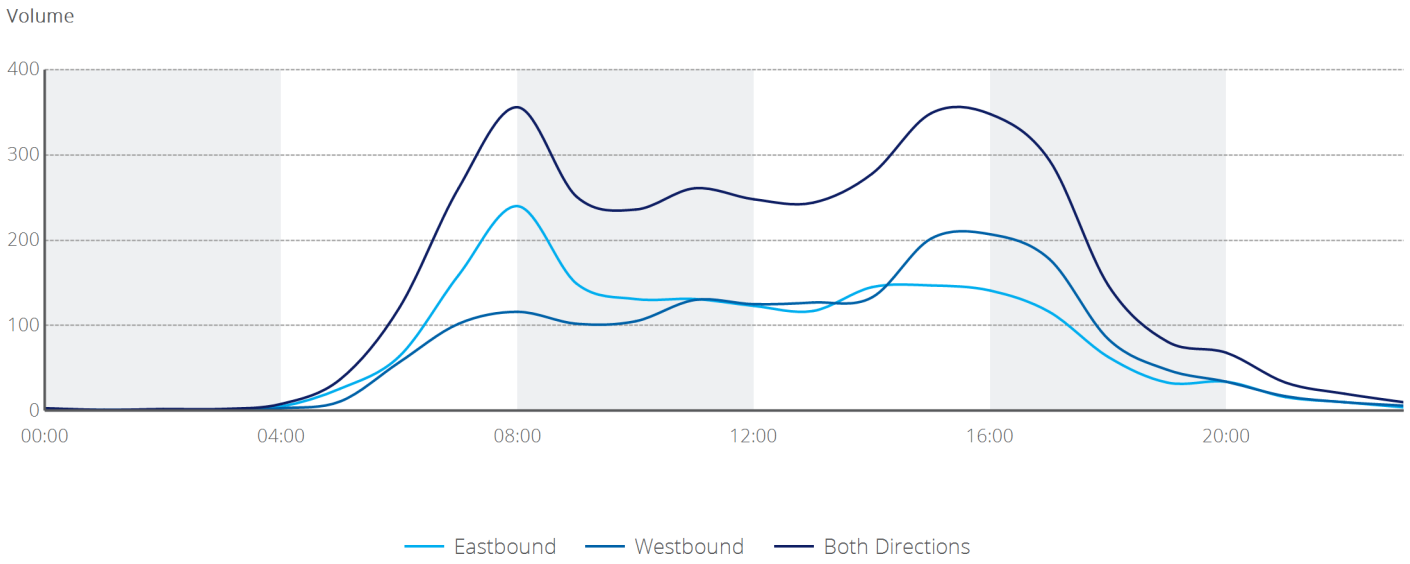
West of Bottlebrush Rd (SLK 511.05)

2022/23
Monday to Friday

	All Vehicles			Heavy Vehicles			
	EB	WB	Both	EB	WB	Both	%
00:00	1	2	3	0	0	0	0.0
01:00	0	1	1	0	0	0	0.0
02:00	1	1	2	0	0	0	0.0
03:00	1	1	2	0	0	0	0.0
04:00	5	3	8	0	1	1	12.5
05:00	26	11	37	2	3	5	13.5
06:00	64	57	121	5	8	13	10.7
07:00	159	102	261	16	21	37	14.2
08:00	240	116	356	22	24	46	12.9
09:00	149	102	251	14	19	33	13.1
10:00	131	105	236	14	14	28	11.9
11:00	131	130	261	19	14	33	12.6
12:00	123	125	248	17	14	31	12.5
13:00	117	127	244	18	13	31	12.7
14:00	145	133	278	16	12	28	10.1
15:00	147	202	349	15	22	37	10.6
16:00	141	207	348	11	13	24	6.9
17:00	116	178	294	11	12	23	7.8
18:00	63	84	147	6	5	11	7.5
19:00	33	48	81	1	2	3	3.7
20:00	34	34	68	4	2	6	8.8
21:00	16	17	33	1	1	2	6.1
22:00	10	10	20	0	0	0	0.0
23:00	4	6	10	0	0	0	0.0
TOTAL	1857	1802	3659	192	200	392	10.7

