St Patrick's College, Strathfield
Transport Impact Assessment

Prepared for:

Urbis Pty Ltd

19 May 2020

The Transport Planning Partnership

St Patrick's College, Strathfield
Transport Impact Assessment

Client: Urbis Pty Ltd

Version: Final V03

Date: 19 May 2020

TTPP Reference: 19235

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
Final V01	19/03/2020	Clinton Cheung, Santi Botross	Santi Botross	Ken Hollyoak	
Final V02	2/04/2020	Clinton Cheung, Santi Botross	Santi Botross	Ken Hollyoak	
Final V03	19/05/2020	Clinton Cheung, Santi Botross	Santi Botross	Ken Hollyoak	

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1 Introduction

1.1 Proposal Overview

The Transport Planning Partnership (TTPP) has prepared this report on behalf of Urbis Pty Ltd (Urbis) to accompany a State Significant Development (SSD) application for the proposed development at St Patrick's College, Strathfield (the site). The site is located at No. 1 & 2 Edgar Street, Strathfield.

The proposal comprises a new Science and Learning Building (STEMM) with a basement parking level accommodating 59 car parking spaces. The works proposed as part of this SSD application are:

- Demolition of five existing tennis courts;
- Construction of a new four-storey STEMM building including an associated basement car park, 2 x rooftop tennis courts, 2 x outdoor tennis courts; and
- New landscaped civic space associated with the College, to the east of the new building.

The SSD application will also seek to increase the current student population allowing strategic planning certainty for the College and responding to the demands in providing quality Catholic education in the region.

An SSD application (SSD-10400) is to be lodged with the NSW Department of Planning & Industry (DPI) for construction of new facilities at the site.

1.2 Purpose of the Report

This report supports the Masterplan for the Proposal and has been prepared as part of an SSD Application. This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) for the Proposal, issued by DPI on 7 January 2020.

Table 1.1 lists the SEAR's requirements and the corresponding sections of the report where these are addressed.

Table 1.1: SEARs Requirements and Relevant Report Sections

Traffic and Transport	Addressed in
• accurate details of the current daily and peak hour vehicle, existing and future public transport networks and pedestrian and cycle movement provided on the road network located adjacent to the proposed development	Chapter 3 & 4
• details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips based on surveys of the existing and similar schools within the local area	Chapter 6
• the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development	Chapter 3
• measures to integrate the development with the existing/future public transport network	Addressed in separate Green Travel Plan
• the impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for, and details of, upgrades or road improvement works, if required (Traffic modelling is to be undertaken using SIDRA network modelling for current and future years)	Chapter 6
• the identification of infrastructure required to ameliorate any impacts on traffic efficiency and road safety impacts associated with the proposed development, including details on improvements required to affected intersections, additional school bus routes along bus capable roads (i.e. minimum 3.5 m wide travel lanes), additional bus stops or bus bays	Chapter 6
• details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan) and the provision of facilities to increase the non-car mode share for travel to and from the site	Addressed in separate Green Travel Plan
• the proposed walking and cycling access arrangements and connections to public transport services	Sections 6.7 and 4.3 & Chapter 6
• the proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones	Chapters 6
• proposed bicycle parking provision, including end of trip facilities, in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance	Section 5.2
• proposed number of on-site car parking spaces for teaching staff and visitors and corresponding compliance with existing parking codes and justification for the level of car parking provided on-site	Section 5.1
• an assessment of the cumulative on-street parking impacts of cars and bus pick-up/drop-off, staff parking and any other parking demands associated with the development	Chapter 5
• an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures and personal safety in line with CPTED	Section 4.7
• emergency vehicle access, service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times)	Section 4.5
• the preparation of a preliminary Construction Traffic and Pedestrian Management Plan to demonstrate the proposed management of the impact in relation to construction traffic addressing the following: o assessment of cumulative impacts associated with other construction activities (if any)	Chapter 7

○ an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity ○ details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process ○ details of anticipated peak hour and daily construction vehicle movements to and from the site ○ details of on-site car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle ○ details of temporary cycling and pedestrian access during construction ○ demonstrate how pedestrian and cycle rider movements along footways and cycleways are maintained at all times during construction activities. Should the development require closure to either facility, detail the adequate safety and diversion measures out in place to limit time delay and detour distances ○ details of any crane locations and road closures ○ details of any potential impact on the bus network and bus services	

1.3 References

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

- An inspection of the site and its surrounds
- Strathfield Council Local Environmental Plan (LEP) 2012
- Strathfield Council Development Control Plan (DCP) 2005
- Guide to Traffic Generating Developments (Roads and Maritime Services)
- Standards Australia AS 2890 series for car parking and bicycle parking facilities
- EIS Guidelines – Road and Related Facilities (DoPI)
- Cycling Aspects of Austroads Guides
- NSW Planning Guidelines for Walking and Cycling
- Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development
- Plans for the proposed development as prepared by BVN
- Other documents and data as referenced in this report.

2 Consultation with Authorities

Strathfield Municipal Council and Transport for NSW are to be consulted as required by the SEARs following submission of the draft Traffic Impact Assessment (this report) and Green Travel Plan (GTP).

On Monday 2 March 2020, a meeting was held with members of Strathfield Council from the Traffic and Planning teams. The purpose of the meeting was to discuss the scope of the proposal, the traffic and parking impacts associated with the proposed development, and to gain any feedback from Council relating to the development.

Generally, the feedback from Council was that measures for reducing car trips and encouraging sustainable travel should be considered to alleviate traffic congestion during peak periods. To address this, this TIA report discusses mitigation measures for reducing traffic congestion surrounding the school in peak times and the GTP contains measures to be implemented by the school to achieve mode shift in the future.

Transport for NSW was contacted by email for input on this traffic report and Green Travel Plan. On Wednesday 1 April 2020, Transport for NSW advised it was satisfied with the contents in addressing the SEARs, and that a more thorough assessment will again be conducted at the exhibition of the EIS stage of the SSD.

A preliminary review was carried out by DPI on the draft EIS and returned the following comment:

"It is noted that the proposed works will be carried out whilst the school is in operation. Please ensure that details of this is clearly provided within the construction management plan."

DPI noted that while the EIS would be acceptable without this detail, the Department would raise this traffic matter after Exhibition and would appreciate if this information is provided prior to the Response to Submissions Stage. On this basis, such details are anticipated to be provided at this later stage.

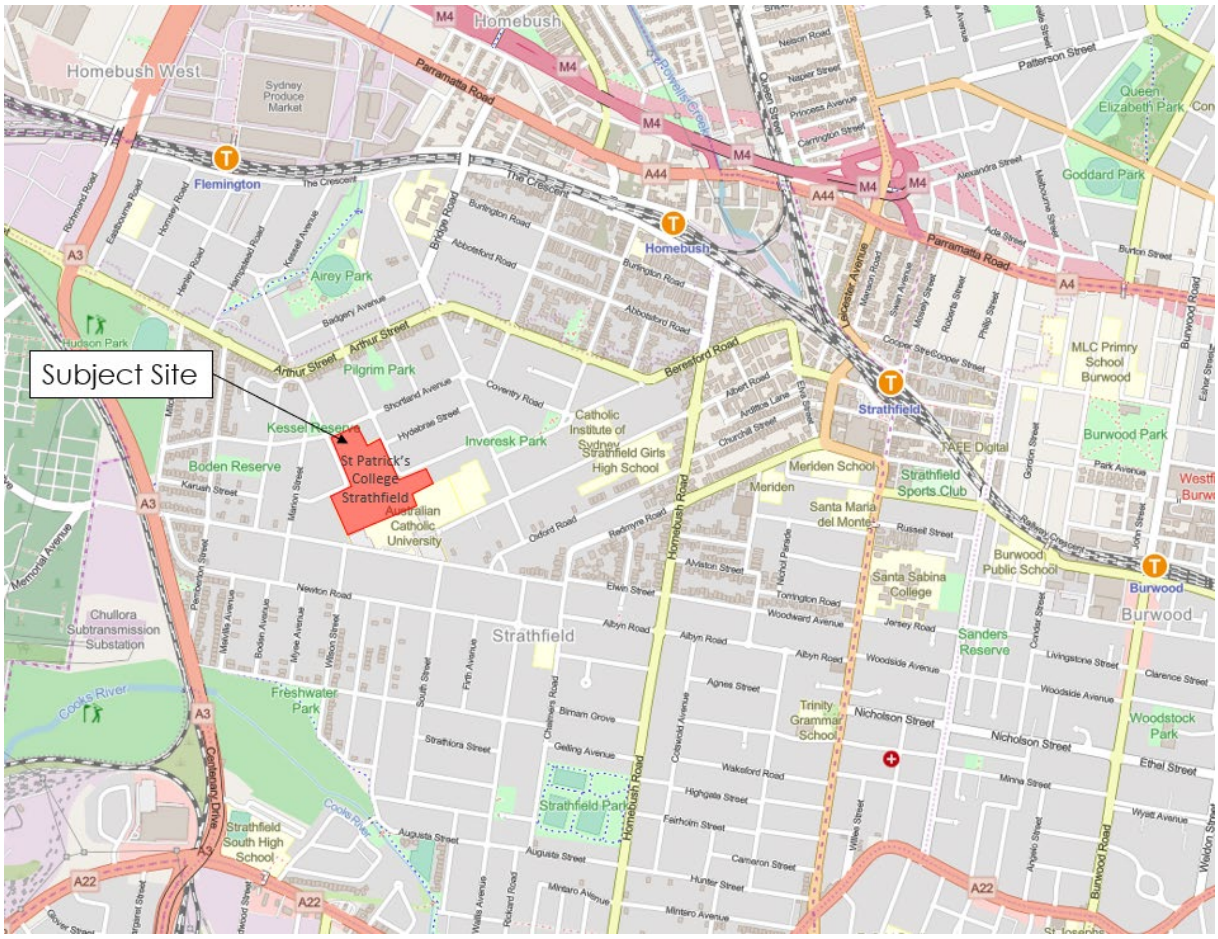
3 Existing Conditions

3.1 Site Location

St Patrick's College (the 'school') is located at No. 1 & 2 Edgar Street, Strathfield. The is bound by Australian Catholic University (ACU) to the south and street frontages to the east, north and west on Francis Street, Shortland Avenue and Fraser Street, respectively.

The school site is located in the local government area of Strathfield Municipal Council (Council) and is shown in Figure 3.1. Surrounding land uses generally comprise R2 Low density residential and SP2 Educational Establishments. Notably, the school site is located adjacent to both ACU (south) and Marie Bashir Public School to the south-east.

Figure 3.1: Site Locality



Basemap Source: ArcGIS, viewed online 18/12/2019

3.2 Road Network

The subject site is surrounded by a network of local roads including Edgar Street, Fraser Street, Shortland Avenue, Francis Street and Merley Road along the west, north and east boundaries of the site respectively. A brief description of the surrounding roads is given below.

Merley Road is a two-way local road, generally aligned in an east-west direction, across a 10.5m wide road carriageway and forms a partial frontage to the school at the south-eastern corner of the site. Unrestricted kerbside car parking is provided on both sides of the road. The street continues northbound forming **Francis Street** along the eastern frontage of the school.

Francis Street is a two-way local road aligned in a north-south direction and forms the eastern frontage to the school. Unrestricted kerbside parking is provided on the eastern side of Francis Street while a Bus Zone occupies the west side.

Shortland Avenue is a two-way local having an east-west configuration along the northern site boundary. Its has a 9.5m wide carriageway and unrestricted kerbside parking on both sides of the street.

Fraser Street is a two-way local road aligned in a north-south direction along the western boundary of the site. The carriageway is approximately 7.5m in width and provides unrestricted kerbside parking is on the west side. On the east side of the street is restricted parking with a Kiss & Ride zone (pick-up/drop-off) operational between 8:00am-9:30am and 2:30pm-4:00pm on school days. Fraser Street in the south continues to form **Edgar Street.**

Edgar Street is a two-way local road generally aligned in an east-west direction supported by a 7.5m wide carriageway. Unrestricted car parking is provided on either side of the road.

The above mentioned streets have a posted speed limit of 50 km/h, with 40 km/h school zone restrictions applicable during school hours (i.e. 8:00am-9:30am and 2:30pm-4:00pm), except Shortland Avenue which is 50 km/h for the full length.

3.3 Public Transport Services

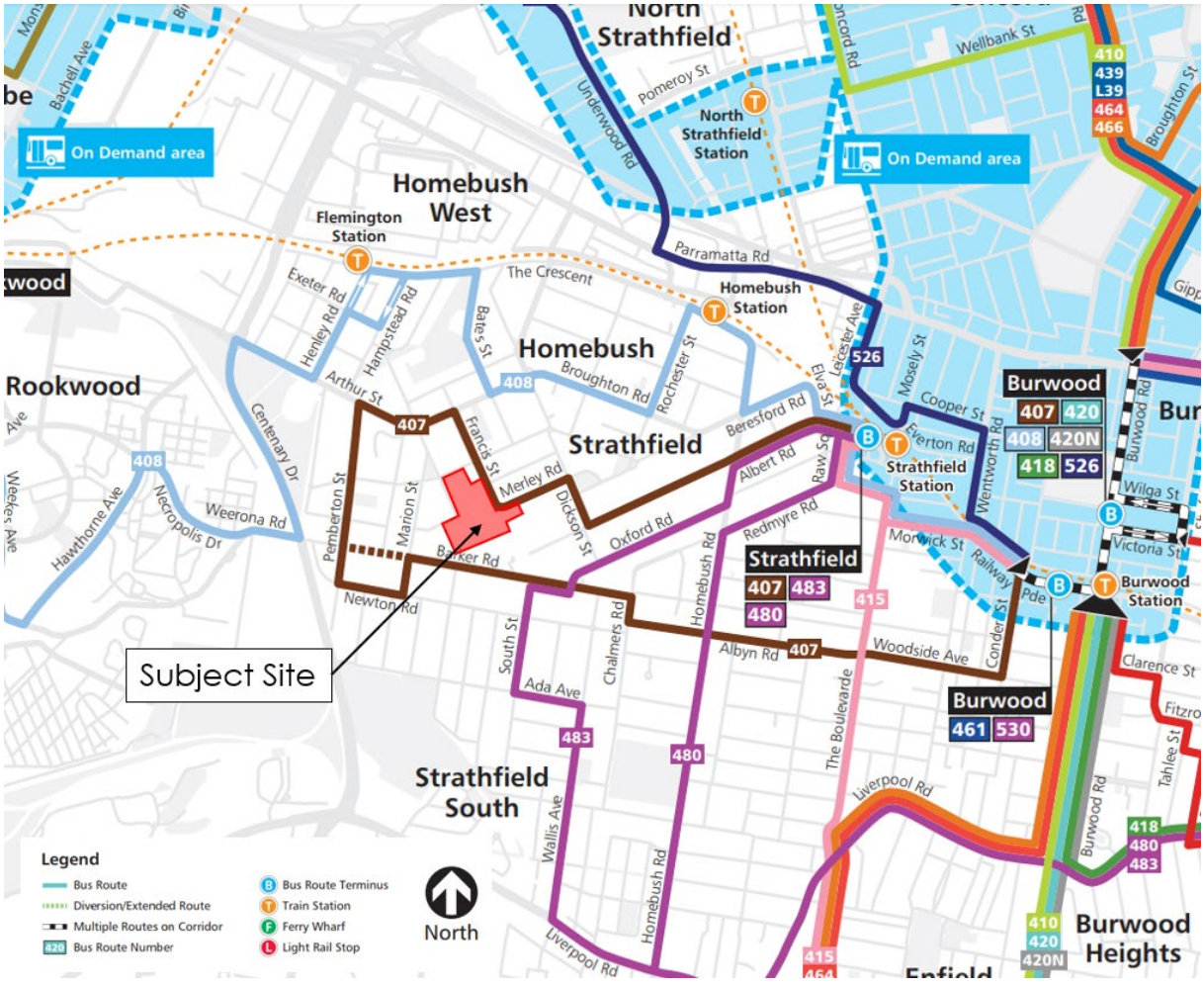
3.3.1 Train

As shown in Figure 3.1, the nearest train stations are Flemington Station, Homebush Station and Strathfield Station. Strathfield Station is a major interchange in the wider Sydney transport network, providing connectivity to train services to several rail lines. These trains stations are located between 1.5km and 2km walking distance (or 17-24 minutes) from the school site.

3.3.2 Bus

The school is currently serviced by one public bus route, namely bus route 407 which provides connectivity between Strathfield Station and Burwood Station. Bus services arrive/ depart along the Merley Road and Francis Street site frontages with services running every 30 minutes during the AM and PM school peak periods and every hour during non-peak periods. The public bus network surrounding the school is shown in Figure 3.2.

Figure 3.2: Local Bus Network Map



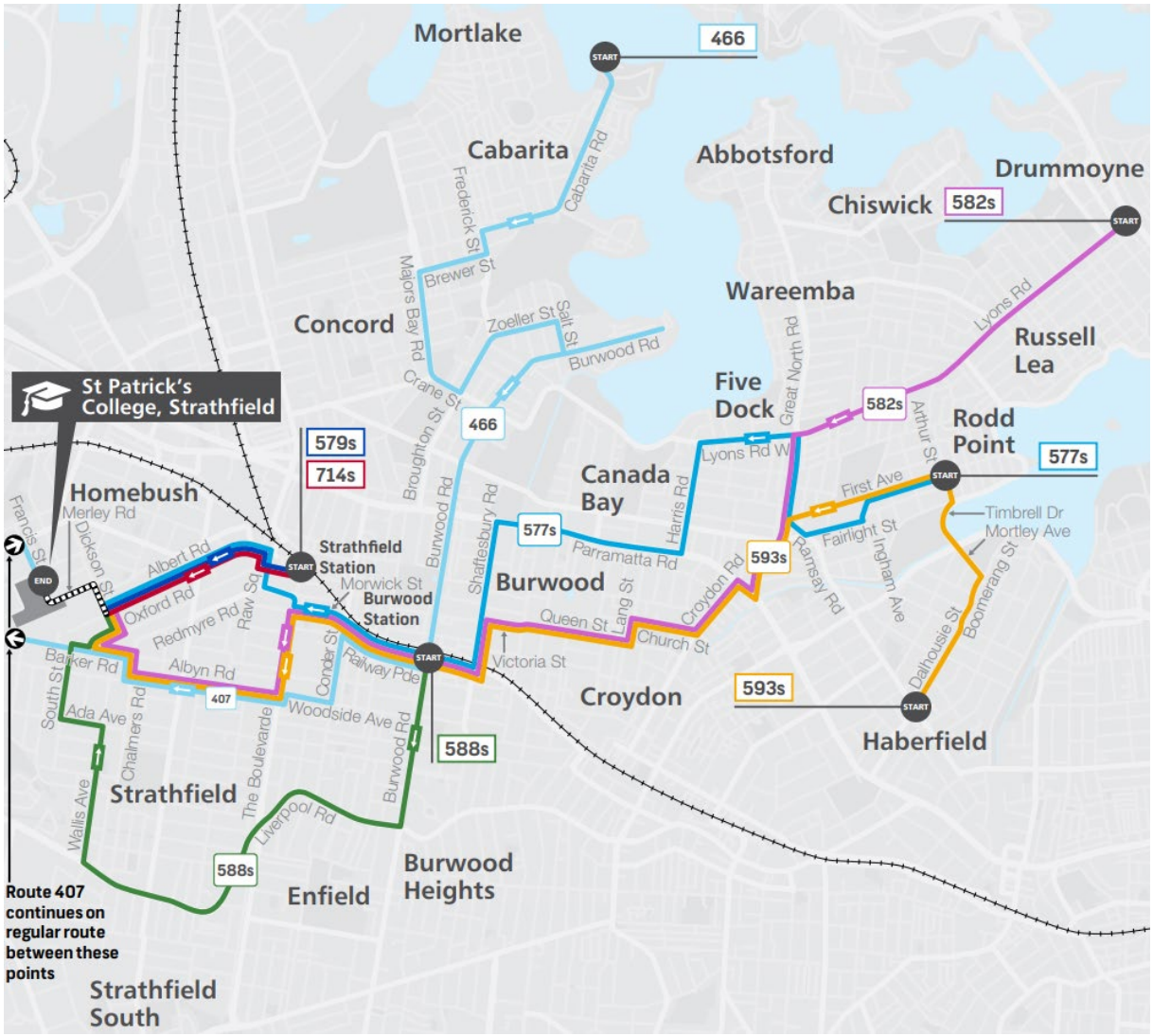
3.3.3 School Bus

School bus services are provided by Transit System for St Patrick's College during school peak periods. Suburbs serviced by morning and afternoon school buses are illustrated in Figure 3.3 and Figure 3.4, respectively.

Morning school bus routes generally provide one or two services per day with the exception of bus route 579 which provides eight services between 7:52am – 8:37am.

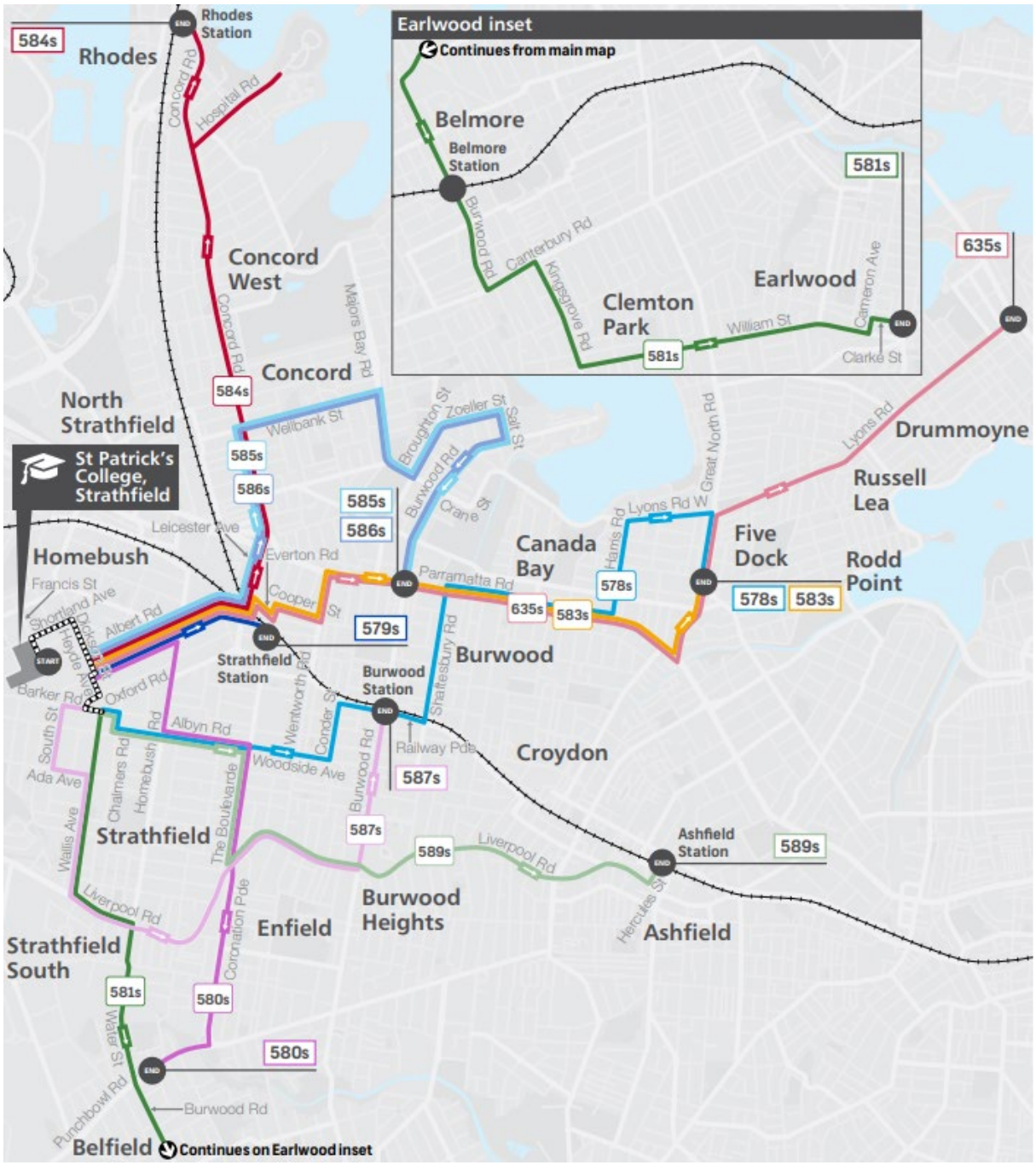
Afternoon bus routes are serviced by one bus with the exception of bus route 579 which provides a direct bus services to Strathfield Station every 5 minutes from 3:20pm to 3:35pm.