Peak Statistics

AM	TIME	07:45	11:15	07:45	07:30	07:30	07:30
	VOL	252	132	360	27	26	53
PM	TIME	15:30	16:30	15:30	13:15	15:30	15:30
	VOL	152	214	366	19	24	38



SITE 15516

Hourly Volume

South Coast Hwy (H009)

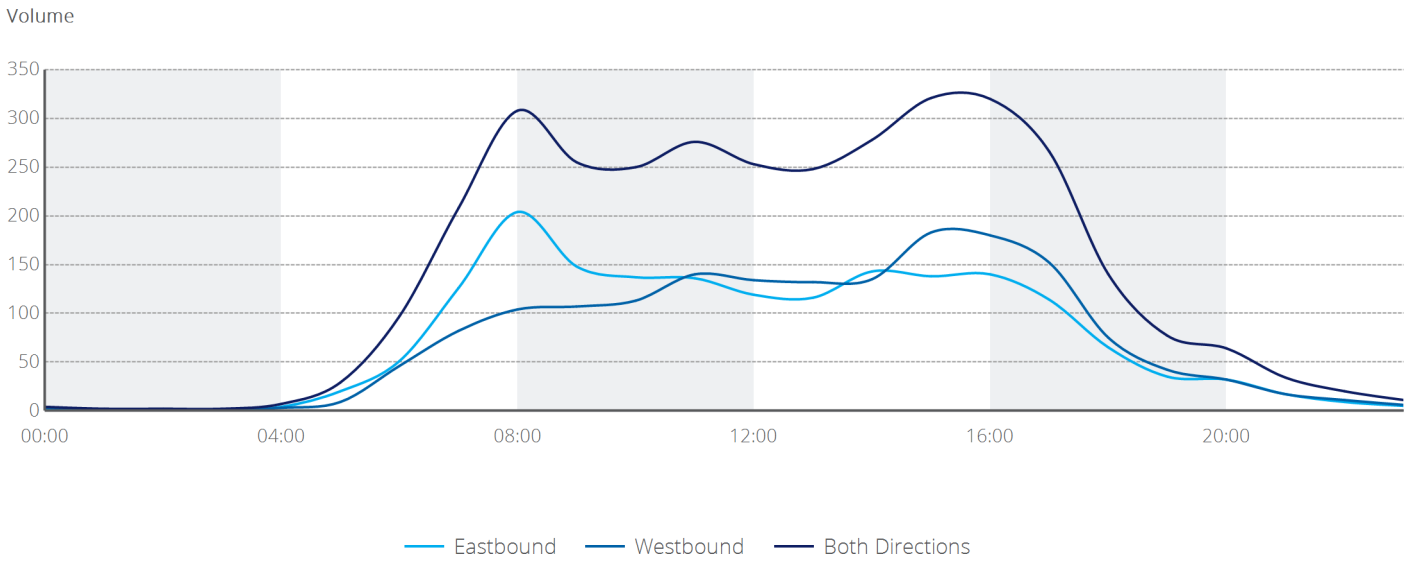
West of Bottlebrush Rd (SLK 511.05)

2022/23
Monday to Sunday

	All Vehicles			Heavy Vehicles			
	EB	WB	Both	EB	WB	Both	%
00:00	1	3	4	0	0	0	0.0
01:00	1	1	2	0	0	0	0.0
02:00	1	1	2	0	0	0	0.0
03:00	1	1	2	0	0	0	0.0
04:00	4	3	7	0	1	1	14.3
05:00	20	9	29	1	2	3	10.3
06:00	51	46	97	3	6	9	9.3
07:00	126	82	208	13	16	29	13.9
08:00	204	104	308	18	20	38	12.3
09:00	148	107	255	14	15	29	11.4
10:00	137	113	250	12	12	24	9.6
11:00	136	140	276	18	14	32	11.6
12:00	119	134	253	13	13	26	10.3
13:00	116	132	248	13	11	24	9.7
14:00	143	135	278	14	11	25	9.0
15:00	138	183	321	11	18	29	9.0
16:00	140	180	320	11	11	22	6.9
17:00	114	152	266	10	10	20	7.5
18:00	65	75	140	5	3	8	5.7
19:00	35	42	77	2	1	3	3.9
20:00	32	32	64	3	2	5	7.8
21:00	17	17	34	1	1	2	5.9
22:00	9	11	20	0	0	0	0.0
23:00	5	6	11	0	0	0	0.0
TOTAL	1763	1709	3472	162	167	329	9.5

Peak Statistics

AM	TIME	07:45	11:15	08:00	07:30	07:30	07:30
	VOL	210	142	308	22	20	42
PM	TIME	14:15	15:30	15:30	14:45	15:30	15:30
	VOL	145	189	333	15	19	31



SITE 15516

Hourly Volume

2022/23
Weekend

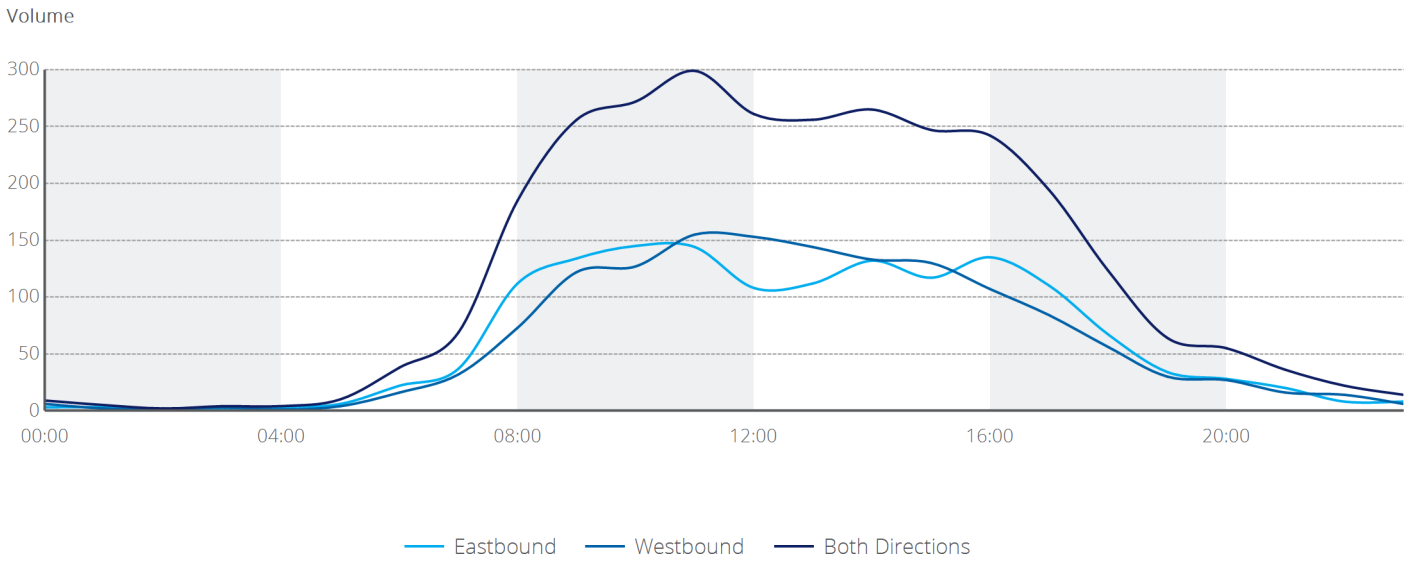
South Coast Hwy (H009)

West of Bottlebrush Rd (SLK 511.05)

	All Vehicles			Heavy Vehicles			
	EB	WB	Both	EB	WB	Both	%
00:00	3	6	9	0	0	0	0.0
01:00	3	2	5	0	0	0	0.0
02:00	1	1	2	0	0	0	0.0
03:00	1	3	4	0	0	0	0.0
04:00	3	1	4	0	0	0	0.0
05:00	6	4	10	0	0	0	0.0
06:00	22	16	38	1	2	3	7.9
07:00	37	32	69	5	5	10	14.5
08:00	112	73	185	8	9	17	9.2
09:00	134	122	256	8	9	17	6.6
10:00	145	127	272	7	6	13	4.8
11:00	144	155	299	12	9	21	7.0
12:00	108	153	261	8	9	17	6.5
13:00	112	144	256	5	7	12	4.7
14:00	132	133	265	9	7	16	6.0
15:00	117	130	247	5	9	14	5.7
16:00	135	107	242	12	6	18	7.4
17:00	110	84	194	8	7	15	7.7
18:00	67	56	123	3	3	6	4.9
19:00	34	30	64	2	2	4	6.3
20:00	28	27	55	2	3	5	9.1
21:00	20	16	36	2	1	3	8.3
22:00	8	14	22	0	1	1	4.5
23:00	8	6	14	0	0	0	0.0
TOTAL	1490	1442	2932	97	95	192	6.5