Figure 3.3: AM Bus Routes



Basemap Source: Transit System St Patrick's College, Strathfield Morning Timetable

Figure 3.4: PM Bus Routes



Basemap Source: Transit System St Patrick's College, Strathfield Afternoon Timetable

3.3.3.1 Existing School Bus Occupancy

A school bus occupancy survey was undertaken by the school on 6 November 2019 during the morning drop-off and afternoon pick-up periods. The results of the survey reveal that the average capacity of buses arriving before school is 65% and departing after school is 50%. This indicates that there is additional capacity on the existing school bus network for additional students in the future scenario.

3.3.4 Strathfield Connector Bus

As part of a new community initiative, Strathfield Council launched a free commuter bus called 'Strathfield Connector' in March 2019. The free commuter bus services residents of Strathfield LGA connecting them with local shops, restaurants and businesses. The free bus service operates seven days a week providing two bus routes (blue route and red route) every 30 minutes between 7am – 7pm.

The location of the bus services can be tracked via the Council's website with live updates on bus whereabouts. The red and blue Strathfield Connector Bus Routes are shown in Figure 3.5.

Figure 3.5: Strathfield Connector Bus Routes

Source: Strathfield Municipal Council

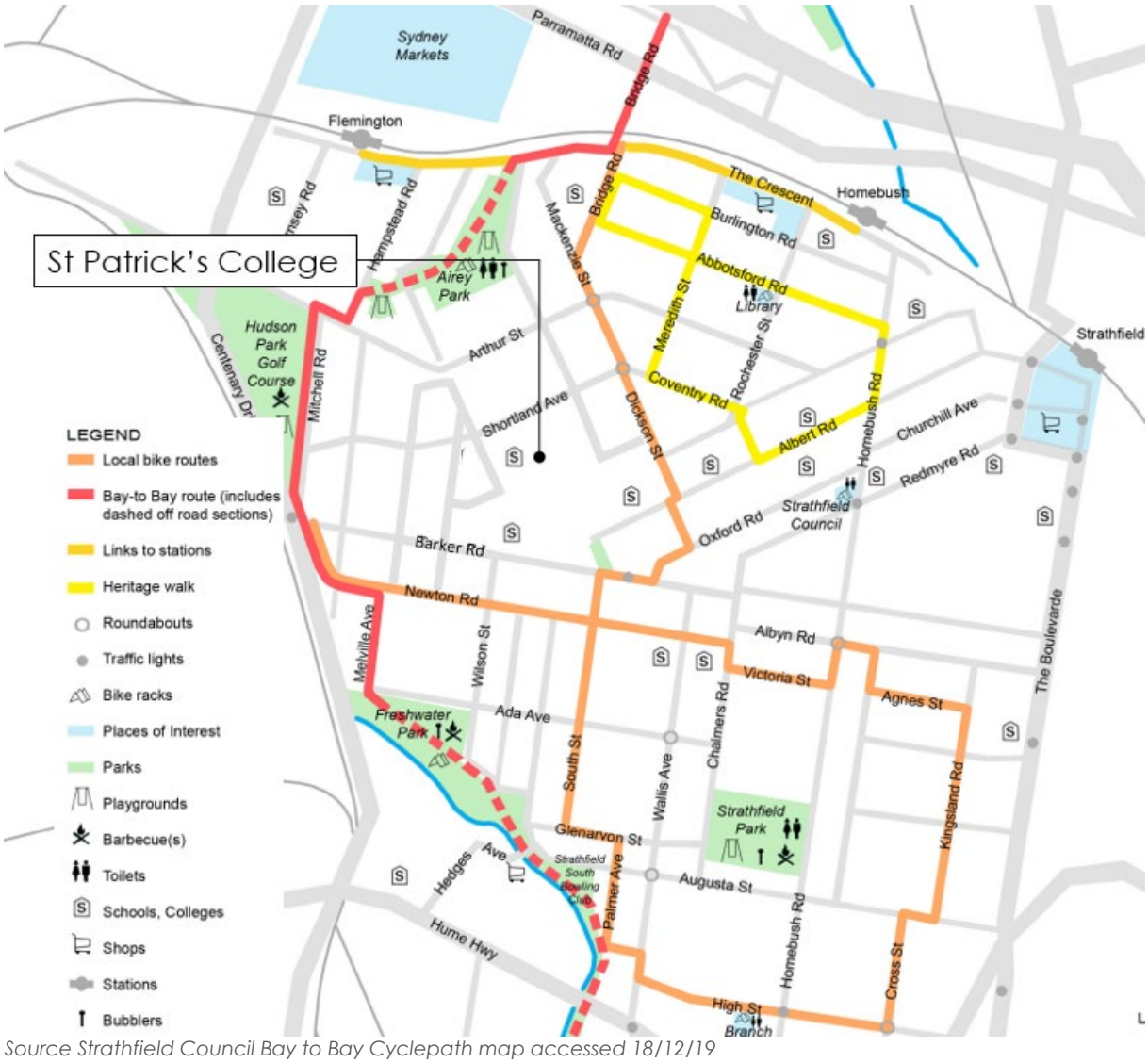
3.4 Pedestrian and Cyclist Facilities

Paved pedestrian footpaths are generally provided on all surrounding streets in the immediate vicinity of the school site providing accessibility to the wider walking network. A pedestrian crossing facility is provided on Francis Street adjacent to the school entrance.

There are a number of local bike routes provided along Dickson Street and Newtown Road to provide good connections to the wider cycle network surrounding the school. The existing bicycle network is shown in Figure 3.6.

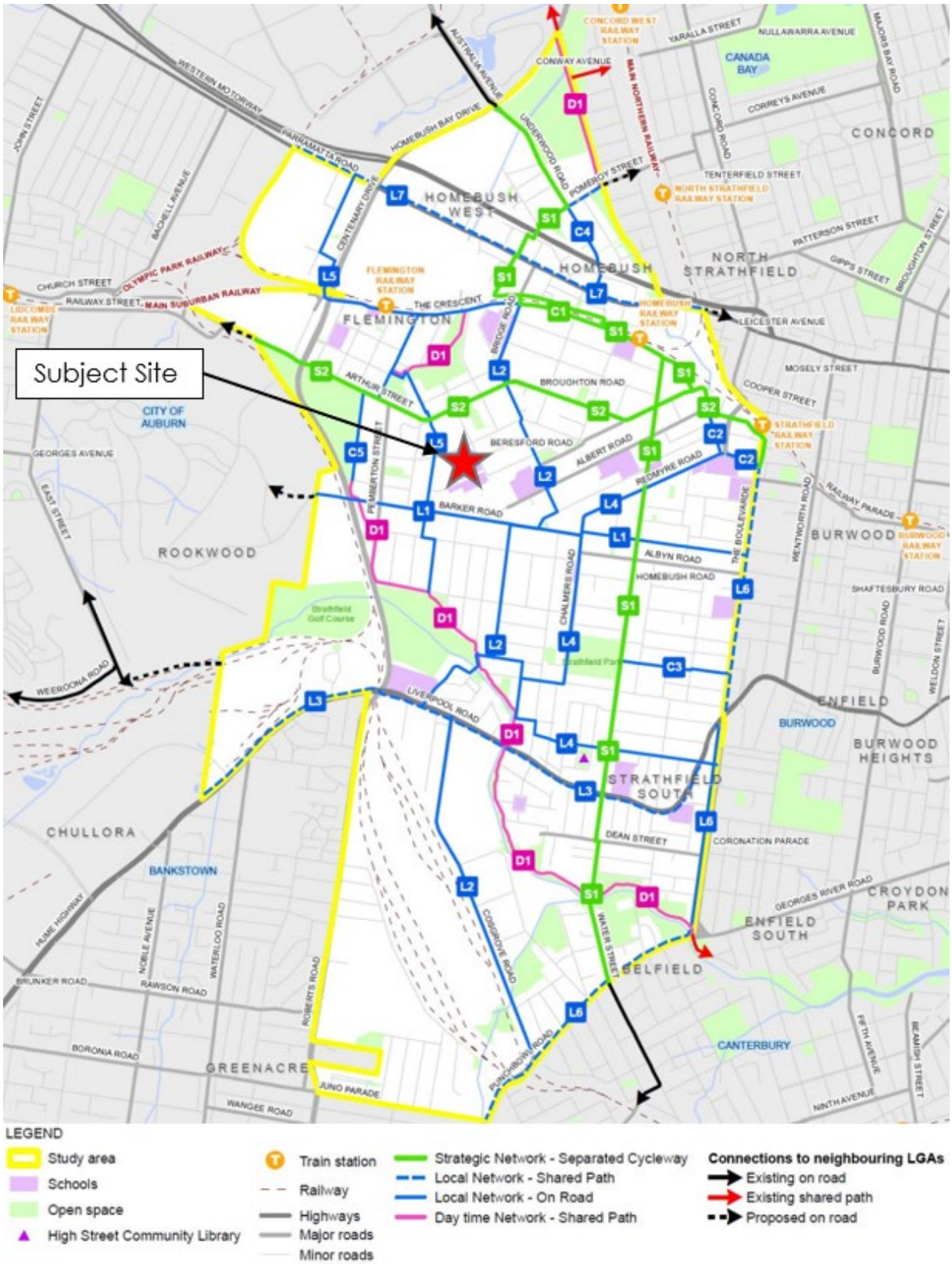
Strathfield Council intends to improve cycling connections in the future as detailed in Council's Active Travel Plan Report and as shown in Figure 3.7.

Figure 3.6: Local Cycleway Map



Source Strathfield Council Bay to Bay Cyclepath map accessed 18/12/19

Figure 3.7: Proposed Local Cycleway Map



3.5 Car Parking Facilities

There are five separate car parking areas which provide off-street parking at the school. Additionally, the school is provided 31 staff car parking spaces in the neighbouring Australian Catholic University (ACU) car park. Access to ACU's car park is provided off Edgar Street and is labelled 'A' in Figure 3.8.

Car parks labelled B, D E and F are at-grade while car parks labelled A and C are below-ground. A total of 102 off-street parking spaces are provided across the car parks as follows:

- Car Park A (ACU car park): 31 formal car parking spaces
- Car Park B: 20 car parking spaces, including 2 accessible car spaces
- Car Park C: 23 car parking spaces, including 2 accessible car spaces
- Car Park D: 6 car parking spaces
- Car Park E: 17 car parking spaces, including 1 visitor space
- Car Park F: 5 car parking spaces.

Figure 3.8: Existing Car Parking Areas

Basemap Source: Nearmap, viewed online 10/03/2020

3.6 Bicycle Parking

Currently, there are bicycle parking racks on-site which can accommodate 10 bicycles. Bicycle racks are located undercover near the main site access off Francis Street.

3.7 Service and Emergency Vehicle Access

Service and delivery vehicles access the site via car parks B and E as shown in Figure 3.8. Emergency vehicles, such as an ambulance vehicle can access the site using any of the at-grade car parks (i.e. car parks B, D E and F). These car parks are located closest to the school's front office.

3.8 Drop-Off and Pick-Up Facility (Kiss & Ride)

Drop-off and pick-up activities at the school are carried out within the Kiss & Ride zone provided on Fraser Street and Edgar Street along the site boundary. This area is signposted as 'Kiss & Ride' with 'No Parking 8.00am-9.30am and 2.30pm-4.00pm on School Days'.

The Kiss & Ride zone on Fraser Street and Edgar Street can accommodate approximately 16 vehicles and 4 vehicles, respectively. However, the four latter spaces have been observed to be underutilised by parents in the pick-up peak period as the first vehicle typically waits by the pedestrian access gate on Fraser Street.

3.9 Existing Traffic Volumes

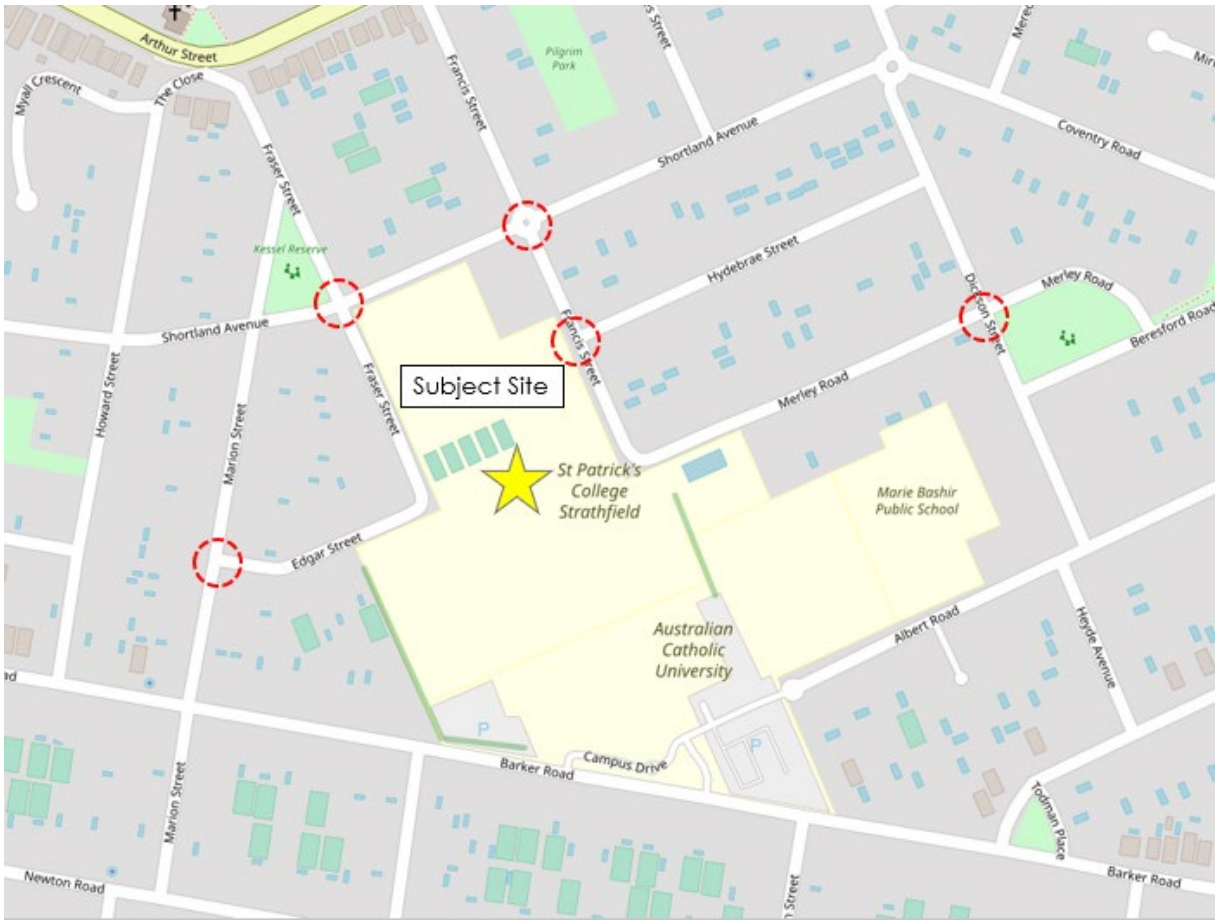
Traffic surveys were carried out on Thursday 14 November 2019 to capture typical weekday traffic turning movements at key nearby intersections during AM and PM school peak periods. The surveys junctions include the following:

- Shortland Avenue – Fraser Street (priority controlled)
- Shortland Avenue – Francis Street (roundabout)
- Francis Street – Hydebrae Street (priority controlled)
- Marion Street – Edgar Street (priority controlled)
- Dickson Street – Merley Road (priority controlled).

The location of surveyed intersections is illustrated in Figure 3.9.

Morning and afternoon school peak hourly traffic movements are illustrated in Figure 3.10 and Figure 3.11, respectively. The raw traffic survey data is contained in Appendix A of this report.

Figure 3.9: Surveyed Intersections



Basemap Source: ArcGIS, viewed online 10/03/2020

Figure 3.10: AM School Peak Traffic Volumes

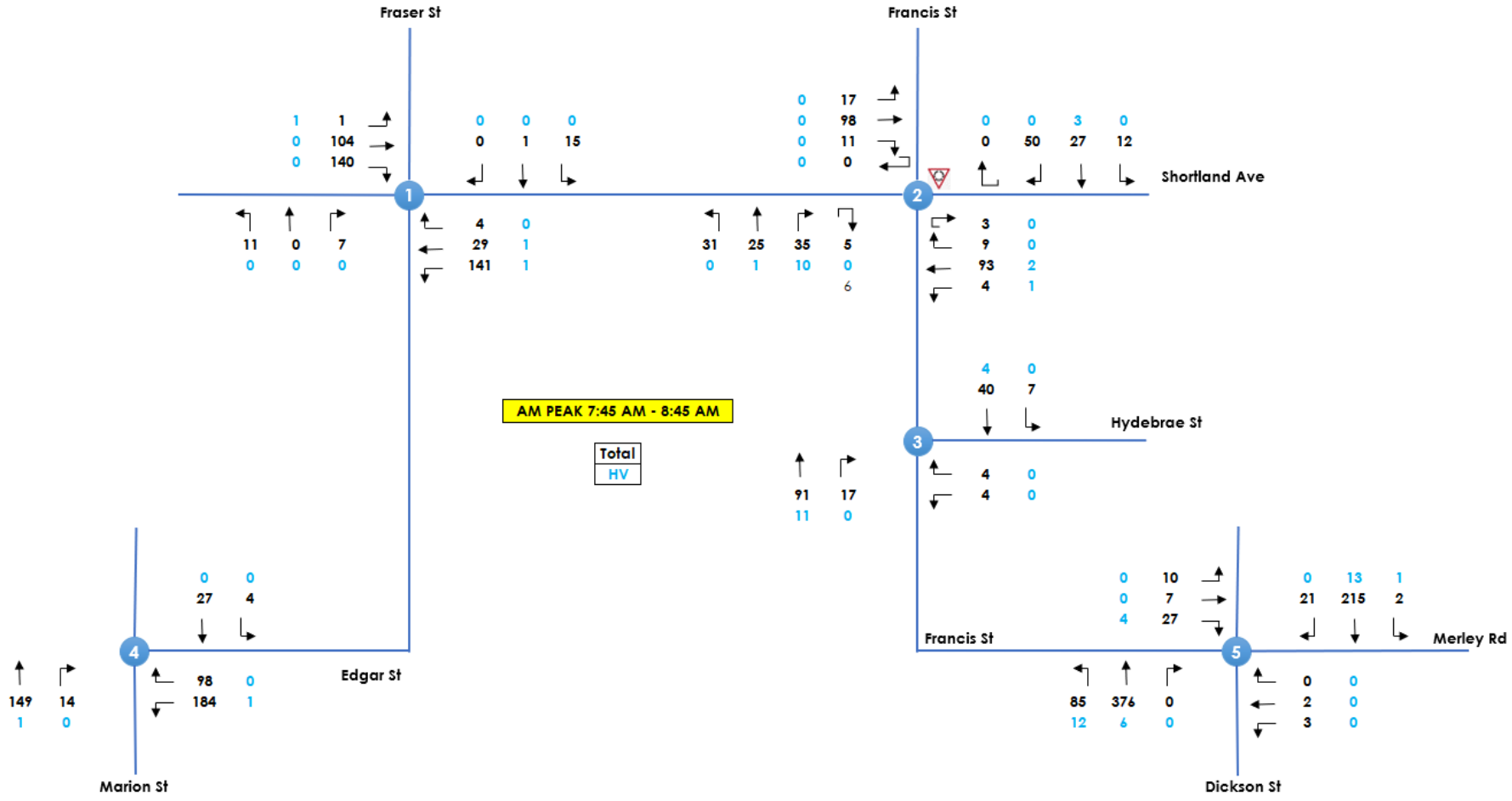
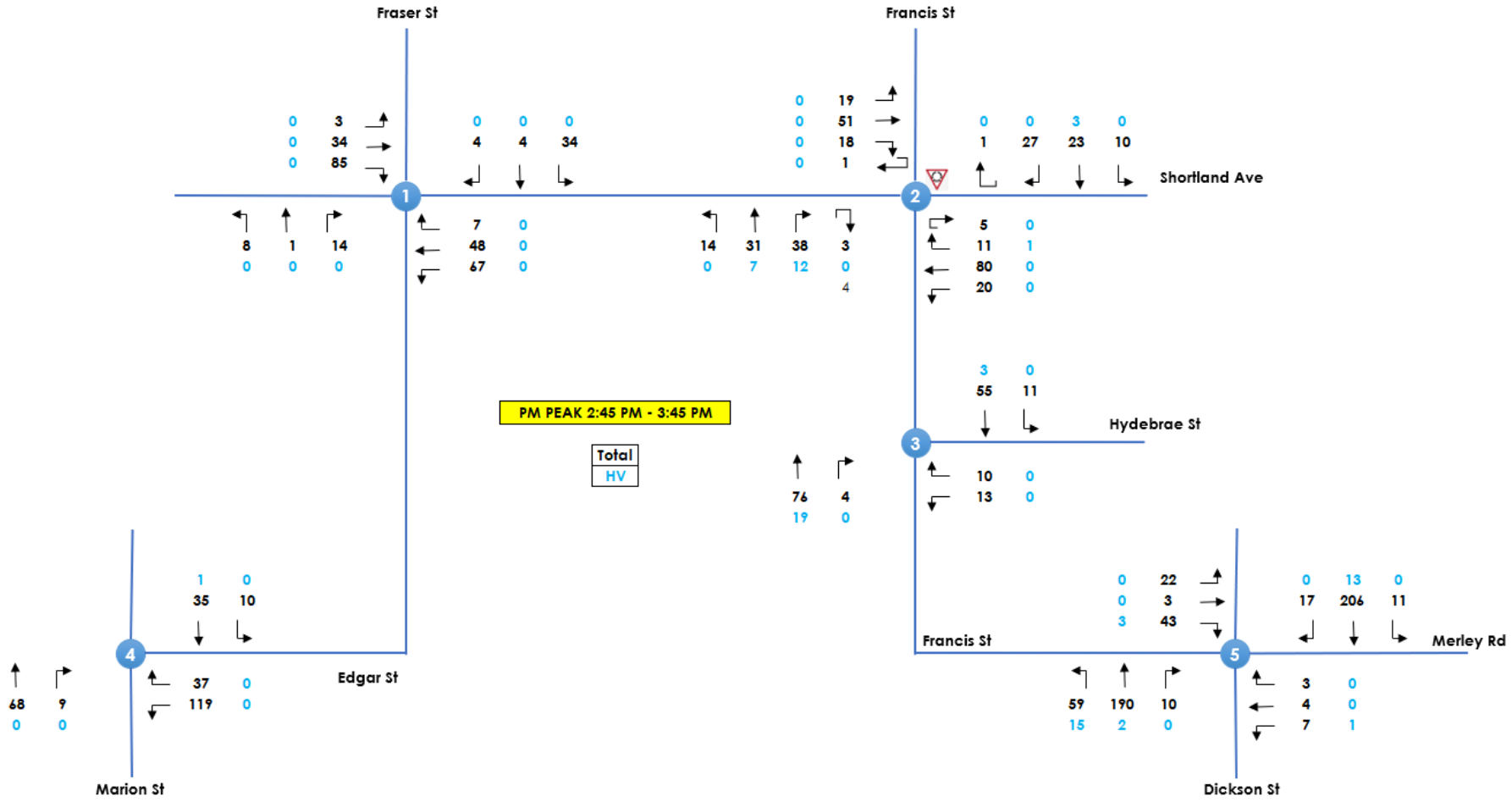


Figure 3.11: PM Peak Traffic Volumes



3.10 Surrounding Road Network Operation

A capacity analysis of nearby intersections has been undertaken using the latest version of SIDRA Network modelling software (version 8.0). Traffic modelling has been carried out to determine the performance of the key surrounding intersections (as identified in Figure 3.9) under existing and future scenarios.