Peak Statistics

AM	TIME	10:30	11:30	11:00	11:00	08:30	11:00
	VOL	150	165	299	12	11	21
PM	TIME	16:00	12:15	13:45	16:15	12:30	16:00
	VOL	135	153	266	12	10	18



SITE 52411

Hourly Volume

Albany Hwy (H001)

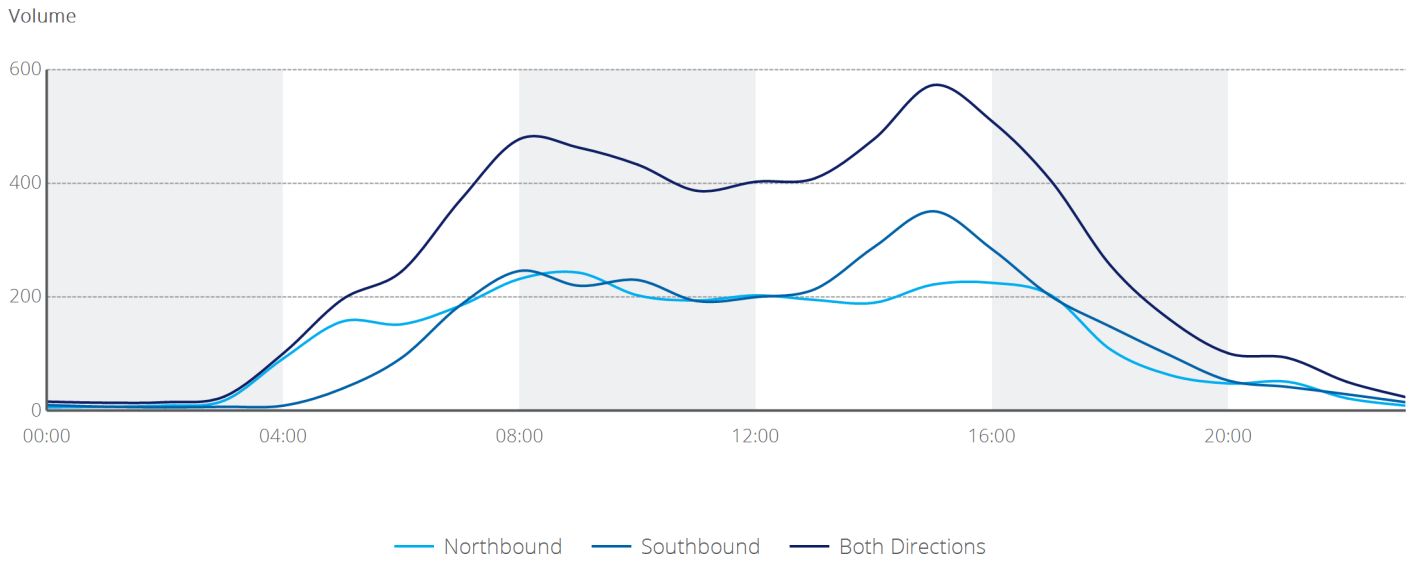
South of Reddale Rd (SLK 399.88)

2022/23
Monday to Friday

	All Vehicles			Heavy Vehicles			
	NB	SB	Both	NB	SB	Both	%
00:00	6	10	16	2	3	5	31.3
01:00	7	7	14	4	3	7	50.0
02:00	9	6	15	4	2	6	40.0
03:00	18	7	25	3	2	5	20.0
04:00	92	9	101	9	3	12	11.9
05:00	157	39	196	14	2	16	8.2
06:00	152	93	245	28	7	35	14.3
07:00	185	186	371	30	23	53	14.3
08:00	232	246	478	39	34	73	15.3
09:00	243	220	463	36	36	72	15.6
10:00	203	230	433	28	38	66	15.2
11:00	194	193	387	31	39	70	18.1
12:00	203	200	403	33	35	68	16.9
13:00	195	214	409	36	34	70	17.1
14:00	190	288	478	30	44	74	15.5
15:00	222	351	573	30	45	75	13.1
16:00	225	284	509	20	39	59	11.6
17:00	203	201	404	10	21	31	7.7
18:00	108	148	256	6	11	17	6.6
19:00	63	98	161	7	7	14	8.7
20:00	48	53	101	3	5	8	7.9
21:00	51	42	93	5	6	11	11.8
22:00	22	29	51	3	4	7	13.7
23:00	9	15	24	3	5	8	33.3
TOTAL	3037	3169	6206	414	448	862	13.9