The performance assessment criteria and SIDRA modelling results are discussed Section 3.10.1.

Further to the above, it is acknowledged that vehicle queues are evident on Fraser Street and Shortland Avenue in the afternoon school peak period. Such queues are associated with the operation of the Kiss & Ride on Fraser Street.

A review of existing vehicle queues is given in Section 0 and the potential mitigation measures to address queuing issues are described in Section 6.6.1.

3.10.1 Intersection Modelling Results

SIDRA modelling software assesses intersection performance based on the number of vehicles passing through the junction. The periods which have been assessed include the busiest one-hour period before school and after school (referred to in this report as the school peak periods). The school peak periods are 7:45am-8:45am and 2:45pm-3:45pm.

Roads and Maritime uses level of service (LoS) as a measure of performance for all intersection types operating under prevailing traffic conditions. The level of service ranges from LoS A to LoS F which is directly related to the average intersection delays experienced by traffic travelling through the intersection. Performance levels ranging between LoS A to LoS D are considered to be acceptable with LoS A providing better performance than LoS D. LoS E and LoS F are considered to provide unsatisfactory intersection performance.

For priority (give way and stop) controlled intersections, the average delay relates to the worst movement.

Table 3.1 shows the criteria that SIDRA Network adopts in assessing the LoS.

Table 3.1: Roads and Maritime LoS Criteria

Level of Service (LoS)	Average Delay per vehicle (s/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity	At capacity, requires other control mode.
F	Greater than 70	Unsatisfactory, requires additional capacity	Unsatisfactory, requires other control mode or major treatment

SIDRA modelling results indicate key nearby intersections to operate at an acceptable level of service A with minimal delays and queue lengths. The longest delay has been modelled as 12 seconds and the longest queue being 7 m (i.e. one car length). As such, the operational performance of the surrounding intersection network is satisfactory.

A summary of the existing peak period traffic modelling results is provided in Table 3.2.

Table 3.2: Existing Road Network Performance

Intersection		AM School Peak Hour			PM School Peak Hour		
		Average Delay (s)	LoS	95th Percentile Queue (m)	Average Delay (s)	LoS	95th Percentile Queue (m)
1	Shortland Ave – Fraser St	8	A	5	7	A	3
2	Shortland Ave – Francis St	12	A	4	12	A	4
3	Francis St – Hydebrae St	4	A	1	4	A	1
4	Marion St – Edgar St	7	A	7	7	A	3
5	Dickson St – Merley Rd	10	A	2	7	A	2

3.10.2 On-Street Queueing (Kiss & Ride)

Whilst the above modelling results indicate an acceptable level of service for intersection operation during school peak periods, it is noted that vehicle queuing from the Kiss & Ride facility is observed. Generally, vehicle queues occur for 15 minutes in the afternoon school peak period as a result of parents picking-up students.

Although short-term, queuing extends beyond the signposted Kiss & Ride onto Shortland Avenue east approach and west approach. The observed queue lengths are shown in Figure 3.12.

It is noted that there are four Kiss & Ride bays located on Edgar Street which have been observed to be underutilised during the afternoon school pick-up period. The location of these bays is shown in Figure 3.12.

Analysis of the existing Kiss & Ride facility and potential mitigation measures are provided in Section 6.6 of this report.

Figure 3.12: Kiss & Ride On-Street Queuing

3.11 Mode Share

The proposal seeks to increase the school's current capacity to 1,790 students by 2028. A breakdown of the projected growth for student and staff populations is given in Table 3.3.

Table 3.3: Student and Staff Population

Year	Staff (1)	Students	
Existing - 2019	**140**	Year 5 – 10	1,116
		Year 11 & 12	325
		Total	**1,441**
Future - 2028	**157.5 (rounded to 158)**	Year 5 – 10	1,362
		Year 11 & 12	428
		Total	**1,790**

Notes:
(1) Full-time Equivalent Staff

Students and staff at St Patricks College participated in a Survey Monkey questionnaire which was used to gather data on current travel behaviour. The questionnaire results have been used to estimate the mode share, parking demand and trip generation associated with the future school (assessed in Chapter 5 and 6).

The response rate of the Survey Monkey questionnaire is as follows:

- 1,021 of 1,441 students completed responses (71% response rate), of which:
  - 859 were students in Year 5 to 10, and
  - 162 were students in Year 11 & 12.
- 101 of 140 staff completed responses (72% response rate).

Results of the questionnaire have been summarised in Table 3.4 and Table 3.5 for students and staff, respectively.

The results indicate that overall an even majority of students are driven to school by a parent (45.6%) or travel by public transport (46.2%). Some senior students drive to school (14.2%, or equivalently 2.3% of the total student population) while other students are driven by a peer (0.8%). Students who walk or cycle to school make up 4.5% and 0.7% of the student population, respectively.

Table 3.4: Student Mode Share

Travel Mode	Year 5 to 10	Years 11 & 12	Overall
Car, dropped off by parent	48.3%	31.5%	45.6%
Car, as the driver (and parked)	-	14.2%	2.3%
Car, driven by another student	0.8%	0.6%	0.8%
Bus	29.0%	22.2%	27.9%
Train	1.6%	1.9%	1.7%
Bus and train	15.7%	21.0%	16.6%
Walk	4.0%	7.4%	4.5%
Cycle	0.6%	1.2%	0.7%
Total	**100%**	**100%**	**100%**

The survey results indicate that staff predominately commute to school by car (92.1%) while a small portion car-pooled with another staff member (1.0%). Staff who travelled by public transport or walked make up 4.0% and 3.0%, respectively.

Table 3.5: Staff Mode Share

Travel Mode	Staff
Car, as driver and parked at School (travelled alone)	92.0%
Car-pooled with another staff member (as the driver)	1.0%
Car-pooled with another staff member (they as the driver)	0.0%
Car, dropped off by spouse/other	0.0%
Bus	1.0%
Train	0.0%
Bus and train	3.0%
Cycle	0.0%
Walk only	3.0%
Total	**100%**

4 Proposed Development

4.1 Proposal Description

The proposal comprises a new STEMM building with a basement parking level accommodating 59 car parking spaces. The new STEMM building would comprise classrooms, flexible community and general learning spaces and science learning spaces including science laboratories.

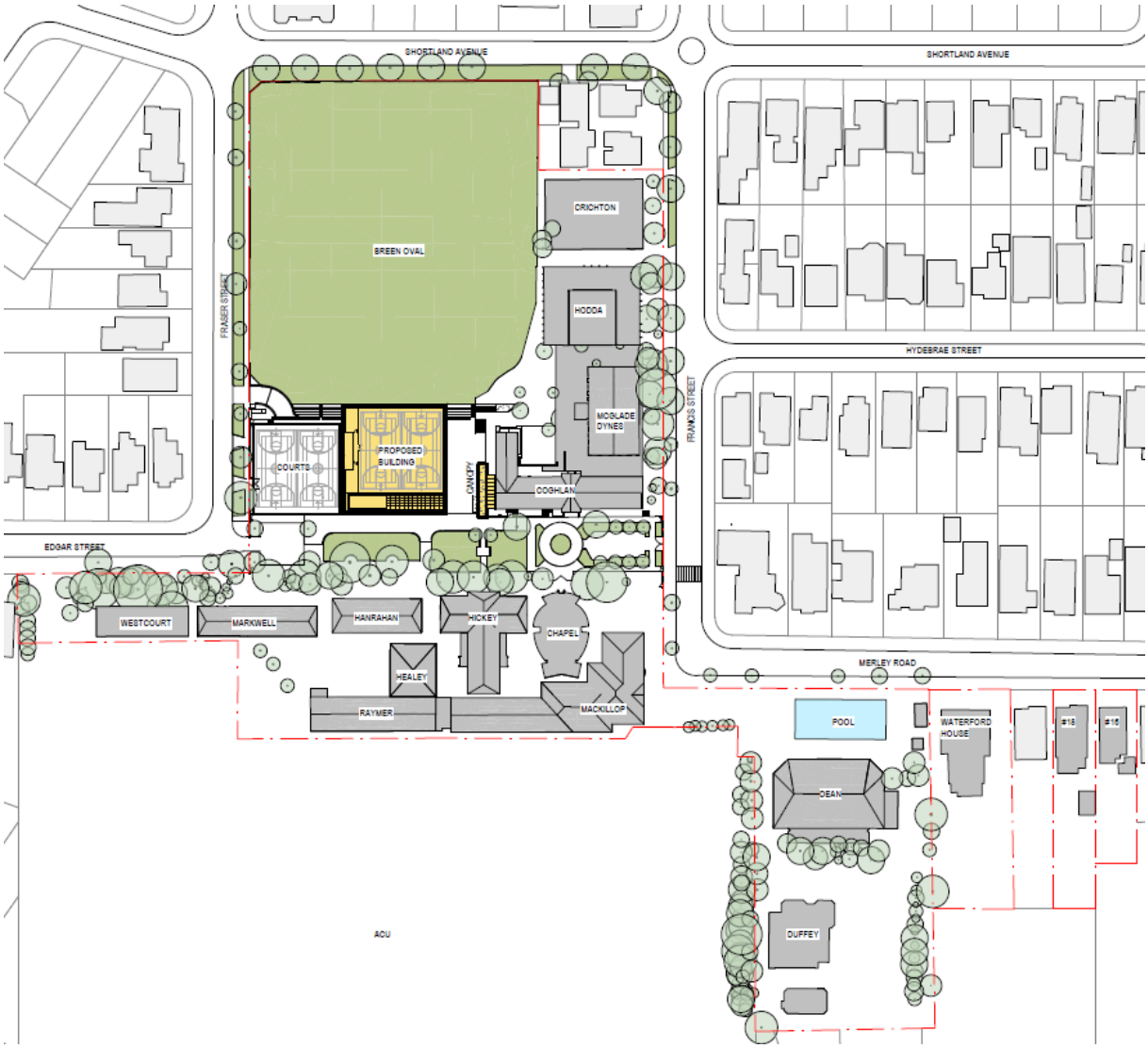
The works proposed as part of this SSD application include:

- Demolition of five existing tennis courts;
- Construction of a new four-storey STEMM building including an associated basement car park, 2 x rooftop tennis courts, 2 x outdoor tennis courts; and
- New landscaped civic space associated with the College, to the east of the new building.

In addition to the above, the SSD will also seek to progressively increase the student population of the College to a maximum of 1,790 by the year 2028. This is based on a 10-year forecast for the College, which seeks to progressively add a new stream of 30 students per year until there are seven streams in each year group. The 1,790 student population target also incorporates a buffer allowing for future variances to this forecast.

The proposed school plan site is shown in Figure 4.1.

Figure 4.1: Proposed Site Plan



Source: BVN (plan dated 12/02/2020)

4.2 Car Parking, Access and Circulation

The future development would provide an additional 59 car parking spaces across a single basement level beneath the new STEMM building. The new car park would accommodate staff and visitor car parking. Parking spaces for staff and visitors would be marked as such. Figure 4.3 (an Appendix B) shows the layout of parking spaces and internal circulation aisles.

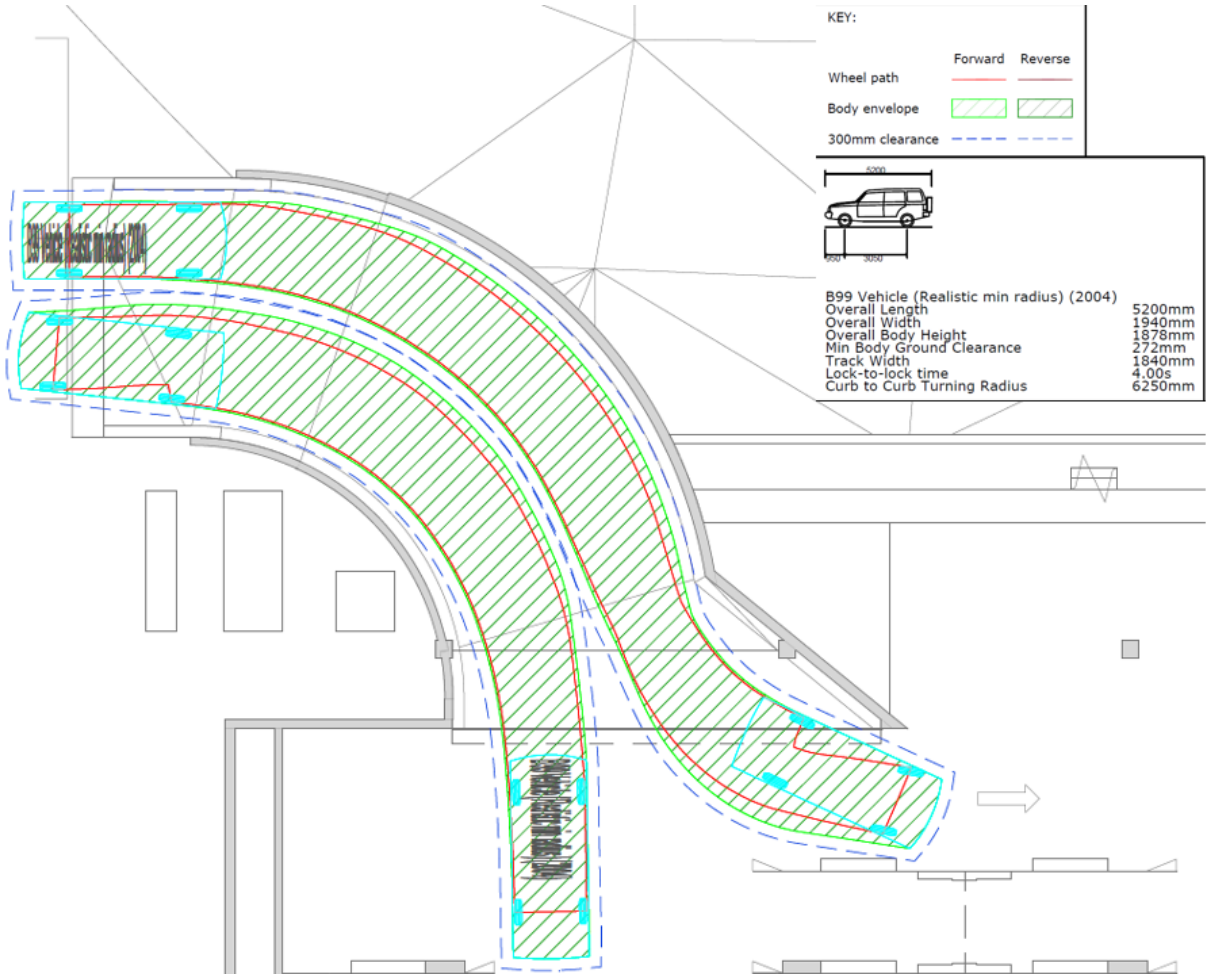
In addition to this, the development proposes to remove six car parking spaces located at car park 'D' (Figure 3.8) to provide additional green space for students. Therefore, there would be a net increase of 53 car parking spaces on-site. The proposed development would therefore provide a total provision of 155 car parking spaces on Day 1 of opening. As such, all staff and visitor car parking will be accommodated on-site.

A review of off-street parking adequacy has been undertaken in Section 5.1.

A new vehicle access to the basement car park would be provided off Fraser Street. The new access driveway would facilitate two-way flow and would measure 6m in width. A swept path analysis for the B99 vehicle has been carried out along the car park ramp. According to Australian Standards, the 99.8th percentile vehicle is referred to as a B99 vehicle and includes sedans, station wagons and light commercial vehicles (e.g. Ford Transit MWB and LWB vans).

The swept path analysis shows two B99 vehicles adequately passing each other on the ramp as indicated in Figure 4.2 and Appendix C.

Figure 4.2: B99 Vehicle Swept Path



The Australian Standard for Off-street car parking (AS 2890.1:2004) requires car parking spaces for employee parking to be provided as Class 1A parking spaces for employee parking. Class 1A car parking spaces are to have the following minimum dimensions:

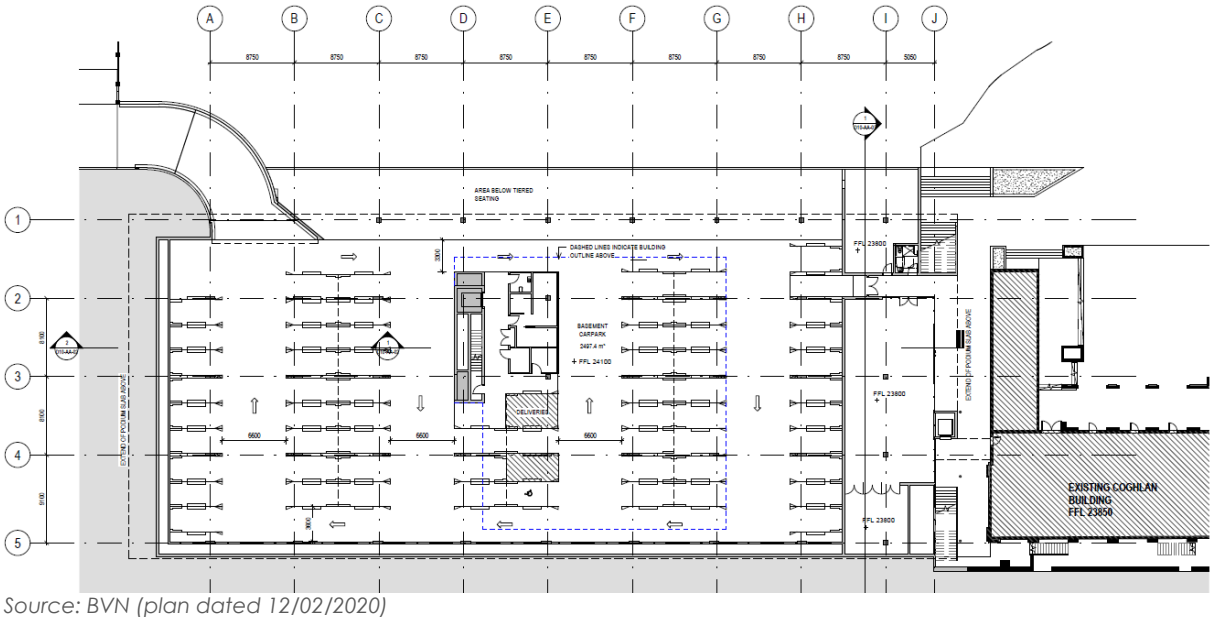
- Parking aisle width of 5.8m;
- Bay width of 2.4m; and
- Bay length of 5.4m.

Off-street car parking at the Proposal site is provided as 90-degree angle parking with a minimum parking aisle width of 6.6m, and parking space dimensions of 2.6m wide and 5.4 m long.

It is also required to provide a minimum headroom of 2.2m above car parking spaces and aisles which is to be provided in the new basement car park. The headroom above the accessible car space and shared area is to be a minimum of 2.5m which is also to be provided on the new basement car park.

Overall, the on-site car park for the proposed development is designed in accordance with Australian Standards.

Figure 4.3: Proposed On-Site Underground Car Park



Source: BVN (plan dated 12/02/2020)

4.3 Bicycle Parking

Bicycle racks would be provided on-site as Class 3 facilities in accordance with AS2890.3 which permits bicycles to be locked to a support rail. There would be provision of 13 bicycle spaces; that is, three spaces above the existing provision.

Bicycle parking adequacy has been assessed in Section 5.4.

4.4 Delivery, Service and Emergency Vehicle Access

There would be one loading space proposed in the basement level car park to accommodate a service/ delivery vehicle for small deliveries, for example, canteen goods. Service and delivery vehicles typically comprise a Ford Transit MWB van or similar vehicle which fit the category of a B99 vehicle. The loading space would have dimensions 3.6m width and 5.4m length which would adequately accommodate a B99 vehicle.

The loading space is proposed adjacent to the elevator to the building, dry/ cold freezer rooms, and storage spaces.

Any specialised service or delivery vehicles that are larger in size would be accommodated in the at-grade car park labelled 'B' as shown in Figure 3.8.

Emergency vehicles, such as an ambulance vehicle can access the site using the at-grade car parks E which is located closest to the school's front office.

4.5 Public Transport

As assessed in Section 3.3, there are sufficient school buses servicing the school as well as public bus services (including the free commuter bus, the Strathfield Connector) in the vicinity with ample capacity on these services. Bus services also provide good connectivity to Strathfield train station, which is major interchange in the wider Sydney transport network. Established footpaths are located between the school and nearby train stations including Flemington Station, Homebush Station and Strathfield Station. These train stations are located within a 17-24 minute walk from the school.

Public transport services in the locality would be able to accommodate students and staff commuting to the school in the future.

4.6 Pedestrian and Bicycle Access

Pedestrian and cyclist access along all site frontage streets will remain as current in the future. There are no changes proposed to pedestrian and bicycle access arrangements as part of the proposal.

4.7 Crime Prevention through Environmental Design Action Plan (CPTED)

Natural surveillance of pedestrian and cycling pathways within the school and connecting to the public network would be achieved through use of low-lying vegetation and lighting where required. Dense foliage and inappropriate planting that could cause concealment would be avoided.

Public spaces, such as walkways and the car park are proposed to be open which would further permit natural surveillance and would not restrict sightlines.

Good way-finding signage on paths between buildings, the bus bay, kiss and drop zone, and the car park would be installed to assist new students and teachers, visitors and parents around the school.

5 Parking Assessment

5.1 Car Parking Requirements

5.1.1 State Environmental Planning Policy (Educational Establishments)

There is no specific car parking rate under the Educational State Environmental Planning Policy (SEPP). However, generally, any car parking must not reduce the number of car parking spaces provided and/or must not contravene any existing condition of the most recent development consent relating to car parking (where applicable).

5.1.2 Strathfield Municipal Council Development Control Plan

The car parking requirements for the school has been assessed against the Strathfield Municipal Council Development Control Plan (DCP) 2005. The DCP states that the car parking for educational establishments to be provided as per the following rates:

- 1 space per 1.5 staff, plus
- A minimum of 1 disabled car space and a further 1 additional disabled car space for every additional 50 car spaces.

A summary of the car parking requirements for the existing and future school is provided in Table 5.1.

Table 5.1: Car Parking Provision (DCP Requirements)

Parking Type	DCP Car Parking Rate	Proposed (Year 2028)	
		No. of staff	Car Parking Spaces Req'd
Staff	1 space per 1.5 staff	158 [1]	105.3
Disabled	Minimum 1 space and a further 1 additional space for every additional 50 car spaces	-	3

(1) Full-time Equivalent Staff

According to parking rates stipulated by the DCP, a total of 105.3 spaces, rounded to 105 whole parking spaces, would be required as off-street parking to accommodate the future staff population. Of these parking spaces, three spaces would need to be provided as disabled (accessible) parking spaces as a minimum.

Notwithstanding this, it is also noted that the DCP advises that parking provision be based on the net increase in demand for parking created by a development. As such, the car parking requirements for future development have also been assessed using a 'first principles' approach as detailed to follow.

5.1.3 First Principles Approach

To determine the future parking demand, staff mode splits as detailed in Section 3.11 have been applied to the future staff population. The estimated parking demand for the future staff population is presented in Table 5.2.