Peak Statistics

AM	TIME	08:45	07:45	07:45	08:00	11:15	07:45
	VOL	248	264	487	39	41	74
PM	TIME	15:30	15:15	15:15	12:30	15:30	15:00
	VOL	238	368	598	38	47	75



SITE 52411

Hourly Volume

Albany Hwy (H001)

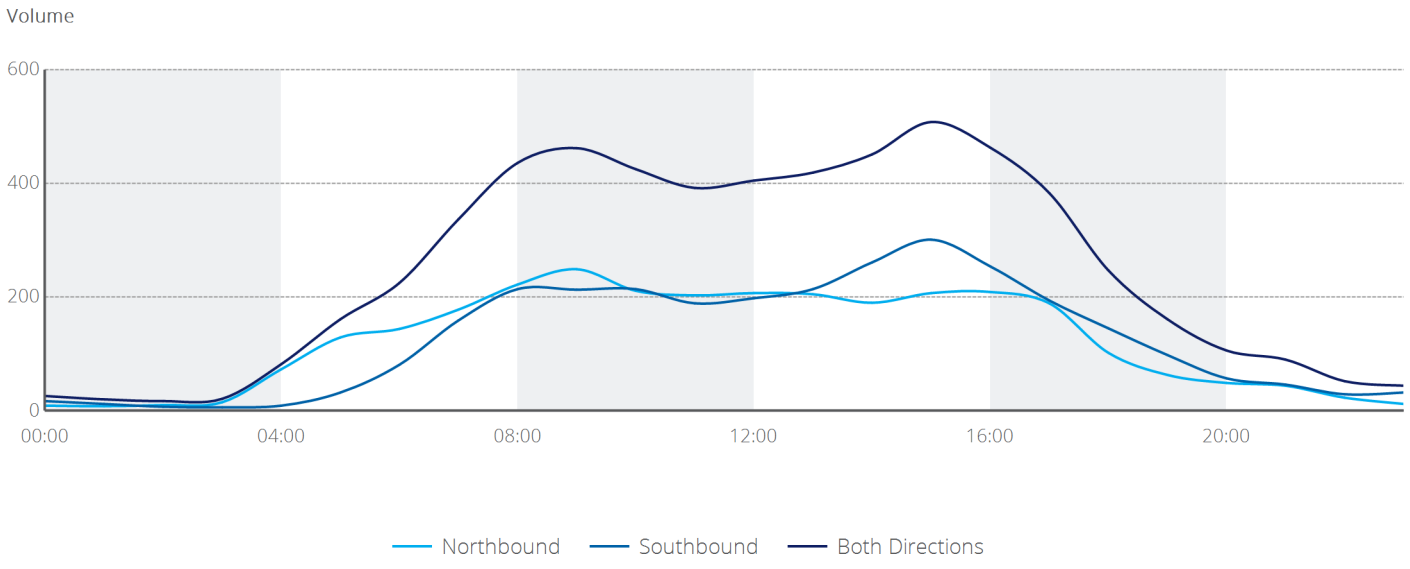
South of Reddale Rd (SLK 399.88)