Table 5.2: Car Parking Provision (First Principles)

Proportion of staff who drive and park	Future Staff Population (FTE)	Car Parking Spaces Req'd
92.1%	158	145.5

It would be required to provide 145.5 off-street parking spaces, rounded to 146 whole parking spaces, to accommodate future staff parking demand.

A total of 155 car parking spaces are proposed to be located on-site which is inclusive of 31 car parking spaces located within ACU's car park. Of these, 146 parking spaces would be allocated to staff; the remaining nine parking spaces would be allocated as described in the following sections.

On this basis, all staff and visitor car parking will be accommodated on-site from Day 1 of opening. As such, the local road network and surrounding residents would experience immediate benefits from the off-street parking provisions provided by the school.

5.1.4 Accessible Parking

By applying the DCP accessible parking rates to the 146 off-street parking provision, there would be a requirement to provide three accessible spaces as a minimum. Currently, there is a total of four accessible spaces on-site; car parks B and C comprise two accessible spaces each (Figure 3.8). An accessible space with shared area is proposed in the new basement car park. This gives a total of five accessible parking spaces on-site which meets the minimum requirements stipulated by Council's DCP.

The accessible space and shared area in the basement car park will be provided as having 2.4m width and 5.4m length. These dimensions are compliant with AS 2890.6.2009 Parking facilities Part 6: Off-street parking for people with disabilities.

The headroom above the accessible car space and shared area is 2.5m which is to be provided.

Overall, the off-street accessible parking provision and design is compliant with Council's DCP and Australian Standards.

5.2 Visitor Parking

A parking provision rate for visitor parking is not stipulated by Council's DCP. Typically, visitor parking at educational establishments should be provided at a rate of 5% of the total staff parking provision. Therefore, there would be a need to provide seven visitor parking spaces provided on-site.

Seven visitor parking spaces are to be provided in the new basement car park, and would be delineated as such. Information on the visitor parking location would be available to parents and visitors via the school website.

5.3 Senior Student Parking

Currently, students in Year 12 are permitted to drive to school and park off-site. In a means to reduce car trips and encourage travel by sustainable modes, the school will be considering measures for limiting driving and parking by senior students.

In special circumstances as assessed by the school, some students may be permitted to drive and park on-site. Two car parking spaces would be located within the new basement car park which can be utilised by a student in special circumstances, which will be managed by the school.

5.4 Bicycle Parking Requirements

Council's DCP does not stipulate bicycle parking provisions for educational establishments. In the absence of DCP bicycle parking rates, the future provision of bicycle parking spaces has been assessed based upon the current mode spilt for cycling. The current student mode share for cycling is 0.7% (Table 3.4). Adopting this rate to the future student population generates a need to provide 12 spaces.

Cycling demand by staff has been surveyed as 0%. However, as a minimum, staff bicycle parking should be provided at a similar rate to that of students; this generates a rate of one bicycle parking space for staff.

To validate the above rates, Journey to Work data made available by TfNSW suggests that of the people travelling to work within the vicinity of the site, 0.4% of the population cycle. Similarly, a need for one bicycle parking space for staff is generated.

On Day 1, there would be a minimum of 13 bicycle parking spaces for use by students and staff. Notwithstanding this, through the Green Travel Plan (GTP) a mode share target for greater cycling amongst staff and students would be set and measures recommended for achieving set targets.

5.5 Motorcycle Parking Requirements

Council's DCP does not stipulate parking rates for motorcycle parking. As no staff currently travel to the school by motorcycle, provision of any motorcycle parking spaces on-site is not required in addition to the five motorcycle spaces provided within ACU's car park (for use by the school).

However, consultation with future staff would be undertaken to understand whether additional motorcycle parking spaces would be beneficial to deter them from car travel to the school. One car parking space could be converted into five motorcycle spaces if required.

5.6 Loading/Unloading Facilities

As part of the proposal, all loading and unloading activities would be conducted on-site as per existing conditions. The provision of one loading/unloading space is provided. It is expected that the school would manage all deliveries to/from the site to ensure appropriate allocation and management of loading facilities. Additionally, all loading and unloading activities should be minimised during recess/lunch periods and peak school drop-off and pick-up times to minimise disruption and ensure safety.

6 Traffic Impact Assessment

6.1 Roads and Maritime Traffic Generating Guidelines

The RTA Guide to Traffic Generating Developments contains trip generation rates for various land uses. However, the Guide does not stipulate rates for schools. Roads and Maritime has carried out a recent study of schools across NSW to determine current peak period trip rates. A total of 22 schools were surveyed on a typical school day, including metropolitan primary and secondary schools.

The study by Roads and Maritime stipulates average vehicle trip rates for primary and secondary schools in metropolitan areas as follows:

- Primary Schools
    - AM peak period – 0.67 trips per student, and
    - PM peak period – 0.53 trips per student.
- Secondary Schools
    - AM peak period – 0.51 trips per student, and
    - PM peak period – 0.28 trips per student.

Adopting these rates for the respective primary and secondary year groups at the school, the proposed development would be expected to generate:

- 986 vehicle trips in the AM peak period, and
- 615 vehicle trips in the PM peak period.

To validate the above, trip generation estimates have been compared against trip generation rates estimated based on first principles (i.e. mode share of the current student population). This has been carried out in Section 6.2.

6.2 Existing Traffic Generation

As per the results of the mode share questionnaire (Table 3.4), the following key information has been obtained:

- 45.6% of students are dropped-off/picked-up at school by a parent. Of these students, 77% indicated that they utilise the Kiss & Ride facility on Fraser Street.
- A car occupancy rate of 1.88 students per vehicle has been deduced.
- Approximately 3.1% of students (Year 11 & 12 students) drive to school or are driven by a peer.
- Approximately 92% and 79% of the student population arrive and depart during the school peak hours (AM and PM), respectively.

Based on the questionnaire results as well as data gathered in 2019 at similar high schools, typical arrival and departure trends for future school population would occur as follows:

- AM Peak:
    - Staff trips – 80% of trips occur in the peak
    - Student trips – 92% of trips occur in the peak.
- PM Peak:
    - Staff trips – 10% occur in the peak
    - Student trips – 79% of trips occur in the peak.

Based on the above, the estimated traffic generation during school peak periods would be as shown in Table 6.1.

Table 6.1: Estimated Traffic Generation

Peak Period	Staff	Senior Students	Parents
AM Peak	104	41	248
PM Peak	13	35	213

6.3 Future Traffic Generation

As indicated in Section 4.1 the SSD will also seek to progressively increase the student population from 1,441 (current) to a maximum of 1,790 by 2028. This is based on a 10-year forecast which seeks to add an extra stream (30 students) per year until there are seven streams in each year group. The 1,790 student population target also incorporates a buffer allowing for future variances to this forecast.

In recognition of this, a summary of the future peak vehicle trip generation during morning and afternoon peak periods are presented in Table 6.2.

It is noted that trips associated with staff and senior students would generate a single vehicle movement "in" as they enter and/or park at the school. Similarly, they would generate a single vehicle movement "out" when they exit the site and leave for the day. On the other hand, a parent that drops-off a student before school would generate two vehicle movements; namely, one "in" trip plus one "out" trip. The same would occur when the student is picked-up after school. These two vehicle movements have been accounted for in Table 6.2.

Table 6.2: Peak Vehicle Trips

School Peak Period	Existing Peak Period Vehicle Trips				Future Peak Period Vehicle Trips				Total Net Increase	RMS Rates
	Staff	Senior Students	Parents	Total	Staff	Senior Students	Parents	Total		
AM	104	41	248 x 2 = 496	**641**	123	51	309 x 2 = 618	**792**	+151	986
PM	13	35	213 x 2 = 426	**474**	15	44	265 x 2 = 530	**589**	+115	615

To undertake a traffic analysis that is reflective of realistic travel patterns at the school, the trip generation estimates based on first principles have been adopted in traffic modelling scenarios herein; namely, 792 trips in the AM peak and 589 trips in the PM peak periods. Trip generation estimates based on RMS rates would represent exaggerated peak period traffic scenarios compared to that depicted by the actual school operation.

On this basis, the estimated increase in vehicle trips is 151 trips in the morning school peak period and 115 trips in the afternoon school peak hour period.

6.4 Traffic Distribution

It should be noted that while there would be some 123 staff car trips travelling to the school in the future AM school peak period there will be a total of six off-street car parking areas as part of the proposal. Therefore, traffic movements due to staff trips would be diluted throughout the local road network alleviating pressure from the road network during peak periods.

Notwithstanding the above, the additional development-generated traffic in the future has been assessed by distributing trips based on the location of student and staff place of residence. The majority of the population reside to the north-east and south-east of the school as illustrated in Figure 6.1.

Figure 6.1: Student Vehicle Trip Distribution

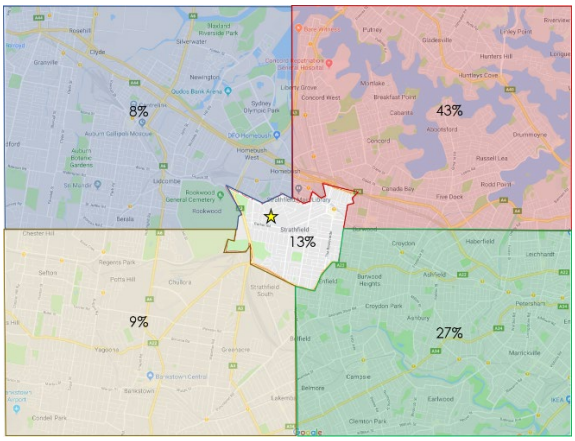
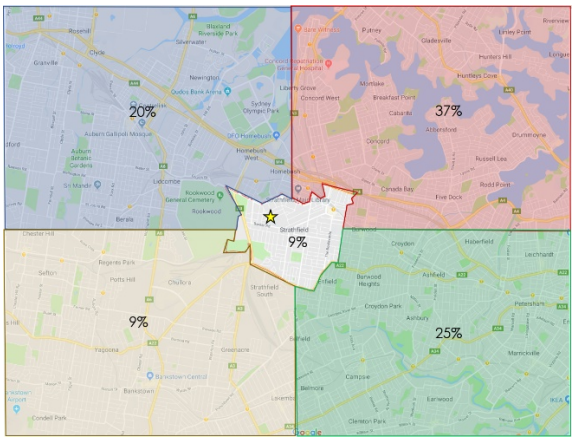


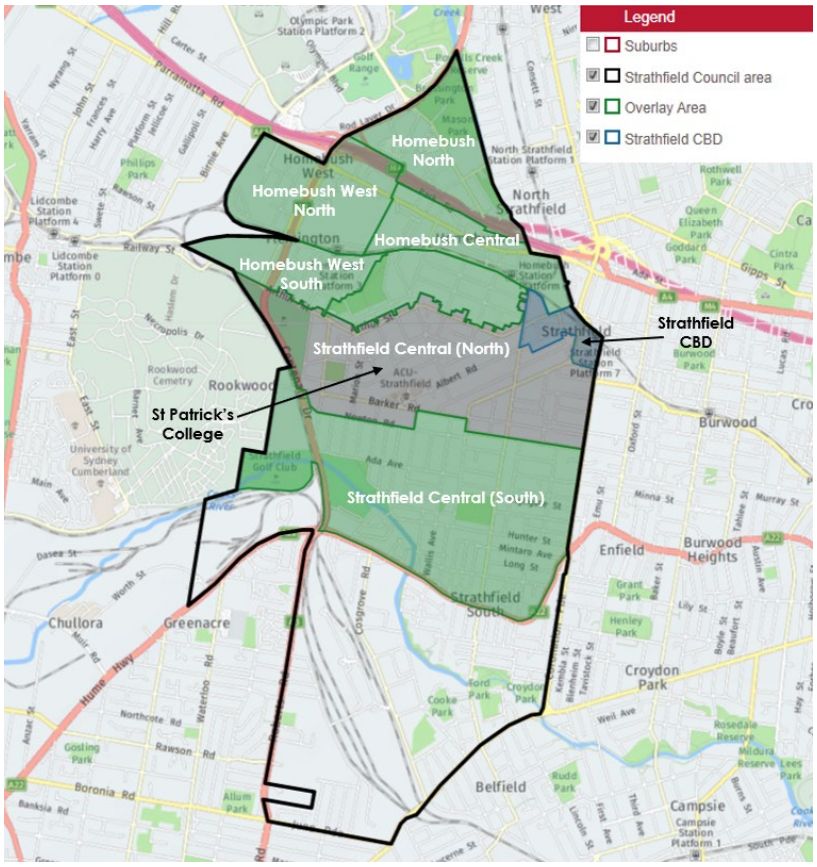
Figure 6.2: Staff Vehicle Trip Distribution



Population growth estimates have been extracted from Profile ID for the local Strathfield Council area and adopted to develop a background traffic growth factor within the local road network. The subject site lies within the Strathfield Central (North) area as indicated in Figure 6.3. Based on the selected profile area, the usual resident population has increased 0.85% per annum between 2011 and 2016.

On this basis, an annual growth rate of 0.85% has been applied to the existing traffic volumes up to the future school opening year (i.e. 2028) and the 10-year future scenario (2038).

Figure 6.3: Strathfield Central (North) Profile Area



Source: Profile ID Strathfield Council

6.5 Traffic Impacts

Traffic modelling has been carried out to assess key intersections surrounding the subject site. SIDRA Network software, version 8.0, has been used to assess intersection performance during AM and PM school peak periods. Five scenarios have been analysed, namely:

- Scenario 0 (S0) – Existing Conditions ("Base Case") which is based on 2019 traffic data.
- Scenario 1 (S1) – Future Case Without Development Traffic, which considers an annual background traffic growth of 0.85% up to year 2028.
- Scenario 2 (S2) - Future Case With Development Traffic, which considers Scenario 1 plus traffic generation associated with the proposed development.
- Scenario 3 (S3) – Future Case + 10 Years Without Development Traffic, which considers an annual background traffic growth of 0.85% up to year 2038.
- Scenario 4 (S4) – Future Case + 10 Years With Development Traffic, considers Scenario 3 plus traffic generation associated with the proposed development.

SIDRA modelling results of the modelled scenarios are discussed herein while detailed modelling outputs are contained in Appendix D.

Table 6.3: Scenario 0 – Existing Conditions (Base Case)

	Intersection	AM School Peak Hour			PM School Peak Hour		
		Average Delay (s)	LoS	95th Percentile Queue (m)	Average Delay (s)	LoS	95th Percentile Queue (m)
1	Shortland Ave – Fraser St	8	A	5	7	A	3
2	Shortland Ave – Francis St	12	A	4	12	A	4
3	Francis St – Hydebrae St	4	A	1	4	A	1
4	Marion St – Edgar St	7	A	7	7	A	3
5	Dickson Street – Merley Rd	10	A	2	7	A	2

At present, all modelled intersections operate at a good level of service (LoS A) with minimal average delay per vehicle (up to 12 seconds). As mentioned previously in Section 3.10.1, SIDRA modelling results show intersection performance based on the number of vehicles passing through the junctions across the school peak hours.

Table 6.4: Scenario 1 – Future Case (2028) Without Development Traffic

Intersection		AM School Peak Hour			PM School Peak Hour		
		Average Delay (s)	LoS	95th Percentile Queue (m)	Average Delay (s)	LoS	95th Percentile Queue (m)
1	Shortland Ave – Fraser St	8	A	6	7	A	3
2	Shortland Ave – Francis St	12	A	5	12	A	4
3	Francis St – Hydebrae St	4	A	1	4	A	1
4	Marion St – Edgar St	7	A	7	7	A	4
5	Dickson St – Merley Rd	11	A	3	7	A	3

Table 6.5: Scenario 2 – Future Case (2028) with Development Traffic

Intersection		AM School Peak Hour			PM School Peak Hour		
		Average Delay (s)	LoS	95th Percentile Queue (m)	Average Delay (s)	LoS	95th Percentile Queue (m)
1	Shortland Ave – Fraser St	9	A	7	7	A	3
2	Shortland Ave – Francis St	12	A	8	12	A	7
3	Francis St – Hydebrae St	4	A	1	4	A	1
4	Marion St – Edgar St	7	A	12	7	A	6
5	Dickson St – Merley Rd	12	A	3	8	A	3

Modelling results indicate that the proposed development is not expected to adversely impact the future performance of the local road network. Having consideration of background growth (Scenarios 1 and 2), surrounding intersections are expected to continue to operate at an acceptable level of service A during AM and PM school peak periods.

Additional trips generated by the proposal would result in a marginal increase for average delay per vehicle at some intersections. For the worst-performing traffic movements the average delay would increase by one second between Scenario 1 and Scenario 2 which is a negligible impact.

Overall, all modelled intersections would continue to operate at a level of service A which is a good service level.

Table 6.6: Scenario 3 – Future Case + 10 Years Without Development (Year 2038)

Intersection		AM School Peak Period			PM School Peak Period		
		Average Delay (s)	LoS	95th Percentile Queue (m)	Average Delay (s)	LoS	95th Percentile Queue (m)
1	Shortland Ave – Fraser St	8	A	7	7	A	3
2	Shortland Ave – Francis St	12	A	5	12	A	5
3	Francis St – Hydebrae St	4	A	1	4	A	1
4	Marion St – Edgar St	7	A	8	7	A	4
5	Dickson St – Merley Rd	12	A	3	8	A	3

Table 6.7: Scenario 4 – Future Case + 10 Years With Development (Year 2038)

Intersection		AM School Peak Period			PM School Peak Period		
		Average Delay (s)	LoS	95th Percentile Queue (m)	Average Delay (s)	LoS	95th Percentile Queue (m)
1	Shortland Ave – Fraser St	9	A	8	8	A	4
2	Shortland Ave – Francis St	12	A	8	12	A	8
3	Francis St – Hydebrae St	4	A	1	4	A	1
4	Marion St – Edgar St	7	A	13	7	A	7
5	Dickson St – Merley Rd	13	A	3	9	A	3

The 10-year future scenario modelling results indicate that the proposed development is expected to have minimal impact on the future performance of the local road network. Having consideration of background traffic growth across 10 years following the opening year of the proposed development (Scenarios 3 and 4), nearby intersections would continue to operate at a good level of service.

6.6 On-Street Queueing (Kiss & Ride)

6.6.1 Potential Mitigation Measures

Whilst the above SIDRA modelling results indicate that the surrounding intersections would continue to operate satisfactorily in the future scenarios, implementation of potential mitigation measures considered by the school to reduce the traffic impacts due to the queuing at the Kiss & Ride facility during peak periods. Such mitigation measures are detailed below.

Staggering Arrival and Departure Times

At present, there is an influx of vehicle trips associated with student pick-up which are concentrated to a 15-minute period as all cohorts finish school at the same. Therefore, consideration has been given for staggering start/ finish times, and subsequently, drop-off and pick-up periods. Doing so will alleviate traffic congestion in the local road network by 'flattening out' the main peak event.

The strategy can be easily communicated to parents through the School News Bulletin (or similar) providing a guideline for what time they should drop-off and pick-up their child for each cohort. However, this may raise some concerns for parents who have more than one child in different year groups at the school. Further detailed consultation with staff and students/parents would need to be conducted. It may be necessary that an "after class" room be established with a supervising teacher to accommodate any students who are waiting for their sibling in a different year group.

A suggestion for staggered start and finish times for each year group is provided in Table 6.8.

Table 6.8: Staggered Drop-Off/ Pick-Up Scheme

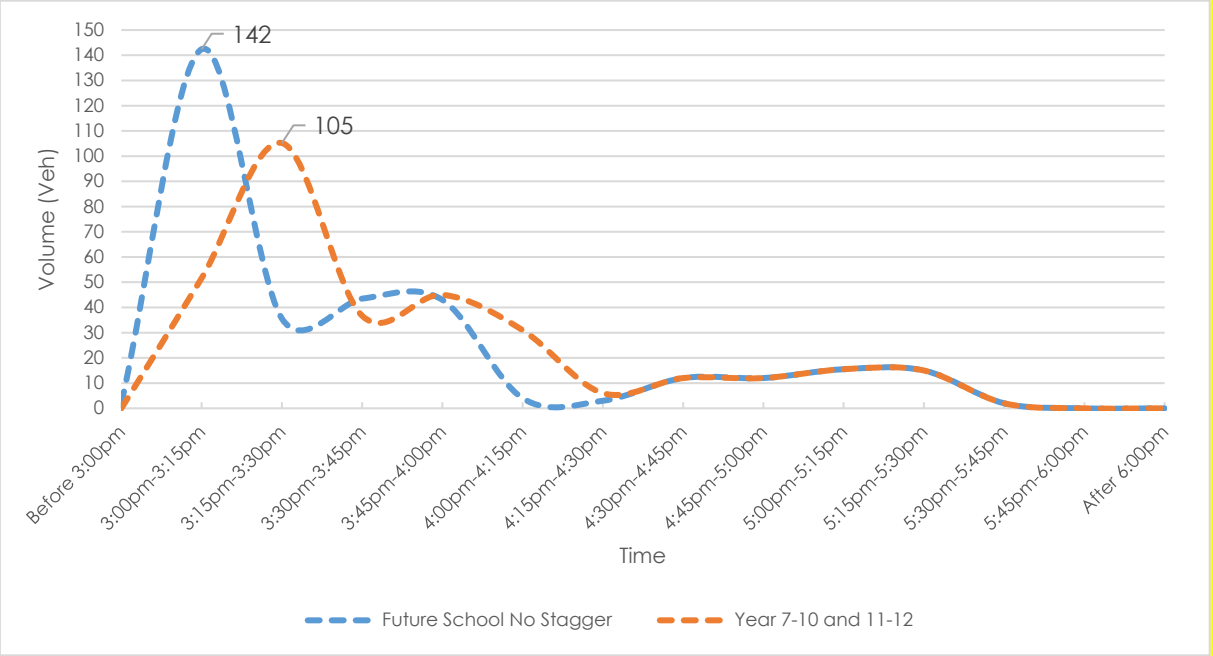
Year Groups	Start Time	Finish Time
Year 5 & 6	8:30am	3:00pm
Year 7 - 12	8:45am	3:15pm

TTPP have undertaken a traffic assessment of the above staggered time scheme. It should be noted that while the start times would also be staggered, schools typically have a more prominent afternoon peak period while the morning period tends to be smoother across the hour. On this basis, the afternoon peak has been considered as the 'worst-case' for assessing capacity of the surrounding road network and Kiss & Ride facility herein.

Figure 6.4 illustrates the number of vehicles arriving in the PM peak pick-up period in the future scenario. In the future, staggering Year 7-12 (as one group) by 15 minutes after Year 5 & 6 (as another group) could generate up to a 26% reduction in peak vehicle arrivals (142 vehicles reduced to 105 vehicles).

The estimated arrival of cars driven by parents in the future PM school peak in each scenario (i.e. without staggering and with staggering) is shown in Figure 6.4.

Figure 6.4: Future PM School Peak Vehicle Arrival Profile



Staggering school bell times by 15-20 minutes typically generate the best outcome as anything less than 15 minutes is too close together and anything longer than 20 minutes would be an inconvenience with students across cohorts.

The scenario presented above would provide benefits in reducing traffic congestion of the Kiss & Ride zone in the PM peak period, as explained in the following section.

Kiss & Ride Facility Extension

The Kiss & Ride facility should be designed to accommodate the greatest number of vehicles arriving in any future scenario (as assessed above) to avoid congestion on the adjacent road network.

Fraser Street and Edgar Street currently accommodate a total of 20 vehicles within the Kiss & Ride zone. The access driveway to the proposed basement car park would result in the loss of two bays on Fraser Street, therefore reducing the total number of bays to 18 vehicles.

Based on an average dwell time of three minutes per vehicle in the Kiss & Ride zone, the 18 bays could accommodate approximately 90 cars in a 15-minute period. Therefore, in the staggered school time scenario, Fraser Street and Edgar Street could not sufficiently accommodate the 105 vehicles expected at 3:15pm.

In order to accommodate the 105 vehicles at the peak, a total of 21 bays in the Kiss & Ride zone would be required. This would require extension of the Kiss & Ride on Shortland Avenue east approach on the south side of the carriageway to accommodate an additional three

car bays. Based on an average car length of 7m, the three car bays are equivalent to approximately 21m in length.

The extension of the Kiss & Ride zone would result in 21m of unrestricted kerbside parking being converted to No Parking between 8.00am-9.30am and 2.30pm-4.00pm on school days. In the vicinity of the site, there is ample unrestricted on-street parking which will further improve with the proposed development as all staff and visitor car parking will be accommodated on-site from Day 1 of opening. As such, the local road network and surrounding residents would experience immediate benefits from the off-street parking provisions provided by the school.

Therefore, the Kiss & Ride zone extension onto Shortland Avenue east approach would have a minor impact for local residents and on-street parking yet would greatly benefit the local road network safety and operation.

7 Construction Traffic Impact

7.1 Construction Activity and Staging

Construction works for the proposal are expected to commence in January 2021 and take place over approximately 18 months. The planned construction staging, indicative dates and duration of works to be carried out are given in Table 7.1.

Once a construction contractor has been engaged, the construction staging and timing will be refined and further detail of activities will be provided.

Table 7.1: Indicative Construction Staging and Duration

Stage	Start	End	Duration
Site establishment	January 2021	January 2021	2 weeks
Demolition	January 2021	February 2021	1 month
Excavation	February 2021	March 2021	1 month
Construction	March 2021	August 2022	16 months
Fit-out	August 2022	August 2022	1 month

The extent of the work site shall generally be contained within the site boundary, with minimal impact on the surrounding road network.

A detailed Construction Traffic Management Plan would be prepared prior to the commencement of construction activities. However, a preliminary review of construction traffic management requirements is set out below.

7.2 Work Hours

It is proposed that construction works be only undertaken during the approved hours consistent with any relevant consent conditions. At this stage, the proposed development has not been approved, however, it is expected there will be a consent condition stipulating similar work hours to the following:

- 7:00am – 5:00pm, Monday to Friday
- 8:00am – 1:00pm, Saturday
- No work to be undertaken on Sundays or Public Holidays.

Any works outside the above work hours (as amended by the relevant consent conditions) will be subject to a separate application to Council.

7.3 Construction Vehicle Types

Construction vehicles likely to be generated by the proposed construction activities in each stage would include the following:

- Demolition
    - Truck and dogs
    - Heavy rigid vehicles (HRV)
    - Medium rigid vehicles (MRV)
- Excavation
    - Truck and dogs
    - Heavy rigid vehicles (HRV)
    - Medium rigid vehicles (MRV)
- Construction/ Structural
    - Heavy rigid vehicles (HRV)
    - Medium rigid vehicles (MRV)
- Fit-Out and Finishing Works
    - Heavy rigid vehicles (HRV)
    - Medium rigid vehicles (MRV).

7.4 Construction Vehicle Routes

Construction vehicles generally have origins and destinations throughout Sydney, with an extensive network of roads made available for such trips.

To minimise the impact of construction traffic on local streets, dedicated construction routes will be developed to provide the shortest distances to/from the arterial road network.

The construction vehicle routes to/from the site are likely to be as follows:

- Arrival Route
    - From Centenary Drive, left turn or right turn onto Arthur Street, right turn onto Pemberton Street, left turn onto Shortland Avenue, right turn onto Fraser Street and left turn into the site.
- Departure Route
    - Right turn out of the site onto Fraser Street, left turn onto Pemberton Street, left turn onto Arthur Street, left turn or right turn onto Centenary Drive/ Richmond Road.

7.5 Construction Worker Parking

A subcontractor parking area will be established within the work site providing limited on-site parking for construction workers. Construction workers who live near each other would be encouraged to carpool together to the site.

Site sheds and amenities will be provided within the work site. This will allow construction workers to drop off and store their tools, allowing them to use public transport to travel to and from the site.

7.6 Construction Traffic Generation

The anticipated construction vehicle movements associated with each stage of construction are summarised in Table 7.2.

Table 7.2: Indicative Construction Traffic Generation

Construction Stage	Construction Activities	Two-Way Vehicle Movements per Day	Peak Two-Way Vehicle Movements per Hour
1	Site establishment	6	4
2	Demolition	6	4
3	Excavation	16	4
4	Construction	20	8
5	Fit-out	16	6

Based on Table 7.2, the construction activities are anticipated to generate up to 20 two-way construction vehicle movements per day. Based on a 10-hour working day, this would equate to an average of two vehicle movements in an hour. Peak two-way construction vehicle movement is anticipated to be up to eight two-way vehicle movements per hour. However, peak construction vehicle movements will occur outside the school and commuter peak periods to minimise the traffic impact and delay to the road network.

7.7 Pedestrian and Cyclist Access

Pedestrian and cyclist access along Fraser Street frontage of the site will be maintained at all times during construction of the proposed development.

Hoarding along the boundary of the work site will be provided between the construction work area and existing pedestrian and cyclist movements.

7.8 Public Transport

The proposed construction activities would not adversely impact existing public transport services and the school bus services.

7.9 Emergency Vehicles

No special provisions for emergency service vehicles are required as part of the proposed construction works. Emergency vehicle access shall be maintained at all times.

7.10 Construction Traffic Management Measures

7.10.1 Traffic Management Plan

A site-specific Traffic Management Plan (TMP) will likely need to be prepared and submitted to TfNSW and Strathfield Council to appropriately manage the use of the designated construction routes.

The TMP, and any associated traffic control plans (TCPs) should also outline how potential construction vehicle manoeuvres could be accommodated in and out of the construction site.

7.10.2 Inspection of Traffic Control Measures

Temporary traffic controls will be regularly inspected by the contractor to identify potential safety hazards to enable implementation of corrective solutions.

Daily inspections and maintenance of controls will be undertaken by the contractor and maintenance will be recorded.

The site supervisor will check all relevant traffic control management measures on-site prior to commencement of works each day.

7.10.3 Worker Induction

All workers and subcontractors engaged on-site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedure.

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold RMS accreditation.

7.10.4 Vehicle Access

All construction vehicles will enter and exit the site off Fraser Street in a forward movement. Vehicles must not be permitted to reverse into the construction site from the road.

Construction vehicles shall radio/call the site office on approach to the site to ensure access to the work site is available. All loading and unloading shall be undertaken within the work site during the approved work hours. The queuing or marshalling of construction vehicles shall not be permitted on public roads. Construction vehicles are to egress out of the site when there is a suitable gap in traffic.

8 Conclusion

This study details our assessment of the traffic, parking and transport implications associated with the proposed development at the school. The key findings of this report are presented below.

- It is proposed as part of this SSD to progressively increase the student population of the College to a maximum of 1,790 by the year 2028.
- Mode share data gathered from students at staff currently attending the school has been used to estimate the number of car trips expected to be generated by the proposal during school peak periods. An estimated 151 trips in the morning school peak period and 115 trips in the afternoon school peak hour period would be added to the surrounding road network.
- Traffic modelling analysis results indicate that the surrounding road network currently operates at a good level of service (LoS A) during school peak periods.
- The impact of additional car trips generated by the proposal have been assessed in 2028 – school opening year and 2038 – opening year plus 10 years. In both scenarios, the road network would continue to operate satisfactorily with negligible impacts on intersection performance.
- Future parking provision has been are estimated based on 'first principles' which adopts current mode share patterns in order to calculate the future parking demand. On this basis, the school will require 155 parking spaces which are proposed to be provided on-site. The majority of the required parking currently exists on-site. A basement car park beneath the new STEMM building would accommodate the rest of the future parking demand through provision of 59 car parking spaces.
- Bicycle parking spaces will be provided on-site. A Green Travel Plan has been prepared which aims to encourage a shift away from car use and towards sustainable modes, including public transport and active travel.
- Staggered start and finish times will be considered by the school in order to alleviate traffic congestion at school peak times. Start/finish times for Years 5 & 6 are proposed to be offset from the rest of the school (Years 7-12) by 15 minutes. Adopting this measure would reduce PM school peak traffic congestion by up to 26%.
- An extension of the existing Kiss & Ride facility is proposed on Shortland Avenue east approach by the length of three vehicles (i.e. 21m). This would facilitate future drop-off/ pick-up activities and would alleviate traffic congestion on the surrounding road network during peak school periods.

Appendix A

Traffic Survey Data

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Shortland Ave and Fraser St, Strathfield

GPS -33.87306, 151.07353

Date:	Thu 14/11/19
Weather:	Overcast
Suburban:	Strathfield
Customer:	TTPP

North:	Fraser St
East:	Shortland Ave
South:	Fraser St
West:	Shortland Ave

Survey Period	AM:	7:30 AM-9:30 AM
	PM:	2:30 PM-4:30 PM
Traffic Peak	AM:	8:00 AM-9:00 AM
	PM:	2:45 PM-3:45 PM

All Vehicles

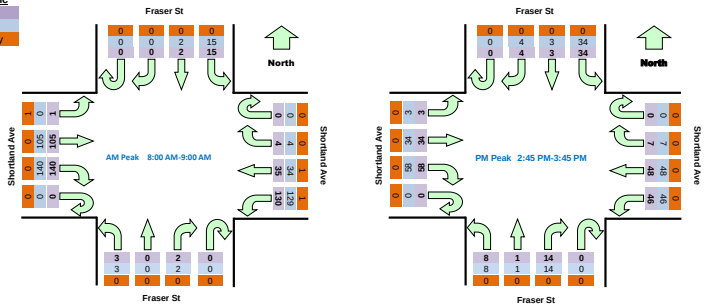
Time		North Approach Fraser St				East Approach Shortland Ave				South Approach Fraser St				West Approach Shortland Ave				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:30	7:45	0	0	0	2	0	0	8	9	0	2	0	0	0	9	14	0	336	
7:45	8:00	0	0	0	0	0	1	7	15	0	0	0	1	0	14	20	0	434	
8:00	8:15	0	0	1	1	0	2	10	25	0	0	0	0	0	28	26	1	437	Peak
8:15	8:30	0	0	0	2	0	1	6	51	0	0	0	1	0	46	33	0	363	
8:30	8:45	0	0	0	12	0	0	5	45	0	2	0	1	0	52	25	0	241	
8:45	9:00	0	0	1	0	0	1	14	9	0	0	0	1	0	14	21	0		
9:00	9:15	0	1	0	2	1	1	1	2	0	1	0	1	0	1	9	0		
9:15	9:30	0	0	0	1	0	1	4	0	0	0	0	0	0	2	10	0		
14:30	14:45	0	0	0	0	0	1	10	16	1	3	0	0	0	13	8	0	217	
14:45	15:00	0	0	0	5	0	1	11	7	0	1	0	4	0	10	14	1	260	Peak
15:00	15:15	0	0	1	17	0	1	10	4	0	6	0	1	0	3	4	1	251	
15:15	15:30	0	0	1	7	0	3	11	16	0	4	1	1	0	16	2	1	239	
15:30	15:45	0	4	1	5	0	2	16	19	0	3	0	2	0	29	14	0	208	
15:45	16:00	0	0	0	0	0	1	15	4	0	10	0	1	0	5	9	0		
16:00	16:15	0	1	1	0	0	3	11	3	0	4	0	0	1	5	7	0		
16:15	16:30	0	0	0	1	0	0	12	8	0	1	0	1	0	1	8	0		

Peak Time		North Approach Fraser St				East Approach Shortland Ave				South Approach Fraser St				West Approach Shortland Ave				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:00	9:00	0	0	2	15	0	4	35	130	0	2	0	3	0	140	105	1	437
14:45	15:45	0	4	3	34	0	7	48	46	0	14	1	8	0	58	34	3	260

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		North Approach Fraser St				East Approach Shortland Ave				South Approach Fraser St				West Approach Shortland Ave			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:30	7:45	0	0	0	2	0	0	6	9	0	1	0	0	0	9	13	0
7:45	8:00	0	0	0	0	0	1	7	15	0	0	0	1	0	14	20	0
8:00	8:15	0	0	1	1	0	2	10	25	0	0	0	0	0	28	26	0
8:15	8:30	0	0	0	2	0	1	5	50	0	0	0	1	0	46	33	0
8:30	8:45	0	0	0	12	0	0	5	45	0	2	0	1	0	52	25	0
8:45	9:00	0	0	1	0	0	1	14	9	0	0	0	1	0	14	21	0
9:00	9:15	0	1	0	2	1	1	1	2	0	1	0	1	0	1	9	0
9:15	9:30	0	0	0	1	0	1	4	0	0	0	0	0	0	2	10	0
14:30	14:45	0	0	0	0	0	1	10	16	1	3	0	0	0	13	8	0
14:45	15:00	0	0	0	5	0	1	11	7	0	1	0	4	0	10	14	1
15:00	15:15	0	0	1	17	0	1	10	4	0	6	0	1	0	3	4	1
15:15	15:30	0	0	1	7	0	3	11	16	0	4	1	1	0	16	2	1
15:30	15:45	0	4	1	5	0	2	16	19	0	3	0	2	0	29	14	0
15:45	16:00	0	0	0	0	0	1	15	4	0	10	0	1	0	5	9	0
16:00	16:15	0	1	1	0	0	3	11	3	0	4	0	0	1	5	7	0
16:15	16:30	0	0	0	1	0	0	12	8	0	1	0	1	0	1	8	0

Peak Time		North Approach Fraser St				East Approach Shortland Ave				South Approach Fraser St				West Approach Shortland Ave				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:00	9:00	0	0	2	15	0	4	34	129	0	2	0	3	0	140	105	0	434
14:45	15:45	0	4	3	34	0	7	48	46	0	14	1	8	0	58	34	3	260

Heavy Vehicles

Time		North Approach Fraser St				East Approach Shortland Ave				South Approach Fraser St				West Approach Shortland Ave			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:30	7:45	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15	8:30	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Time		North Approach Fraser St				East Approach Shortland Ave				South Approach Fraser St				West Approach Shortland Ave				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:00	9:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	3
14:45	15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Shortland Ave and Francis St, Strathfield

GPS -33.87245, 151.07527

Date:	Thu 14/11/19
Weather:	Overcast
Suburban:	Strathfield
Customer:	TTPP

North:	Francis St
East:	Shortland Ave
South:	Francis St
West:	Shortland Ave

Survey Period	AM:	7:30 AM-9:30 AM
	PM:	2:30 PM-4:30 PM
Traffic Peak	AM:	7:45 AM-8:45 AM
	PM:	2:45 PM-3:45 PM

All Vehicles

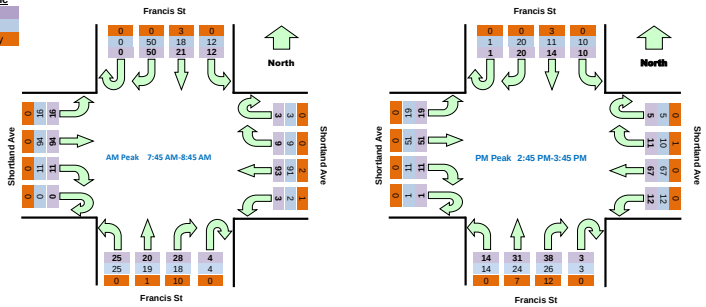
Time		North Approach Francis St				East Approach Shortland Ave				South Approach Francis St				West Approach Shortland Ave				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:30	7:45	0	7	6	1	0	0	4	6	0	2	6	6	0	4	11	3	332	
7:45	8:00	0	9	8	2	1	2	9	2	2	8	5	5	0	5	11	4	389	Peak
8:00	8:15	0	18	6	1	1	1	11	1	1	6	3	8	0	3	21	3	377	
8:15	8:30	0	14	5	4	1	1	36	0	1	8	6	8	0	3	26	6	320	
8:30	8:45	0	9	2	5	0	5	37	0	0	6	6	4	0	0	36	3	227	
8:45	9:00	1	2	2	4	0	2	22	1	0	0	6	0	0	0	18	3		
9:00	9:15	0	0	1	3	0	1	5	1	0	0	4	0	1	1	7	3		
9:15	9:30	1	0	4	0	0	0	4	0	0	1	4	1	0	2	4	5		
14:30	14:45	2	7	5	1	1	0	12	3	2	4	8	8	2	2	7	0	282	
14:45	15:00	0	4	3	1	1	3	9	2	0	5	8	6	0	4	13	3	308	Peak
15:00	15:15	1	3	6	1	1	4	10	6	1	6	8	2	1	3	16	7	300	
15:15	15:30	0	8	1	3	2	1	18	4	1	17	8	4	0	2	3	8	265	
15:30	15:45	0	5	4	5	1	3	30	0	1	10	7	2	0	2	19	1	226	
15:45	16:00	1	1	4	2	0	1	16	0	0	4	3	3	0	1	13	5		
16:00	16:15	2	1	4	0	0	2	12	0	0	3	2	4	0	1	10	0		
16:15	16:30	1	3	2	2	1	1	15	2	1	0	1	2	0	1	4	5		

Peak Time		North Approach Francis St				East Approach Shortland Ave				South Approach Francis St				West Approach Shortland Ave				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
7:45	8:45	0	50	21	12	3	9	93	3	4	28	20	25	0	11	94	16	389
14:45	15:45	1	20	14	10	5	11	67	12	3	38	31	14	1	11	51	19	308

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		North Approach Francis St				East Approach Shortland Ave				South Approach Francis St				West Approach Shortland Ave			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:30	7:45	0	6	6	1	0	0	3	6	0	2	5	6	0	4	9	3
7:45	8:00	0	9	7	2	1	2	9	1	2	7	5	5	0	5	11	4
8:00	8:15	0	18	5	1	1	1	11	1	1	4	2	8	0	3	21	3
8:15	8:30	0	14	4	4	1	1	34	0	1	3	6	8	0	3	26	6
8:30	8:45	0	9	2	5	0	5	37	0	0	4	6	4	0	0	36	3
8:45	9:00	1	2	1	4	0	2	22	1	0	0	3	0	0	0	18	3
9:00	9:15	0	0	1	3	0	1	5	1	0	0	3	0	1	1	7	3
9:15	9:30	1	0	3	0	0	0	4	0	0	1	4	1	0	2	4	5
14:30	14:45	2	7	5	1	1	0	12	3	2	4	8	8	2	2	7	0
14:45	15:00	0	4	2	1	1	3	9	2	0	4	5	6	0	4	13	3
15:00	15:15	1	3	5	1	1	4	10	6	1	6	7	2	1	3	16	7
15:15	15:30	0	8	1	3	2	0	18	4	1	10	7	4	0	2	3	8
15:30	15:45	0	5	3	5	1	3	30	0	1	6	5	2	0	2	19	1
15:45	16:00	1	1	3	2	0	1	16	0	0	2	2	3	0	1	13	5
16:00	16:15	1	1	3	0	0	2	12	0	0	3	1	4	0	1	10	0
16:15	16:30	1	3	1	1	1	1	15	2	1	0	1	2	0	1	4	5

Peak Time		North Approach Francis St				East Approach Shortland Ave				South Approach Francis St				West Approach Shortland Ave				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
7:45	8:45	0	50	18	12	3	9	91	2	4	18	19	25	0	11	94	16	372
14:45	15:45	1	20	11	10	5	10	67	12	3	26	24	14	1	11	51	19	285

Heavy Vehicles

Time		North Approach Francis St				East Approach Shortland Ave				South Approach Francis St				West Approach Shortland Ave			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:30	7:45	0	1	0	0	0	0	1	0	0	0	1	0	0	0	2	0
7:45	8:00	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0
8:00	8:15	0	0	1	0	0	0	0	0	0	2	1	0	0	0	0	0
8:15	8:30	0	0	1	0	0	0	2	0	0	5	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:45	9:00	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0
9:00	9:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
9:15	9:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	15:00	0	0	1	0	0	0	0	0	0	1	3	0	0	0	0	0
15:00	15:15	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
15:15	15:30	0	0	0	0	0	1	0	0	0	7	1	0	0	0	0	0
15:30	15:45	0	0	1	0	0	0	0	0	0	4	2	0	0	0	0	0
15:45	16:00	0	0	1	0	0	0	0	0	0	2	1	0	0	0	0	0
16:00	16:15	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
16:15	16:30	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0

Peak Time		North Approach Francis St				East Approach Shortland Ave				South Approach Francis St				West Approach Shortland Ave				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
7:45	8:45	0	0	3	0	0	0	2	1	0	10	1	0	0	0	0	0	17
14:45	15:45	0	0	3	0	0	1	0	0	0	12	7	0	0	0	0	0	23

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Hydebrae St and Francis St, Strathfield

GPS	-33.87335, 151.07576
Date:	Thu 14/11/19
Weather:	Overcast
Suburban:	Strathfield
Customer:	TTPP

North:	Francis St
East:	Hydebrae St
South:	Francis St
West:	N/A

Survey Period	AM:	7:30 AM-9:30 AM
	PM:	2:30 PM-4:30 PM
Traffic Peak	AM:	7:30 AM-8:30 AM
	PM:	2:30 PM-3:30 PM

All Vehicles

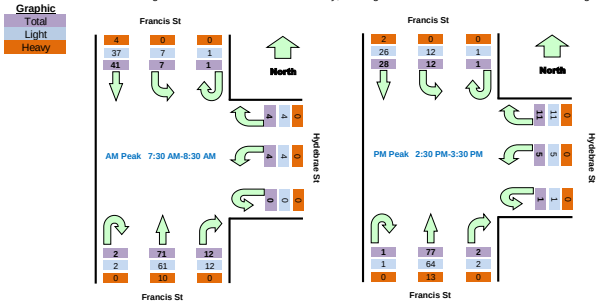
Time		North Approach Francis St			East Approach Hydebrae St			South Approach Francis St			Hourly Total	
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
7:30	7:45	0	16	0	0	2	1	0	1	12	142	Peak
7:45	8:00	1	13	1	0	0	1	1	5	20	131	
8:00	8:15	0	7	3	0	0	1	1	3	18	99	
8:15	8:30	0	5	3	0	2	1	0	3	21	74	
8:30	8:45	0	2	0	0	2	0	0	3	14	51	
8:45	9:00	0	3	0	0	0	1	0	0	6		
9:00	9:15	0	3	0	0	1	0	0	1	3		
9:15	9:30	0	6	0	0	0	0	0	0	6		
14:30	14:45	0	8	2	1	2	0	0	0	20	138	Peak
14:45	15:00	1	6	2	0	4	0	1	1	15	134	
15:00	15:15	0	10	5	0	2	3	0	1	15	120	
15:15	15:30	0	4	3	0	3	2	0	0	27	99	
15:30	15:45	0	5	1	0	1	1	0	2	19	72	
15:45	16:00	1	4	0	0	0	0	0	1	10		
16:00	16:15	0	4	1	0	1	0	0	1	8		
16:15	16:30	0	5	0	0	0	0	0	3	4		

Peak Time		North Approach Francis St			East Approach Hydebrae St			South Approach Francis St			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:30	8:30	1	41	7	0	4	4	2	12	71	142
14:30	15:30	1	28	12	1	11	5	1	2	77	138

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		North Approach Francis St			East Approach Hydebrae St			South Approach Francis St		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:30	7:45	0	16	0	0	2	1	0	1	11
7:45	8:00	1	11	1	0	0	1	1	5	19
8:00	8:15	0	6	3	0	0	1	1	3	15
8:15	8:30	0	4	3	0	2	1	0	3	16
8:30	8:45	0	2	0	0	2	0	0	3	12
8:45	9:00	0	2	0	0	0	1	0	0	3
9:00	9:15	0	3	0	0	1	0	0	1	2
9:15	9:30	0	5	0	0	0	0	0	0	6
14:30	14:45	0	8	2	1	2	0	0	0	20
14:45	15:00	1	5	2	0	4	0	1	1	11
15:00	15:15	0	9	5	0	2	3	0	1	14
15:15	15:30	0	4	3	0	3	2	0	0	19
15:30	15:45	0	4	1	0	1	1	0	2	13
15:45	16:00	1	3	0	0	0	0	0	1	7
16:00	16:15	0	3	1	0	1	0	0	1	7
16:15	16:30	0	4	0	0	0	0	0	3	4