2022/23
Monday to Sunday

	All Vehicles			Heavy Vehicles			
	NB	SB	Both	NB	SB	Both	%
00:00	9	17	26	2	4	6	23.1
01:00	8	12	20	4	4	8	40.0
02:00	10	7	17	5	3	8	47.1
03:00	15	6	21	3	2	5	23.8
04:00	73	9	82	8	3	11	13.4
05:00	129	32	161	13	3	16	9.9
06:00	144	81	225	23	7	30	13.3
07:00	178	159	337	25	19	44	13.1
08:00	222	214	436	33	26	59	13.5
09:00	249	213	462	33	27	60	13.0
10:00	211	214	425	27	28	55	12.9
11:00	203	189	392	29	31	60	15.3
12:00	207	198	405	29	29	58	14.3
13:00	205	214	419	34	28	62	14.8
14:00	190	261	451	28	35	63	14.0
15:00	207	301	508	27	35	62	12.2
16:00	209	254	463	18	32	50	10.8
17:00	189	194	383	9	17	26	6.8
18:00	102	145	247	5	9	14	5.7
19:00	63	98	161	6	7	13	8.1
20:00	49	57	106	4	6	10	9.4
21:00	44	46	90	3	5	8	8.9
22:00	23	29	52	3	3	6	11.5
23:00	12	32	44	3	5	8	18.2
TOTAL	2951	2982	5933	374	368	742	12.5

Peak Statistics

AM	TIME	08:45	07:45	08:45	08:15	10:30	08:45
	VOL	252	225	462	34	32	62
PM	TIME	15:30	15:15	15:15	13:00	15:45	13:15
	VOL	222	313	530	34	36	65



mainroads WESTERN AUSTRALIA

SITE 52411

Hourly Volume

Albany Hwy (H001)

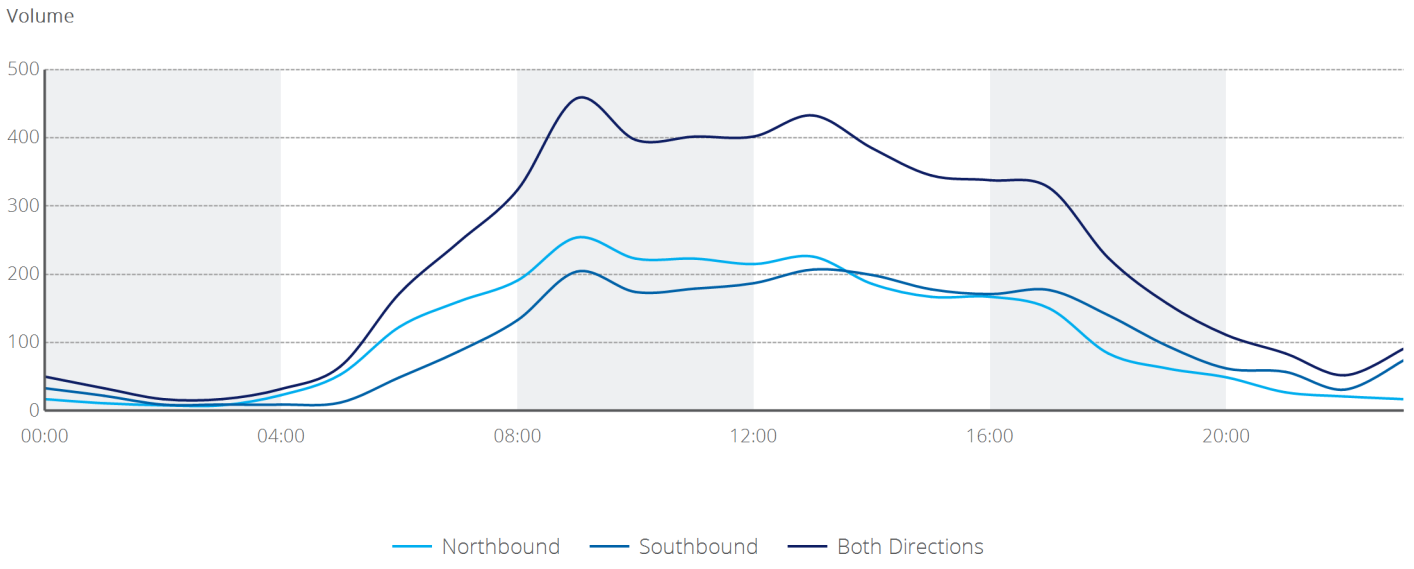
South of Reddale Rd (SLK 399.88)