Peak Time		North Approach Francis St			East Approach Hydebrae St			South Approach Francis St			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:30	8:30	1	37	7	0	4	4	2	12	61	128
14:30	15:30	1	26	12	1	11	5	1	2	64	123

Heavy Vehicles

Time		North Approach Francis St			East Approach Hydebrae St			South Approach Francis St		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:30	7:45	0	0	0	0	0	0	0	0	1
7:45	8:00	0	2	0	0	0	0	0	0	1
8:00	8:15	0	1	0	0	0	0	0	0	3
8:15	8:30	0	1	0	0	0	0	0	0	5
8:30	8:45	0	0	0	0	0	0	0	0	2
8:45	9:00	0	1	0	0	0	0	0	0	3
9:00	9:15	0	0	0	0	0	0	0	0	1
9:15	9:30	0	1	0	0	0	0	0	0	0
14:30	14:45	0	0	0	0	0	0	0	0	0
14:45	15:00	0	1	0	0	0	0	0	0	4
15:00	15:15	0	1	0	0	0	0	0	0	1
15:15	15:30	0	0	0	0	0	0	0	0	8
15:30	15:45	0	1	0	0	0	0	0	0	6
15:45	16:00	0	1	0	0	0	0	0	0	3
16:00	16:15	0	1	0	0	0	0	0	0	1
16:15	16:30	0	1	0	0	0	0	0	0	0

Peak Time		North Approach Francis St			East Approach Hydebrae St			South Approach Francis St			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:30	8:30	0	4	0	0	0	0	0	0	10	14
14:30	15:30	0	2	0	0	0	0	0	0	13	15

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Edgar St and Marion St, Strathfield

GPS -33.87501, 151.07242

Date:	Thu 14/11/19
Weather:	Overcast
Suburban:	Strathfield
Customer:	TTPP

North:	Marion St
East:	Edgar St
South:	Marion St
West:	N/A

Survey Period	AM:	7:30 AM-9:30 AM
	PM:	2:30 PM-4:30 PM
Traffic Peak	AM:	7:45 AM-8:45 AM
	PM:	2:45 PM-3:45 PM

All Vehicles

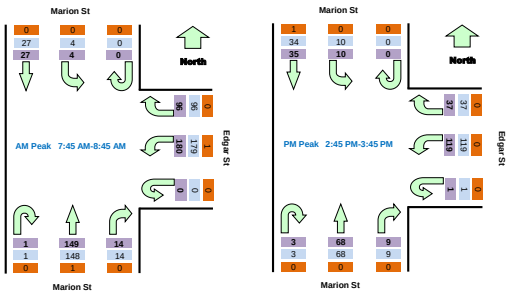
Time		North Approach Marion St			East Approach Edgar St			South Approach Marion St			Hourly Total	
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
7:30	7:45	0	4	0	0	4	7	0	3	14	360	
7:45	8:00	0	5	2	0	14	20	0	5	23	471	Peak
8:00	8:15	0	10	1	0	20	31	0	4	35	440	
8:15	8:30	0	7	0	0	40	59	1	1	50	352	
8:30	8:45	0	5	1	0	22	70	0	4	41	204	
8:45	9:00	0	7	0	0	7	7	0	2	15		
9:00	9:15	0	3	0	0	0	2	0	1	7		
9:15	9:30	0	2	0	0	0	1	0	0	7		
14:30	14:45	0	4	3	0	11	4	3	5	17	248	
14:45	15:00	0	4	4	1	3	6	1	2	15	282	Peak
15:00	15:15	0	14	1	0	9	15	1	3	12	274	
15:15	15:30	0	11	3	0	14	59	1	2	20	240	
15:30	15:45	0	6	2	0	11	39	0	2	21	148	
15:45	16:00	0	7	0	0	5	10	0	2	4		
16:00	16:15	0	5	0	0	1	5	0	0	10		
16:15	16:30	0	2	2	0	5	1	0	2	6		

Peak Time		North Approach Marion St			East Approach Edgar St			South Approach Marion St			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:45	8:45	0	27	4	0	96	180	1	14	149	471
14:45	15:45	0	35	10	1	37	119	3	9	68	282

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		North Approach Marion St			East Approach Edgar St			South Approach Marion St		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:30	7:45	0	3	0	0	4	6	0	3	14
7:45	8:00	0	5	2	0	14	20	0	5	23
8:00	8:15	0	10	1	0	20	31	0	4	34
8:15	8:30	0	7	0	0	40	58	1	1	50
8:30	8:45	0	5	1	0	22	70	0	4	41
8:45	9:00	0	7	0	0	7	7	0	2	14
9:00	9:15	0	3	0	0	0	2	0	1	6
9:15	9:30	0	2	0	0	0	1	0	0	7
14:30	14:45	0	4	3	0	11	4	3	5	16
14:45	15:00	0	4	4	1	3	6	1	2	15
15:00	15:15	0	13	1	0	9	15	1	3	12
15:15	15:30	0	11	3	0	14	59	1	2	20
15:30	15:45	0	6	2	0	11	39	0	2	21
15:45	16:00	0	7	0	0	5	10	0	2	4
16:00	16:15	0	5	0	0	1	5	0	0	10
16:15	16:30	0	2	2	0	5	1	0	2	6

Peak Time		North Approach Marion St			East Approach Edgar St			South Approach Marion St			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:45	8:45	0	27	4	0	96	179	1	14	148	469
14:45	15:45	0	34	10	1	37	119	3	9	68	281

Heavy Vehicles

Time		North Approach Marion St			East Approach Edgar St			South Approach Marion St		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:30	7:45	0	1	0	0	0	1	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0	0	1
8:15	8:30	0	0	0	0	0	1	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	1
9:00	9:15	0	0	0	0	0	0	0	0	1
9:15	9:30	0	0	0	0	0	0	0	0	0
14:30	14:45	0	0	0	0	0	0	0	0	1
14:45	15:00	0	0	0	0	0	0	0	0	0
15:00	15:15	0	1	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0

Peak Time		North Approach Marion St			East Approach Edgar St			South Approach Marion St			Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
7:45	8:45	0	0	0	0	0	1	0	0	1	2
14:45	15:45	0	1	0	0	0	0	0	0	0	1

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Merley Rd and Dickson St, Strathfield

GPS -33.8731, 151.07944

Date:	Thu 14/11/19
Weather:	Overcast
Suburban:	Strathfield
Customer:	TTPP

North:	Dickson St
East:	Merley Rd
South:	Dickson St
West:	Merley Rd

Survey Period	AM:	7:30 AM-9:30 AM
	PM:	2:30 PM-4:30 PM
Traffic Peak	AM:	7:45 AM-8:45 AM
	PM:	2:45 PM-3:45 PM

All Vehicles

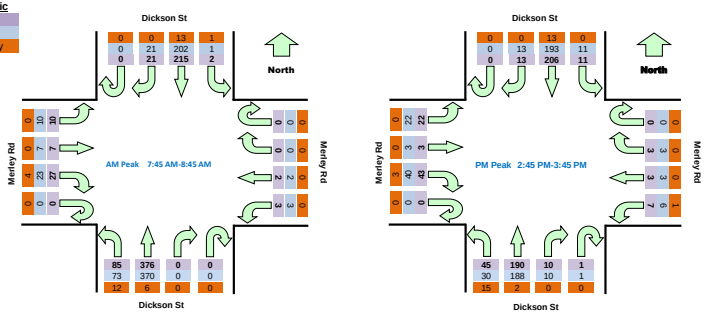
Time		North Approach Dickson St				East Approach Merley Rd				South Approach Dickson St				West Approach Merley Rd				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:30	7:45	0	5	20	1	0	0	2	2	0	2	48	20	0	6	0	2	643	
7:45	8:00	0	7	38	0	0	0	0	1	0	0	61	29	0	12	3	4	748	Peak
8:00	8:15	0	7	39	0	0	0	1	1	0	0	74	24	0	8	2	3	725	
8:15	8:30	0	3	69	1	0	0	1	1	0	0	118	21	0	5	1	1	653	
8:30	8:45	0	4	69	1	0	0	0	0	0	0	123	11	0	2	1	2	531	
8:45	9:00	0	0	44	0	0	0	0	1	0	2	73	4	0	6	1	1		
9:00	9:15	0	0	29	0	0	1	0	1	0	1	48	4	0	3	0	0		
9:15	9:30	0	0	46	1	0	0	1	1	0	0	35	7	0	6	1	1		
14:30	14:45	0	12	24	0	0	0	0	1	0	0	19	11	0	4	0	5	472	
14:45	15:00	0	4	53	0	0	1	0	1	0	0	55	7	0	2	0	4	557	Peak
15:00	15:15	0	3	60	3	0	1	0	1	0	2	35	15	0	22	0	7	514	
15:15	15:30	0	2	48	5	0	0	1	2	1	3	29	13	0	8	2	6	437	
15:30	15:45	0	4	45	3	0	1	2	3	0	5	71	10	0	11	1	5	390	
15:45	16:00	0	0	30	0	0	0	0	2	0	1	31	12	0	6	1	1		
16:00	16:15	0	3	26	0	0	0	1	1	0	1	22	11	0	6	0	1		
16:15	16:30	1	6	23	0	0	0	0	0	0	1	26	6	0	9	0	1		

Peak Time		North Approach Dickson St				East Approach Merley Rd				South Approach Dickson St				West Approach Merley Rd				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
7:45	8:45	0	21	215	2	0	0	2	3	0	0	376	85	0	27	7	10	748
14:45	15:45	0	13	206	11	0	3	3	7	1	10	190	45	0	43	3	22	557

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



Light Vehicles

Time		North Approach Dickson St				East Approach Merley Rd				South Approach Dickson St				West Approach Merley Rd			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:30	7:45	0	5	20	1	0	0	2	1	0	2	48	19	0	6	0	2
7:45	8:00	0	7	37	0	0	0	0	1	0	0	61	27	0	10	3	4
8:00	8:15	0	7	37	0	0	0	1	1	0	0	73	23	0	7	2	3
8:15	8:30	0	3	61	1	0	0	1	1	0	0	114	16	0	4	1	1
8:30	8:45	0	4	67	0	0	0	0	0	0	0	122	7	0	2	1	2
8:45	9:00	0	0	42	0	0	0	0	1	0	2	73	3	0	5	1	1
9:00	9:15	0	0	29	0	0	1	0	1	0	1	47	3	0	3	0	0
9:15	9:30	0	0	44	1	0	0	1	1	0	0	35	7	0	5	1	1
14:30	14:45	0	8	24	0	0	0	0	0	0	0	19	11	0	4	0	5
14:45	15:00	0	4	52	0	0	1	0	1	0	0	55	7	0	1	0	4
15:00	15:15	0	3	60	3	0	1	0	1	0	2	34	11	0	22	0	7
15:15	15:30	0	2	41	5	0	0	1	2	1	3	29	7	0	7	2	6
15:30	15:45	0	4	40	3	0	1	2	2	0	5	70	5	0	10	1	5
15:45	16:00	0	0	27	0	0	0	0	2	0	1	31	9	0	5	1	1
16:00	16:15	0	3	26	0	0	0	1	1	0	1	22	10	0	5	0	1
16:15	16:30	1	6	22	0	0	0	0	0	0	1	26	6	0	8	0	1

Peak Time		North Approach Dickson St				East Approach Merley Rd				South Approach Dickson St				West Approach Merley Rd				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
7:45	8:45	0	21	202	1	0	0	2	3	0	0	370	73	0	23	7	10	712
14:45	15:45	0	13	193	11	0	3	3	6	1	10	188	30	0	40	3	22	523

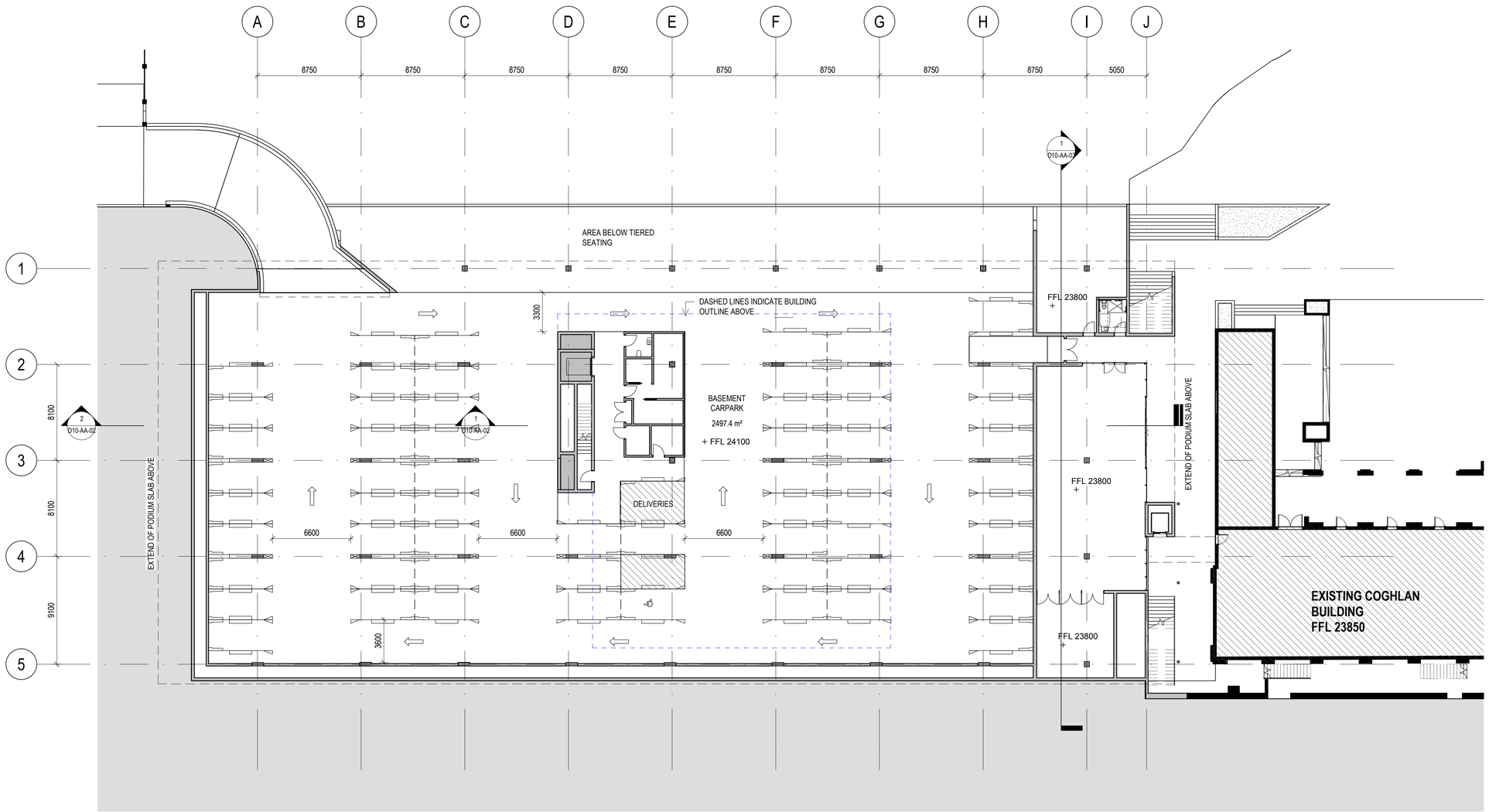
Heavy Vehicles

Time		North Approach Dickson St				East Approach Merley Rd				South Approach Dickson St				West Approach Merley Rd			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:30	7:45	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
7:45	8:00	0	0	1	0	0	0	0	0	0	0	0	2	0	2	0	0
8:00	8:15	0	0	2	0	0	0	0	0	0	0	1	1	0	1	0	0
8:15	8:30	0	0	8	0	0	0	0	0	0	0	4	5	0	1	0	0
8:30	8:45	0	0	2	1	0	0	0	0	0	0	1	4	0	0	0	0
8:45	9:00	0	0	2	0	0	0	0	0	0	0	0	1	0	1	0	0
9:00	9:15	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
9:15	9:30	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0
14:30	14:45	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0
14:45	15:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
15:00	15:15	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0
15:15	15:30	0	0	7	0	0	0	0	0	0	0	0	6	0	1	0	0
15:30	15:45	0	0	5	0	0	0	0	1	0	0	1	5	0	1	0	0
15:45	16:00	0	0	3	0	0	0	0	0	0	0	0	3	0	1	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
16:15	16:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0

Peak Time		North Approach Dickson St				East Approach Merley Rd				South Approach Dickson St				West Approach Merley Rd				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
7:45	8:45	0	0	13	1	0	0	0	0	0	0	6	12	0	4	0	0	36
14:45	15:45	0	0	13	0	0	0	0	1	0	0	2	15	0	3	0	0	34

Appendix B

Proposed Car Park Plan



BVN

NSW ARCHITECTS REGISTRATION BOARD / NOMINATED ARCHITECTS

6501 ABBIE GALVIN
9356 NIKOTSCHKA TITCHKOSKY
7115 JULIAN ASHTON
7053 MATTHEW BLAIR
7151 PHILLIP ROSSINGTON
4937 JAMES GROSE

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NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
1	10/10/19	INFORMATION
2	18/11/19	INFORMATION
3	19/12/19	FOR INFORMATION
4	12/02/2020	FOR INFORMATION

CONSULTANT
SDA STRUCTURES
TEL 02 98106911

CONSULTANT
ELECTRICAL PROJECTS AUSTRALIA
TEL 02 49675999

CONSULTANT
JHA CONSULTING ENGINEERING
TEL 02 94371000

CONSULTANT
MCCALLUM PCFA
TEL 02 49462633

PROJECT MANAGER
GEOFF WHITNALL
TEL 04 27666022

CLIENT

ST. PATRICKS COLLEGE
PROJECT

ST. PATRICKS COLLEGE
FRANCIS ST, STRATHFIELD NSW 2135

BVN PROJECT NUMBER
1811017.000

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@A1

STATUS
FOR INFORMATION

DRAWING
GA PLAN - BASEMENT OVERALL

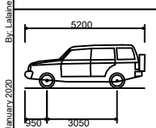
AR-B10-B1-00 | ISSUE 4

Appendix C

Swept Path Analysis of Car Park Ramp

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	LM	SB	SB	16/01/20

ttpp transport planning

PROJECT

ST PATRICKS COLLEGE, STRATHFIELD

TITLE

AS2890.1 B99 VEHICLE SWEPT PATH

DWG No. 19235CAD005
FIGURE 1

DATE STAMP 16 JANUARY 2020

PROJECT No.	SCALE	REV.
19235	1:100 @A3	A

Filename: 19235CAD05-20016-CAR PARK REVIEW.dwg Date: 16 January 2020 By: Lalaine

Appendix D

SIDRA Modelling Results

USER REPORT FOR NETWORK SITE

Project: 19235_Existing Conditions_191125

Template: Intersection Summary

Site: 101 [[AM] 1. Shortland Ave - Fraser St]

Network: 1 [AM Peak]

New Site
Site Category: Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	12	0.0	12	0.0	0.018	0.1	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
2	T1	1	0.0	1	0.0	0.018	1.5	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
3	R2	7	0.0	7	0.0	0.018	2.0	LOS A	0.1	0.5	0.09	0.04	0.09	9.9
Approach		20	0.0	20	0.0	0.018	0.9	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
East: Shortland Avenue - E														
4	L2	148	0.7	148	0.7	0.099	0.0	LOS A	0.0	0.3	0.02	0.00	0.02	10.0
5	T1	31	3.4	31	3.4	0.099	0.0	LOS A	0.0	0.3	0.02	0.00	0.02	22.6
6	R2	4	0.0	4	0.0	0.099	0.3	LOS A	0.0	0.3	0.02	0.00	0.02	22.6
Approach		183	1.1	183	1.1	0.099	0.0	NA	0.0	0.3	0.02	0.00	0.02	13.7
North: Fraser Street - N														
7	L2	16	0.0	16	0.0	0.013	7.5	LOS A	0.0	0.3	0.20	0.69	0.20	34.5
8	T1	1	0.0	1	0.0	0.013	7.5	LOS A	0.0	0.3	0.20	0.69	0.20	34.5
9	R2	1	0.0	1	0.0	0.013	5.0	LOS A	0.0	0.3	0.20	0.69	0.20	36.8
Approach		18	0.0	18	0.0	0.013	7.3	LOS A	0.0	0.3	0.20	0.69	0.20	34.8
West: Shortland Avenue - W														
10	L2	1	0.0	1	0.0	0.154	4.0	LOS A	0.8	5.4	0.29	0.60	0.29	37.5
11	T1	109	0.0	109	0.0	0.154	6.2	LOS A	0.8	5.4	0.29	0.60	0.29	35.1
12	R2	147	0.0	147	0.0	0.154	6.4	LOS A	0.8	5.4	0.29	0.60	0.29	35.1
Approach		258	0.0	258	0.0	0.154	6.3	NA	0.8	5.4	0.29	0.60	0.29	35.2
All Vehicles		479	0.4	479	0.4	0.154	3.7	NA	0.8	5.4	0.17	0.35	0.17	22.9

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

Site: 101 [[AM] 2. Shortland Ave - Francis St]

Network: 1 [AM Peak]

New Site
Site Category: Existing Conditions
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	33	0.0	33	0.0	0.105	6.7	LOS A	0.5	4.0	0.36	0.59	0.36	25.2
2	T1	26	4.0	26	4.0	0.105	3.4	LOS A	0.5	4.0	0.36	0.59	0.36	36.8
3	R2	37	28.6	37	28.6	0.105	6.9	LOS A	0.5	4.0	0.36	0.59	0.36	36.6
3u	U	5	0.0	5	0.0	0.105	7.7	LOS A	0.5	4.0	0.36	0.59	0.36	25.2
Approach		101	11.5	101	11.5	0.105	6.0	LOS A	0.5	4.0	0.36	0.59	0.36	35.1
East: Shortland Avenue - E														
4	L2	4	25.0	4	25.0	0.106	3.5	LOS A	0.5	3.9	0.28	0.71	0.28	33.7
5	T1	98	2.2	98	2.2	0.106	9.2	LOS A	0.5	3.9	0.28	0.71	0.28	33.7
6	R2	9	0.0	9	0.0	0.106	6.0	LOS A	0.5	3.9	0.28	0.71	0.28	37.0
6u	U	3	0.0	3	0.0	0.106	7.3	LOS A	0.5	3.9	0.28	0.71	0.28	37.4
Approach		115	2.8	115	2.8	0.106	8.6	LOS A	0.5	3.9	0.28	0.71	0.28	34.3
North: Francis Street - N														
7	L2	13	0.0	13	0.0	0.094	3.5	LOS A	0.5	3.3	0.35	0.72	0.35	36.6
8	T1	28	11.1	28	11.1	0.094	3.3	LOS A	0.5	3.3	0.35	0.72	0.35	33.8
9	R2	53	0.0	53	0.0	0.094	12.0	LOS A	0.5	3.3	0.35	0.72	0.35	33.8
9u	U	1	0.0	1	0.0	0.094	7.7	LOS A	0.5	3.3	0.35	0.72	0.35	37.5
Approach		95	3.3	95	3.3	0.094	8.2	LOS A	0.5	3.3	0.35	0.72	0.35	34.5
West: Shortland Avenue - W														
10	L2	18	0.0	18	0.0	0.117	0.5	LOS A	0.6	4.3	0.26	0.12	0.26	22.3
11	T1	103	0.0	103	0.0	0.117	0.5	LOS A	0.6	4.3	0.26	0.12	0.26	22.5
12	R2	12	0.0	12	0.0	0.117	0.5	LOS A	0.6	4.3	0.26	0.12	0.26	9.9
12u	U	1	0.0	1	0.0	0.117	0.5	LOS A	0.6	4.3	0.26	0.12	0.26	9.9
Approach		134	0.0	134	0.0	0.117	0.5	LOS A	0.6	4.3	0.26	0.12	0.26	21.7
All Vehicles		444	4.0	444	4.0	0.117	5.5	LOS A	0.6	4.3	0.31	0.51	0.31	28.9

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

Site: 101 [[AM] 3. Francis St - Hydebrae St]

Network: 1 [AM Peak]

New Site
Site Category: Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	96	12.1	96	12.1	0.063	0.0	LOS A	0.1	0.8	0.05	0.08	0.05	39.2
3	R2	18	0.0	18	0.0	0.063	3.7	LOS A	0.1	0.8	0.05	0.08	0.05	39.2
Approach		114	10.2	114	10.2	0.063	0.6	NA	0.1	0.8	0.05	0.08	0.05	39.2
East: Hydebrae Street - E														
4	L2	4	0.0	4	0.0	0.006	3.5	LOS A	0.0	0.2	0.12	0.46	0.12	35.2
6	R2	4	0.0	4	0.0	0.006	4.1	LOS A	0.0	0.2	0.12	0.46	0.12	35.2
Approach		8	0.0	8	0.0	0.006	3.8	LOS A	0.0	0.2	0.12	0.46	0.12	35.2
North: Francis Street - N														
7	L2	7	0.0	7	0.0	0.027	3.4	LOS A	0.0	0.0	0.00	0.07	0.00	39.8
8	T1	42	10.0	42	10.0	0.027	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	37.8
Approach		49	8.5	49	8.5	0.027	0.5	NA	0.0	0.0	0.00	0.07	0.00	38.6
All Vehicles		172	9.2	172	9.2	0.063	0.7	NA	0.1	0.8	0.04	0.10	0.04	38.9

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

Site: 101 [[AM] 4. Marion St - Edgar St]

Network: 1 [AM Peak]

New Site
Site Category: Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	157	0.7	157	0.7	0.090	0.0	LOS A	0.1	0.6	0.02	0.08	0.02	39.2
3	R2	15	0.0	15	0.0	0.090	5.8	LOS A	0.1	0.6	0.02	0.08	0.02	38.1
Approach		172	0.6	172	0.6	0.090	0.5	NA	0.1	0.6	0.02	0.08	0.02	39.2
East: Edgar St - E														
4	L2	194	0.5	194	0.5	0.217	0.1	LOS A	0.9	6.6	0.09	0.04	0.09	12.0
6	R2	103	0.0	103	0.0	0.217	0.9	LOS A	0.9	6.6	0.09	0.04	0.09	13.2
Approach		297	0.4	297	0.4	0.217	0.4	LOS A	0.9	6.6	0.09	0.04	0.09	12.5
North: Marion St - N														
7	L2	4	0.0	4	0.0	0.017	7.2	LOS A	0.0	0.0	0.00	0.14	0.00	38.0
8	T1	28	0.0	28	0.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	38.7
Approach		33	0.0	33	0.0	0.017	0.9	NA	0.0	0.0	0.00	0.14	0.00	38.7
All Vehicles		501	0.4	501	0.4	0.217	0.5	NA	0.9	6.6	0.06	0.06	0.06	15.5

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

Site: 101 [[AM] 5. Dickson St - Merley Rd]

Network: 1 [AM Peak]

New Site
Site Category: Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	89	14.1	89	14.1	0.259	3.5	LOS A	0.0	0.1	0.00	0.09	0.00	36.9
2	T1	396	1.6	396	1.6	0.259	0.0	LOS A	0.0	0.1	0.00	0.09	0.00	38.6
3	R2	1	0.0	1	0.0	0.259	4.6	LOS A	0.0	0.1	0.00	0.09	0.00	38.1
Approach		486	3.9	486	3.9	0.259	0.7	NA	0.0	0.1	0.00	0.09	0.00	38.5
East: Merley Road - E														
4	L2	3	0.0	3	0.0	0.008	4.1	LOS A	0.0	0.2	0.39	0.51	0.39	32.2
5	T1	2	0.0	2	0.0	0.008	6.3	LOS A	0.0	0.2	0.39	0.51	0.39	29.4
6	R2	1	0.0	1	0.0	0.008	7.9	LOS A	0.0	0.2	0.39	0.51	0.39	32.3
Approach		6	0.0	6	0.0	0.008	5.4	LOS A	0.0	0.2	0.39	0.51	0.39	31.4
North: Dickson Street - N														
7	L2	2	50.0	2	50.0	0.143	5.8	LOS A	0.2	1.8	0.13	0.05	0.13	38.5
8	T1	226	6.0	226	6.0	0.143	0.3	LOS A	0.2	1.8	0.13	0.05	0.13	38.0
9	R2	22	0.0	22	0.0	0.143	5.8	LOS A	0.2	1.8	0.13	0.05	0.13	36.9
Approach		251	5.9	251	5.9	0.143	0.9	NA	0.2	1.8	0.13	0.05	0.13	37.9
West: Merley Road - W														
10	L2	11	0.0	11	0.0	0.088	4.8	LOS A	0.3	2.2	0.55	0.72	0.55	34.5
11	T1	7	0.0	7	0.0	0.088	6.1	LOS A	0.3	2.2	0.55	0.72	0.55	34.9
12	R2	28	14.8	28	14.8	0.088	9.8	LOS A	0.3	2.2	0.55	0.72	0.55	33.3
Approach		46	9.1	46	9.1	0.088	8.1	LOS A	0.3	2.2	0.55	0.72	0.55	33.9
All Vehicles		789	4.8	789	4.8	0.259	1.2	NA	0.3	2.2	0.08	0.12	0.08	37.4

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

USER REPORT FOR NETWORK SITE

Project: 19235_Existing Conditions_191125

Template: Intersection Summary

Site: 101 [[PM] 1. Shortland Ave - Fraser St]

Network: 2 [PM Peak]

Site Category: Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	8	0.0	8	0.0	0.023	0.1	LOS A	0.1	0.6	0.17	0.08	0.17	17.4
2	T1	1	0.0	1	0.0	0.023	0.8	LOS A	0.1	0.6	0.17	0.08	0.17	17.3
3	R2	15	0.0	15	0.0	0.023	1.2	LOS A	0.1	0.6	0.17	0.08	0.17	9.9
Approach		24	0.0	24	0.0	0.023	0.8	LOS A	0.1	0.6	0.17	0.08	0.17	13.4
East: Shortland Avenue - E														
4	L2	71	0.0	71	0.0	0.071	0.0	LOS A	0.1	0.4	0.02	0.00	0.02	10.0
5	T1	51	0.0	51	0.0	0.071	0.0	LOS A	0.1	0.4	0.02	0.00	0.02	22.7
6	R2	7	0.0	7	0.0	0.071	0.1	LOS A	0.1	0.4	0.02	0.00	0.02	22.7
Approach		128	0.0	128	0.0	0.071	0.0	NA	0.1	0.4	0.02	0.00	0.02	17.6
North: Fraser Street - N														
7	L2	36	0.0	36	0.0	0.031	7.3	LOS A	0.1	0.8	0.09	0.71	0.09	34.8
8	T1	4	0.0	4	0.0	0.031	6.6	LOS A	0.1	0.8	0.09	0.71	0.09	34.8
9	R2	4	0.0	4	0.0	0.031	4.4	LOS A	0.1	0.8	0.09	0.71	0.09	37.0
Approach		44	0.0	44	0.0	0.031	6.9	LOS A	0.1	0.8	0.09	0.71	0.09	35.1
West: Shortland Avenue - W														
10	L2	3	0.0	3	0.0	0.076	3.8	LOS A	0.4	2.5	0.23	0.62	0.23	37.6
11	T1	36	0.0	36	0.0	0.076	6.0	LOS A	0.4	2.5	0.23	0.62	0.23	35.3
12	R2	89	0.0	89	0.0	0.076	6.0	LOS A	0.4	2.5	0.23	0.62	0.23	35.3
Approach		128	0.0	128	0.0	0.076	5.9	NA	0.4	2.5	0.23	0.62	0.23	35.4
All Vehicles		325	0.0	325	0.0	0.076	3.4	NA	0.4	2.5	0.12	0.35	0.12	24.0

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

Site: 101 [[PM] 2. Shortland Ave - Francis St]

Network: 2 [PM Peak]

New Site
Site Category: Existing Conditions
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	15	0.0	15	0.0	0.096	6.4	LOS A	0.5	3.9	0.33	0.54	0.33	26.0
2	T1	33	22.6	33	22.6	0.096	3.4	LOS A	0.5	3.9	0.33	0.54	0.33	37.0
3	R2	40	31.6	40	31.6	0.096	6.7	LOS A	0.5	3.9	0.33	0.54	0.33	36.9
3u	U	3	0.0	3	0.0	0.096	7.5	LOS A	0.5	3.9	0.33	0.54	0.33	26.0
Approach		91	22.1	91	22.1	0.096	5.5	LOS A	0.5	3.9	0.33	0.54	0.33	36.3
East: Shortland Avenue - E														
4	L2	21	0.0	21	0.0	0.107	3.0	LOS A	0.5	3.8	0.24	0.70	0.24	34.3
5	T1	84	0.0	84	0.0	0.107	9.0	LOS A	0.5	3.8	0.24	0.70	0.24	34.3
6	R2	12	9.1	12	9.1	0.107	6.0	LOS A	0.5	3.8	0.24	0.70	0.24	37.3
6u	U	5	0.0	5	0.0	0.107	7.2	LOS A	0.5	3.8	0.24	0.70	0.24	37.8
Approach		122	0.9	122	0.9	0.107	7.6	LOS A	0.5	3.8	0.24	0.70	0.24	35.0
North: Francis Street - N														
7	L2	11	0.0	11	0.0	0.062	3.2	LOS A	0.3	2.2	0.30	0.67	0.30	37.0
8	T1	24	13.0	24	13.0	0.062	3.1	LOS A	0.3	2.2	0.30	0.67	0.30	34.5
9	R2	28	0.0	28	0.0	0.062	11.7	LOS A	0.3	2.2	0.30	0.67	0.30	34.5
9u	U	1	0.0	1	0.0	0.062	7.5	LOS A	0.3	2.2	0.30	0.67	0.30	37.9
Approach		64	4.9	64	4.9	0.062	7.0	LOS A	0.3	2.2	0.30	0.67	0.30	35.3
West: Shortland Avenue - W														
10	L2	20	0.0	20	0.0	0.089	1.0	LOS A	0.6	4.1	0.36	0.17	0.36	22.2
11	T1	54	0.0	54	0.0	0.089	1.0	LOS A	0.6	4.1	0.36	0.17	0.36	22.4
12	R2	19	0.0	19	0.0	0.089	1.0	LOS A	0.6	4.1	0.36	0.17	0.36	9.8
12u	U	1	0.0	1	0.0	0.089	1.0	LOS A	0.6	4.1	0.36	0.17	0.36	9.8
Approach		94	0.0	94	0.0	0.089	1.0	LOS A	0.6	4.1	0.36	0.17	0.36	20.6
All Vehicles		371	6.5	371	6.5	0.107	5.3	LOS A	0.6	4.1	0.30	0.52	0.30	30.0

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

Site: 101 [[PM] 3. Francis St - Hydebrae St]

Network: 2 [PM Peak]

New Site
Site Category: Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	80	25.0	80	25.0	0.050	0.0	LOS A	0.0	0.2	0.02	0.03	0.02	39.7
3	R2	4	0.0	4	0.0	0.050	3.8	LOS A	0.0	0.2	0.02	0.03	0.02	39.5
Approach		84	23.8	84	23.8	0.050	0.2	NA	0.0	0.2	0.02	0.03	0.02	39.7
East: Hydebrae Street - E														
4	L2	14	0.0	14	0.0	0.018	3.6	LOS A	0.1	0.5	0.14	0.46	0.14	35.1
6	R2	11	0.0	11	0.0	0.018	4.1	LOS A	0.1	0.5	0.14	0.46	0.14	35.1
Approach		24	0.0	24	0.0	0.018	3.8	LOS A	0.1	0.5	0.14	0.46	0.14	35.1
North: Francis Street - N														
7	L2	12	0.0	12	0.0	0.037	3.4	LOS A	0.0	0.0	0.00	0.08	0.00	39.7
8	T1	58	5.5	58	5.5	0.037	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	37.6
Approach		69	4.5	69	4.5	0.037	0.6	NA	0.0	0.0	0.00	0.08	0.00	38.5
All Vehicles		178	13.0	178	13.0	0.050	0.8	NA	0.1	0.5	0.03	0.11	0.03	38.7

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

Site: 101 [[PM] 4. Marion St - Edgar St]

Network: 2 [PM Peak]

New Site
Site Category: Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	72	0.0	72	0.0	0.042	0.0	LOS A	0.1	0.4	0.03	0.10	0.03	38.9
3	R2	9	0.0	9	0.0	0.042	5.8	LOS A	0.1	0.4	0.03	0.10	0.03	37.4
Approach		81	0.0	81	0.0	0.042	0.7	NA	0.1	0.4	0.03	0.10	0.03	38.8
East: Edgar St - E														
4	L2	125	0.0	125	0.0	0.113	0.1	LOS A	0.5	3.2	0.11	0.04	0.11	12.0
6	R2	39	0.0	39	0.0	0.113	0.5	LOS A	0.5	3.2	0.11	0.04	0.11	13.2
Approach		164	0.0	164	0.0	0.113	0.2	LOS A	0.5	3.2	0.11	0.04	0.11	12.3
North: Marion St - N														
7	L2	11	0.0	11	0.0	0.025	7.2	LOS A	0.0	0.0	0.00	0.24	0.00	36.7
8	T1	37	2.9	37	2.9	0.025	0.0	LOS A	0.0	0.0	0.00	0.24	0.00	37.8
Approach		47	2.2	47	2.2	0.025	1.6	NA	0.0	0.0	0.00	0.24	0.00	37.6
All Vehicles		293	0.4	293	0.4	0.113	0.6	NA	0.5	3.2	0.07	0.09	0.07	15.6

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

Site: 101 [[PM] 5. Dickson St - Merley Rd]

Network: 2 [PM Peak]

New Site
Site Category: Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	62	25.4	62	25.4	0.150	3.7	LOS A	0.1	0.8	0.04	0.12	0.04	35.2
2	T1	200	1.1	200	1.1	0.150	0.1	LOS A	0.1	0.8	0.04	0.12	0.04	37.8
3	R2	11	0.0	11	0.0	0.150	4.4	LOS A	0.1	0.8	0.04	0.12	0.04	37.5
Approach		273	6.6	273	6.6	0.150	1.1	NA	0.1	0.8	0.04	0.12	0.04	37.5
East: Merley Road - E														
4	L2	7	14.3	7	14.3	0.016	4.2	LOS A	0.1	0.4	0.36	0.51	0.36	32.5
5	T1	4	0.0	4	0.0	0.016	4.5	LOS A	0.1	0.4	0.36	0.51	0.36	30.5
6	R2	3	0.0	3	0.0	0.016	6.2	LOS A	0.1	0.4	0.36	0.51	0.36	33.1
Approach		15	7.1	15	7.1	0.016	4.7	LOS A	0.1	0.4	0.36	0.51	0.36	32.2
North: Dickson Street - N														
7	L2	12	0.0	12	0.0	0.135	4.1	LOS A	0.2	1.3	0.08	0.06	0.08	39.3
8	T1	217	6.3	217	6.3	0.135	0.1	LOS A	0.2	1.3	0.08	0.06	0.08	38.2
9	R2	18	0.0	18	0.0	0.135	4.5	LOS A	0.2	1.3	0.08	0.06	0.08	37.3
Approach		246	5.6	246	5.6	0.135	0.6	NA	0.2	1.3	0.08	0.06	0.08	38.3
West: Merley Road - W														
10	L2	23	0.0	23	0.0	0.094	4.0	LOS A	0.3	2.4	0.40	0.60	0.40	35.9
11	T1	3	0.0	3	0.0	0.094	4.5	LOS A	0.3	2.4	0.40	0.60	0.40	36.2
12	R2	45	7.0	45	7.0	0.094	6.9	LOS A	0.3	2.4	0.40	0.60	0.40	34.9
Approach		72	4.4	72	4.4	0.094	5.9	LOS A	0.3	2.4	0.40	0.60	0.40	35.3
All Vehicles		605	5.9	605	5.9	0.150	1.5	NA	0.3	2.4	0.11	0.16	0.11	36.9

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

USER REPORT FOR NETWORK SITE

Project: 19235_Future Base 2028-2038_200226

Template: Intersection Summary

Site: 101 [[AM] 1. Shortland Ave - Fraser St]

Network: 1 [AM Peak FB 2028]

New Site
Site Category: Future Base 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	13	0.0	13	0.0	0.021	0.1	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
2	T1	1	0.0	1	0.0	0.021	1.7	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
3	R2	8	0.0	8	0.0	0.021	2.2	LOS A	0.1	0.5	0.09	0.04	0.09	9.9
Approach		22	0.0	22	0.0	0.021	1.0	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
East: Shortland Avenue - E														
4	L2	160	0.7	160	0.7	0.106	0.0	LOS A	0.0	0.3	0.02	0.00	0.02	10.0
5	T1	33	3.2	33	3.2	0.106	0.0	LOS A	0.0	0.3	0.02	0.00	0.02	22.6
6	R2	4	0.0	4	0.0	0.106	0.4	LOS A	0.0	0.3	0.02	0.00	0.02	22.6
Approach		197	1.1	197	1.1	0.106	0.0	NA	0.0	0.3	0.02	0.00	0.02	13.7
North: Fraser Street - N														
7	L2	17	0.0	17	0.0	0.014	7.5	LOS A	0.1	0.4	0.20	0.69	0.20	34.5
8	T1	1	0.0	1	0.0	0.014	7.7	LOS A	0.1	0.4	0.20	0.69	0.20	34.5
9	R2	1	0.0	1	0.0	0.014	5.2	LOS A	0.1	0.4	0.20	0.69	0.20	36.8
Approach		19	0.0	19	0.0	0.014	7.4	LOS A	0.1	0.4	0.20	0.69	0.20	34.7
West: Shortland Avenue - W														
10	L2	1	0.0	1	0.0	0.168	4.1	LOS A	0.8	5.9	0.31	0.60	0.31	37.5
11	T1	118	0.0	118	0.0	0.168	6.2	LOS A	0.8	5.9	0.31	0.60	0.31	35.1
12	R2	159	0.0	159	0.0	0.168	6.4	LOS A	0.8	5.9	0.31	0.60	0.31	35.1
Approach		278	0.0	278	0.0	0.168	6.3	NA	0.8	5.9	0.31	0.60	0.31	35.1
All Vehicles		516	0.4	516	0.4	0.168	3.7	NA	0.8	5.9	0.18	0.35	0.18	22.8

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

Site: 101 [[AM] 2. Shortland Ave - Francis St]

Network: 1 [AM Peak FB 2028]

New Site
Site Category: Future Base 2028
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	35	0.0	35	0.0	0.113	6.7	LOS A	0.6	4.3	0.38	0.60	0.38	25.1
2	T1	28	3.7	28	3.7	0.113	3.5	LOS A	0.6	4.3	0.38	0.60	0.38	36.7
3	R2	40	26.3	40	26.3	0.113	7.0	LOS A	0.6	4.3	0.38	0.60	0.38	36.6
3u	U	5	0.0	5	0.0	0.113	7.8	LOS A	0.6	4.3	0.38	0.60	0.38	25.1
Approach		108	10.7	108	10.7	0.113	6.1	LOS A	0.6	4.3	0.38	0.60	0.38	35.1
East: Shortland Avenue - E														
4	L2	4	25.0	4	25.0	0.115	3.5	LOS A	0.6	4.3	0.30	0.71	0.30	33.6
5	T1	105	2.0	105	2.0	0.115	9.2	LOS A	0.6	4.3	0.30	0.71	0.30	33.6
6	R2	11	0.0	11	0.0	0.115	6.1	LOS A	0.6	4.3	0.30	0.71	0.30	37.0
6u	U	3	0.0	3	0.0	0.115	7.4	LOS A	0.6	4.3	0.30	0.71	0.30	37.4
Approach		123	2.6	123	2.6	0.115	8.7	LOS A	0.6	4.3	0.30	0.71	0.30	34.3
North: Francis Street - N														
7	L2	14	0.0	14	0.0	0.102	3.5	LOS A	0.5	3.7	0.37	0.73	0.37	36.6
8	T1	31	10.3	31	10.3	0.102	3.4	LOS A	0.5	3.7	0.37	0.73	0.37	33.8
9	R2	57	0.0	57	0.0	0.102	12.0	LOS A	0.5	3.7	0.37	0.73	0.37	33.8
9u	U	1	0.0	1	0.0	0.102	7.8	LOS A	0.5	3.7	0.37	0.73	0.37	37.5
Approach		102	3.1	102	3.1	0.102	8.3	LOS A	0.5	3.7	0.37	0.73	0.37	34.5
West: Shortland Avenue - W														
10	L2	19	0.0	19	0.0	0.126	0.6	LOS A	0.7	4.7	0.27	0.13	0.27	22.3
11	T1	111	0.0	111	0.0	0.126	0.6	LOS A	0.7	4.7	0.27	0.13	0.27	22.5
12	R2	13	0.0	13	0.0	0.126	0.6	LOS A	0.7	4.7	0.27	0.13	0.27	9.9
12u	U	1	0.0	1	0.0	0.126	0.6	LOS A	0.7	4.7	0.27	0.13	0.27	9.9
Approach		143	0.0	143	0.0	0.126	0.6	LOS A	0.7	4.7	0.27	0.13	0.27	21.7
All Vehicles		477	3.8	477	3.8	0.126	5.6	LOS A	0.7	4.7	0.32	0.51	0.32	28.9

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

Site: 101 [[AM] 3. Francis St - Hydebrae St]

Network: 1 [AM Peak FB 2028]

New Site
Site Category: Future Base 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	103	11.2	103	11.2	0.068	0.0	LOS A	0.1	0.8	0.05	0.08	0.05	39.2
3	R2	19	0.0	19	0.0	0.068	3.8	LOS A	0.1	0.8	0.05	0.08	0.05	39.2
Approach		122	9.5	122	9.5	0.068	0.6	NA	0.1	0.8	0.05	0.08	0.05	39.2
East: Hydebrae Street - E														
4	L2	4	0.0	4	0.0	0.006	3.5	LOS A	0.0	0.2	0.13	0.46	0.13	35.2
6	R2	4	0.0	4	0.0	0.006	4.2	LOS A	0.0	0.2	0.13	0.46	0.13	35.2
Approach		8	0.0	8	0.0	0.006	3.9	LOS A	0.0	0.2	0.13	0.46	0.13	35.2
North: Francis Street - N														
7	L2	8	0.0	8	0.0	0.029	3.4	LOS A	0.0	0.0	0.00	0.07	0.00	39.7
8	T1	45	9.3	45	9.3	0.029	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	37.7
Approach		54	7.8	54	7.8	0.029	0.5	NA	0.0	0.0	0.00	0.07	0.00	38.5
All Vehicles		184	8.6	184	8.6	0.068	0.7	NA	0.1	0.8	0.04	0.09	0.04	38.9

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

Site: 101 [[AM] 4. Marion St - Edgar St]

Network: 1 [AM Peak FB 2028]