2022/23
Weekend

	All Vehicles			Heavy Vehicles			
	NB	SB	Both	NB	SB	Both	%
00:00	17	33	50	4	6	10	20.0
01:00	11	22	33	5	7	12	36.4
02:00	8	9	17	4	6	10	58.8
03:00	8	9	17	5	4	9	52.9
04:00	23	9	32	7	5	12	37.5
05:00	53	12	65	9	3	12	18.5
06:00	123	49	172	13	6	19	11.0
07:00	160	87	247	15	7	22	8.9
08:00	191	133	324	15	12	27	8.3
09:00	254	204	458	21	14	35	7.6
10:00	223	174	397	20	8	28	7.1
11:00	223	179	402	25	15	40	10.0
12:00	215	187	402	21	11	32	8.0
13:00	226	207	433	31	11	42	9.7
14:00	186	199	385	24	20	44	11.4
15:00	167	178	345	19	16	35	10.1
16:00	167	171	338	14	11	25	7.4
17:00	150	177	327	9	9	18	5.5
18:00	84	140	224	7	10	17	7.6
19:00	62	95	157	2	7	9	5.7
20:00	49	62	111	4	3	7	6.3
21:00	27	57	84	0	3	3	3.6
22:00	21	31	52	2	0	2	3.8
23:00	17	74	91	3	5	8	8.8
TOTAL	2665	2498	5163	279	199	478	9.3

Peak Statistics

AM	TIME	09:00	09:00	09:00	11:15	08:45	11:00
	VOL	254	204	458	26	17	40
PM	TIME	12:30	13:00	13:00	13:15	14:15	14:00
	VOL	235	207	433	33	21	44



Appendix C WAPC Guidelines Checklist

Item	Provided	Comments / Proposals
Summary		
Introduction / Background		
name of applicant and consultant	Y	
LSP location and context	Y	
brief description of the LSP	Y	
key issues	Y	No key issues identified
background information	Y	
LSP Proposal		
regional context	Y	
proposed land uses	Y	
table of land uses and quantities	Y	
major attractors/generators	Y	The site is to be fully residential with some external traffic attracted due to the primary school
any specific issues	Y	
Existing Situation		
existing land uses within the structure plan	Y	
existing land uses surrounding the LSP	Y	
the existing road network within the LSP	N/A	No road network within the area at present
existing road network surrounding the LSP	Y	
traffic flows on roads within the LSP (AM and PM peak hours)	N/A	No road network within the area at present
traffic flows on roads surrounding the LSP (AM and PM peak hours)	Y	
existing pedestrian/cycle networks within the LSP	N/A	No pedestrian/cycle network within the area at present
existing pedestrian/cycle networks surrounding the LSP	Y	
existing public transport services within the LSP	N/A	No public transport services within the area at present
existing public transport services surrounding the LSP	Y	
Proposed Internal Transport Networks		
changes/additions to the existing road network	Y	
road reservation widths	Y	
road cross-sections & speed limits	Y	
intersection controls	Y	
pedestrian/cycle networks and crossing facilities	Y	
public transport routes	Y	
Changes to external transport networks		
road network	N/A	No changes to the external transport networks are proposed due to proposal
intersection controls	N/A	No changes to the external transport networks are proposed

Item	Provided	Comments / Proposals
pedestrian/cycle networks and crossing facilities	N/A	No changes to the external transport networks are proposed
public transport services	N/A	No changes to the external transport networks are proposed
Integration with the surrounding area		
surrounding attractors/generators	Y	
proposed changes to surrounding land uses	Y	
travel desire lines from the LSP to these attractors/generators	Y	
adequacy of existing transport networks	Y	
deficiencies in existing transport networks	Y	lack of footpath connectivity along Lancaster Road
remedial measures to address deficiencies	Y	extend footpath network to LSP area
Analysis of internal transport networks		
assessment years and periods	Y	
LSP generated traffic	Y	
extraneous (through) traffic	Y	
design traffic flows	Y	
road cross-sections	Y	
intersection sight distances	Y	
intersection operation and method of control	Y	
frontage access strategy	Y	
pedestrian/cycle networks	Y	
safe walk/cycle to school assessment (residential LSP s only)	Y	
pedestrian permeability & efficiency	Y	
access to public transport	Y	No public transport provision is proposed within the LSP amendment area
Analysis of external transport networks		
base flows for assessment years	Y	
total traffic flows	Y	
road cross-sections	Y	
intersection operation	Y	
pedestrian/cycle networks	Y	
Safety issues		
identify issues	Y	
remedial measures	N/A	No need for remedial measures
Conclusions		