New Site
Site Category: Future Base 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	168	0.6	168	0.6	0.096	0.0	LOS A	0.1	0.7	0.02	0.08	0.02	39.2
3	R2	16	0.0	16	0.0	0.096	5.8	LOS A	0.1	0.7	0.02	0.08	0.02	38.1
Approach		184	0.6	184	0.6	0.096	0.5	NA	0.1	0.7	0.02	0.08	0.02	39.2
East: Edgar St - E														
4	L2	208	0.5	208	0.5	0.235	0.1	LOS A	1.0	7.2	0.10	0.04	0.10	12.0
6	R2	111	0.0	111	0.0	0.235	1.0	LOS A	1.0	7.2	0.10	0.04	0.10	13.2
Approach		319	0.3	319	0.3	0.235	0.4	LOS A	1.0	7.2	0.10	0.04	0.10	12.5
North: Marion St - N														
7	L2	4	0.0	4	0.0	0.018	7.2	LOS A	0.0	0.0	0.00	0.13	0.00	38.2
8	T1	31	0.0	31	0.0	0.018	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	38.8
Approach		35	0.0	35	0.0	0.018	0.9	NA	0.0	0.0	0.00	0.13	0.00	38.8
All Vehicles		538	0.4	538	0.4	0.235	0.5	NA	1.0	7.2	0.07	0.06	0.07	15.5

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

Site: 101 [[AM] 5. Dickson St - Merley Rd]

Network: 1 [AM Peak FB 2028]

New Site
Site Category: Future Base 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	96	13.2	96	13.2	0.278	3.5	LOS A	0.0	0.1	0.00	0.09	0.00	36.9
2	T1	426	1.5	426	1.5	0.278	0.0	LOS A	0.0	0.1	0.00	0.09	0.00	38.6
3	R2	1	0.0	1	0.0	0.278	4.7	LOS A	0.0	0.1	0.00	0.09	0.00	38.1
Approach		523	3.6	523	3.6	0.278	0.7	NA	0.0	0.1	0.00	0.09	0.00	38.5
East: Merley Road - E														
4	L2	3	0.0	3	0.0	0.009	4.1	LOS A	0.0	0.2	0.42	0.52	0.42	31.8
5	T1	2	0.0	2	0.0	0.009	6.8	LOS A	0.0	0.2	0.42	0.52	0.42	29.0
6	R2	1	0.0	1	0.0	0.009	8.4	LOS A	0.0	0.2	0.42	0.52	0.42	31.9
Approach		6	0.0	6	0.0	0.009	5.8	LOS A	0.0	0.2	0.42	0.52	0.42	31.0
North: Dickson Street - N														
7	L2	2	50.0	2	50.0	0.154	6.1	LOS A	0.3	2.1	0.14	0.05	0.14	38.4
8	T1	243	5.6	243	5.6	0.154	0.4	LOS A	0.3	2.1	0.14	0.05	0.14	37.8
9	R2	24	0.0	24	0.0	0.154	6.0	LOS A	0.3	2.1	0.14	0.05	0.14	36.6
Approach		269	5.5	269	5.5	0.154	0.9	NA	0.3	2.1	0.14	0.05	0.14	37.7
West: Merley Road - W														
10	L2	12	0.0	12	0.0	0.102	5.0	LOS A	0.3	2.5	0.58	0.74	0.58	34.2
11	T1	8	0.0	8	0.0	0.102	6.7	LOS A	0.3	2.5	0.58	0.74	0.58	34.6
12	R2	31	13.8	31	13.8	0.102	10.6	LOS A	0.3	2.5	0.58	0.74	0.58	33.0
Approach		51	8.3	51	8.3	0.102	8.7	LOS A	0.3	2.5	0.58	0.74	0.58	33.5
All Vehicles		849	4.5	849	4.5	0.278	1.3	NA	0.3	2.5	0.08	0.12	0.08	37.3

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

USER REPORT FOR NETWORK SITE

Project: 19235_Future Base 2028-2038_200226

Template: Intersection Summary

Site: 101 [[PM] 1. Shortland Ave - Fraser St]

Network: 2 [PM Peak FB 2028]

Site Category: Future Base 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	9	0.0	9	0.0	0.026	0.1	LOS A	0.1	0.6	0.17	0.09	0.17	17.4
2	T1	1	0.0	1	0.0	0.026	0.9	LOS A	0.1	0.6	0.17	0.09	0.17	17.3
3	R2	16	0.0	16	0.0	0.026	1.3	LOS A	0.1	0.6	0.17	0.09	0.17	9.9
Approach		26	0.0	26	0.0	0.026	0.9	LOS A	0.1	0.6	0.17	0.09	0.17	13.4
East: Shortland Avenue - E														
4	L2	76	0.0	76	0.0	0.077	0.0	LOS A	0.1	0.5	0.02	0.00	0.02	10.0
5	T1	55	0.0	55	0.0	0.077	0.0	LOS A	0.1	0.5	0.02	0.00	0.02	22.7
6	R2	8	0.0	8	0.0	0.077	0.1	LOS A	0.1	0.5	0.02	0.00	0.02	22.7
Approach		139	0.0	139	0.0	0.077	0.0	NA	0.1	0.5	0.02	0.00	0.02	17.6
North: Fraser Street - N														
7	L2	39	0.0	39	0.0	0.033	7.3	LOS A	0.1	0.9	0.10	0.71	0.10	34.7
8	T1	4	0.0	4	0.0	0.033	6.7	LOS A	0.1	0.9	0.10	0.71	0.10	34.7
9	R2	4	0.0	4	0.0	0.033	4.5	LOS A	0.1	0.9	0.10	0.71	0.10	37.0
Approach		47	0.0	47	0.0	0.033	7.0	LOS A	0.1	0.9	0.10	0.71	0.10	35.1
West: Shortland Avenue - W														
10	L2	3	0.0	3	0.0	0.082	3.8	LOS A	0.4	2.7	0.24	0.62	0.24	37.6
11	T1	39	0.0	39	0.0	0.082	6.0	LOS A	0.4	2.7	0.24	0.62	0.24	35.3
12	R2	96	0.0	96	0.0	0.082	6.0	LOS A	0.4	2.7	0.24	0.62	0.24	35.3
Approach		138	0.0	138	0.0	0.082	6.0	NA	0.4	2.7	0.24	0.62	0.24	35.4
All Vehicles		351	0.0	351	0.0	0.082	3.4	NA	0.4	2.7	0.13	0.35	0.13	24.0

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

Site: 101 [[PM] 2. Shortland Ave - Francis St]

Network: 2 [PM Peak FB 2028]

New Site
Site Category: Future Base 2028
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	16	0.0	16	0.0	0.103	6.5	LOS A	0.5	4.2	0.34	0.55	0.34	25.9
2	T1	35	21.2	35	21.2	0.103	3.5	LOS A	0.5	4.2	0.34	0.55	0.34	37.0
3	R2	43	29.3	43	29.3	0.103	6.7	LOS A	0.5	4.2	0.34	0.55	0.34	36.9
3u	U	3	0.0	3	0.0	0.103	7.6	LOS A	0.5	4.2	0.34	0.55	0.34	25.9
Approach		97	20.7	97	20.7	0.103	5.6	LOS A	0.5	4.2	0.34	0.55	0.34	36.2
East: Shortland Avenue - E														
4	L2	23	0.0	23	0.0	0.116	3.1	LOS A	0.6	4.2	0.25	0.70	0.25	34.3
5	T1	91	0.0	91	0.0	0.116	9.0	LOS A	0.6	4.2	0.25	0.70	0.25	34.3
6	R2	13	8.3	13	8.3	0.116	6.0	LOS A	0.6	4.2	0.25	0.70	0.25	37.3
6u	U	5	0.0	5	0.0	0.116	7.2	LOS A	0.6	4.2	0.25	0.70	0.25	37.8
Approach		132	0.8	132	0.8	0.116	7.6	LOS A	0.6	4.2	0.25	0.70	0.25	35.0
North: Francis Street - N														
7	L2	12	0.0	12	0.0	0.067	3.3	LOS A	0.3	2.4	0.32	0.67	0.32	37.0
8	T1	26	12.0	26	12.0	0.067	3.1	LOS A	0.3	2.4	0.32	0.67	0.32	34.5
9	R2	31	0.0	31	0.0	0.067	11.7	LOS A	0.3	2.4	0.32	0.67	0.32	34.5
9u	U	1	0.0	1	0.0	0.067	7.5	LOS A	0.3	2.4	0.32	0.67	0.32	37.9
Approach		69	4.5	69	4.5	0.067	7.0	LOS A	0.3	2.4	0.32	0.67	0.32	35.3
West: Shortland Avenue - W														
10	L2	21	0.0	21	0.0	0.095	1.1	LOS A	0.6	4.4	0.38	0.19	0.38	22.2
11	T1	58	0.0	58	0.0	0.095	1.1	LOS A	0.6	4.4	0.38	0.19	0.38	22.4
12	R2	20	0.0	20	0.0	0.095	1.1	LOS A	0.6	4.4	0.38	0.19	0.38	9.8
12u	U	1	0.0	1	0.0	0.095	1.1	LOS A	0.6	4.4	0.38	0.19	0.38	9.8
Approach		100	0.0	100	0.0	0.095	1.1	LOS A	0.6	4.4	0.38	0.19	0.38	20.7
All Vehicles		398	6.1	398	6.1	0.116	5.4	LOS A	0.6	4.4	0.32	0.53	0.32	30.1

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

Site: 101 [[PM] 3. Francis St - Hydebrae St]

Network: 2 [PM Peak FB 2028]

New Site
Site Category: Future Base 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	86	23.2	86	23.2	0.053	0.0	LOS A	0.0	0.2	0.02	0.02	0.02	39.7
3	R2	4	0.0	4	0.0	0.053	3.8	LOS A	0.0	0.2	0.02	0.02	0.02	39.5
Approach		91	22.1	91	22.1	0.053	0.2	NA	0.0	0.2	0.02	0.02	0.02	39.7
East: Hydebrae Street - E														
4	L2	15	0.0	15	0.0	0.020	3.6	LOS A	0.1	0.5	0.15	0.46	0.15	35.1
6	R2	12	0.0	12	0.0	0.020	4.2	LOS A	0.1	0.5	0.15	0.46	0.15	35.1
Approach		26	0.0	26	0.0	0.020	3.8	LOS A	0.1	0.5	0.15	0.46	0.15	35.1
North: Francis Street - N														
7	L2	13	0.0	13	0.0	0.040	3.4	LOS A	0.0	0.0	0.00	0.08	0.00	39.7
8	T1	62	5.1	62	5.1	0.040	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	37.6
Approach		75	4.2	75	4.2	0.040	0.6	NA	0.0	0.0	0.00	0.08	0.00	38.5
All Vehicles		192	12.1	192	12.1	0.053	0.8	NA	0.1	0.5	0.03	0.11	0.03	38.7

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

Site: 101 [[PM] 4. Marion St - Edgar St]

Network: 2 [PM Peak FB 2028]

New Site
Site Category: Future Base 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	77	0.0	77	0.0	0.046	0.0	LOS A	0.1	0.4	0.04	0.11	0.04	38.9
3	R2	11	0.0	11	0.0	0.046	5.8	LOS A	0.1	0.4	0.04	0.11	0.04	37.3
Approach		87	0.0	87	0.0	0.046	0.7	NA	0.1	0.4	0.04	0.11	0.04	38.8
East: Edgar St - E														
4	L2	135	0.0	135	0.0	0.122	0.1	LOS A	0.5	3.5	0.12	0.04	0.12	12.0
6	R2	42	0.0	42	0.0	0.122	0.5	LOS A	0.5	3.5	0.12	0.04	0.12	13.2
Approach		177	0.0	177	0.0	0.122	0.2	LOS A	0.5	3.5	0.12	0.04	0.12	12.3
North: Marion St - N														
7	L2	12	0.0	12	0.0	0.027	7.2	LOS A	0.0	0.0	0.00	0.24	0.00	36.7
8	T1	40	2.6	40	2.6	0.027	0.0	LOS A	0.0	0.0	0.00	0.24	0.00	37.8
Approach		52	2.0	52	2.0	0.027	1.6	NA	0.0	0.0	0.00	0.24	0.00	37.6
All Vehicles		316	0.3	316	0.3	0.122	0.6	NA	0.5	3.5	0.08	0.09	0.08	15.6

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

Site: 101 [[PM] 5. Dickson St - Merley Rd]

Network: 2 [PM Peak FB 2028]

New Site
Site Category: Future Base 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	66	23.8	66	23.8	0.161	3.7	LOS A	0.1	0.9	0.05	0.12	0.05	35.1
2	T1	215	1.0	215	1.0	0.161	0.1	LOS A	0.1	0.9	0.05	0.12	0.05	37.8
3	R2	12	0.0	12	0.0	0.161	4.5	LOS A	0.1	0.9	0.05	0.12	0.05	37.4
Approach		293	6.1	293	6.1	0.161	1.1	NA	0.1	0.9	0.05	0.12	0.05	37.4
East: Merley Road - E														
4	L2	8	12.5	8	12.5	0.017	4.3	LOS A	0.1	0.5	0.37	0.51	0.37	32.5
5	T1	4	0.0	4	0.0	0.017	4.7	LOS A	0.1	0.5	0.37	0.51	0.37	30.4
6	R2	3	0.0	3	0.0	0.017	6.5	LOS A	0.1	0.5	0.37	0.51	0.37	33.0
Approach		16	6.7	16	6.7	0.017	4.9	LOS A	0.1	0.5	0.37	0.51	0.37	32.1
North: Dickson Street - N														
7	L2	13	0.0	13	0.0	0.145	4.2	LOS A	0.2	1.4	0.08	0.06	0.08	39.3
8	T1	234	5.9	234	5.9	0.145	0.1	LOS A	0.2	1.4	0.08	0.06	0.08	38.2
9	R2	19	0.0	19	0.0	0.145	4.6	LOS A	0.2	1.4	0.08	0.06	0.08	37.3
Approach		265	5.2	265	5.2	0.145	0.6	NA	0.2	1.4	0.08	0.06	0.08	38.2
West: Merley Road - W														
10	L2	25	0.0	25	0.0	0.104	4.1	LOS A	0.4	2.6	0.42	0.62	0.42	35.8
11	T1	3	0.0	3	0.0	0.104	4.8	LOS A	0.4	2.6	0.42	0.62	0.42	36.0
12	R2	48	6.5	48	6.5	0.104	7.2	LOS A	0.4	2.6	0.42	0.62	0.42	34.8
Approach		77	4.1	77	4.1	0.104	6.1	LOS A	0.4	2.6	0.42	0.62	0.42	35.2
All Vehicles		651	5.5	651	5.5	0.161	1.6	NA	0.4	2.6	0.11	0.16	0.11	36.9

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

USER REPORT FOR NETWORK SITE

Project: 19235_Future Base 2028-2038_200226

Template: Intersection Summary

Site: 101 [[AM] 1. Shortland Ave - Fraser St]

Network: 5 [AM Peak FB 2038]

New Site
Site Category: Future Base 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	14	0.0	14	0.0	0.022	0.1	LOS A	0.1	0.5	0.10	0.04	0.10	10.0
2	T1	1	0.0	1	0.0	0.022	1.9	LOS A	0.1	0.5	0.10	0.04	0.10	10.0
3	R2	8	0.0	8	0.0	0.022	2.5	LOS A	0.1	0.5	0.10	0.04	0.10	9.9
Approach		23	0.0	23	0.0	0.022	1.0	LOS A	0.1	0.5	0.10	0.04	0.10	10.0
East: Shortland Avenue - E														
4	L2	173	0.6	173	0.6	0.115	0.0	LOS A	0.0	0.3	0.02	0.00	0.02	10.0
5	T1	36	2.9	36	2.9	0.115	0.0	LOS A	0.0	0.3	0.02	0.00	0.02	22.6
6	R2	4	0.0	4	0.0	0.115	0.4	LOS A	0.0	0.3	0.02	0.00	0.02	22.6
Approach		213	1.0	213	1.0	0.115	0.0	NA	0.0	0.3	0.02	0.00	0.02	13.7
North: Fraser Street - N														
7	L2	18	0.0	18	0.0	0.015	7.5	LOS A	0.1	0.4	0.21	0.69	0.21	34.5
8	T1	1	0.0	1	0.0	0.015	8.0	LOS A	0.1	0.4	0.21	0.69	0.21	34.5
9	R2	1	0.0	1	0.0	0.015	5.4	LOS A	0.1	0.4	0.21	0.69	0.21	36.8
Approach		20	0.0	20	0.0	0.015	7.4	LOS A	0.1	0.4	0.21	0.69	0.21	34.7
West: Shortland Avenue - W														
10	L2	1	0.0	1	0.0	0.183	4.2	LOS A	0.9	6.5	0.32	0.59	0.32	37.5
11	T1	127	0.0	127	0.0	0.183	6.3	LOS A	0.9	6.5	0.32	0.59	0.32	35.1
12	R2	172	0.0	172	0.0	0.183	6.5	LOS A	0.9	6.5	0.32	0.59	0.32	35.1
Approach		300	0.0	300	0.0	0.183	6.4	NA	0.9	6.5	0.32	0.59	0.32	35.1
All Vehicles		556	0.4	556	0.4	0.183	3.8	NA	0.9	6.5	0.19	0.35	0.19	22.8

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

Site: 101 [[AM] 2. Shortland Ave - Francis St]

Network: 5 [AM Peak FB 2038]

New Site
Site Category: Future Base 2038
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	38	0.0	38	0.0	0.124	6.8	LOS A	0.6	4.8	0.39	0.60	0.39	24.9
2	T1	31	3.4	31	3.4	0.124	3.6	LOS A	0.6	4.8	0.39	0.60	0.39	36.7
3	R2	43	24.4	43	24.4	0.124	7.1	LOS A	0.6	4.8	0.39	0.60	0.39	36.6
3u	U	6	0.0	6	0.0	0.124	7.9	LOS A	0.6	4.8	0.39	0.60	0.39	24.9
Approach		118	9.8	118	9.8	0.124	6.2	LOS A	0.6	4.8	0.39	0.60	0.39	35.0
East: Shortland Avenue - E														
4	L2	5	20.0	5	20.0	0.125	3.5	LOS A	0.7	4.7	0.31	0.71	0.31	33.6
5	T1	114	1.9	114	1.9	0.125	9.3	LOS A	0.7	4.7	0.31	0.71	0.31	33.6
6	R2	11	0.0	11	0.0	0.125	6.2	LOS A	0.7	4.7	0.31	0.71	0.31	36.9
6u	U	3	0.0	3	0.0	0.125	7.5	LOS A	0.7	4.7	0.31	0.71	0.31	37.4
Approach		133	2.4	133	2.4	0.125	8.7	LOS A	0.7	4.7	0.31	0.71	0.31	34.2
North: Francis Street - N														
7	L2	15	0.0	15	0.0	0.111	3.6	LOS A	0.6	4.0	0.38	0.73	0.38	36.6
8	T1	33	9.7	33	9.7	0.111	3.5	LOS A	0.6	4.0	0.38	0.73	0.38	33.8
9	R2	61	0.0	61	0.0	0.111	12.1	LOS A	0.6	4.0	0.38	0.73	0.38	33.8
9u	U	1	0.0	1	0.0	0.111	7.9	LOS A	0.6	4.0	0.38	0.73	0.38	37.4
Approach		109	2.9	109	2.9	0.111	8.4	LOS A	0.6	4.0	0.38	0.73	0.38	34.4
West: Shortland Avenue - W														
10	L2	21	0.0	21	0.0	0.138	0.6	LOS A	0.7	5.2	0.29	0.14	0.29	22.3
11	T1	120	0.0	120	0.0	0.138	0.6	LOS A	0.7	5.2	0.29	0.14	0.29	22.5
12	R2	14	0.0	14	0.0	0.138	0.6	LOS A	0.7	5.2	0.29	0.14	0.29	9.9
12u	U	1	0.0	1	0.0	0.138	0.6	LOS A	0.7	5.2	0.29	0.14	0.29	9.9
Approach		156	0.0	156	0.0	0.138	0.6	LOS A	0.7	5.2	0.29	0.14	0.29	21.7
All Vehicles		516	3.5	516	3.5	0.138	5.6	LOS A	0.7	5.2	0.34	0.52	0.34	28.8

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

Site: 101 [[AM] 3. Francis St - Hydebrae St]

Network: 5 [AM Peak FB 2038]

New Site
Site Category: Future Base 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	112	10.4	112	10.4	0.073	0.0	LOS A	0.1	0.9	0.05	0.08	0.05	39.2
3	R2	21	0.0	21	0.0	0.073	3.8	LOS A	0.1	0.9	0.05	0.08	0.05	39.2
Approach		133	8.7	133	8.7	0.073	0.6	NA	0.1	0.9	0.05	0.08	0.05	39.2
East: Hydebrae Street - E														
4	L2	5	0.0	5	0.0	0.008	3.5	LOS A	0.0	0.2	0.13	0.46	0.13	35.1
6	R2	5	0.0	5	0.0	0.008	4.2	LOS A	0.0	0.2	0.13	0.46	0.13	35.1
Approach		11	0.0	11	0.0	0.008	3.9	LOS A	0.0	0.2	0.13	0.46	0.13	35.1
North: Francis Street - N														
7	L2	8	0.0	8	0.0	0.031	3.4	LOS A	0.0	0.0	0.00	0.07	0.00	39.8
8	T1	48	8.7	48	8.7	0.031	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	37.8
Approach		57	7.4	57	7.4	0.031	0.5	NA	0.0	0.0	0.00	0.07	0.00	38.6
All Vehicles		200	7.9	200	7.9	0.073	0.8	NA	0.1	0.9	0.04	0.10	0.04	38.9

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

Site: 101 [[AM] 4. Marion St - Edgar St]

Network: 5 [AM Peak FB 2038]

New Site
Site Category: Future Base 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	182	0.6	182	0.6	0.104	0.0	LOS A	0.1	0.7	0.02	0.08	0.02	39.2
3	R2	17	0.0	17	0.0	0.104	5.9	LOS A	0.1	0.7	0.02	0.08	0.02	38.1
Approach		199	0.5	199	0.5	0.104	0.5	NA	0.1	0.7	0.02	0.08	0.02	39.2
East: Edgar St - E														
4	L2	225	0.5	225	0.5	0.256	0.1	LOS A	1.1	8.0	0.10	0.05	0.10	12.0
6	R2	120	0.0	120	0.0	0.256	1.1	LOS A	1.1	8.0	0.10	0.05	0.10	13.2
Approach		345	0.3	345	0.3	0.256	0.5	LOS A	1.1	8.0	0.10	0.05	0.10	12.5
North: Marion St - N														
7	L2	5	0.0	5	0.0	0.020	7.2	LOS A	0.0	0.0	0.00	0.15	0.00	37.9
8	T1	33	0.0	33	0.0	0.020	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	38.6
Approach		38	0.0	38	0.0	0.020	1.0	NA	0.0	0.0	0.00	0.15	0.00	38.6
All Vehicles		582	0.4	582	0.4	0.256	0.5	NA	1.1	8.0	0.07	0.06	0.07	15.5

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

Site: 101 [[AM] 5. Dickson St - Merley Rd]

Network: 5 [AM Peak FB 2038]

New Site
Site Category: Future Base 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	104	12.1	104	12.1	0.299	3.5	LOS A	0.0	0.1	0.00	0.09	0.00	36.8
2	T1	459	1.4	459	1.4	0.299	0.0	LOS A	0.0	0.1	0.00	0.09	0.00	38.6
3	R2	1	0.0	1	0.0	0.299	4.8	LOS A	0.0	0.1	0.00	0.09	0.00	38.1
Approach		564	3.4	564	3.4	0.299	0.7	NA	0.0	0.1	0.00	0.09	0.00	38.4
East: Merley Road - E														
4	L2	3	0.0	3	0.0	0.009	4.2	LOS A	0.0	0.2	0.44	0.54	0.44	31.3
5	T1	2	0.0	2	0.0	0.009	7.5	LOS A	0.0	0.2	0.44	0.54	0.44	28.5
6	R2	1	0.0	1	0.0	0.009	9.1	LOS A	0.0	0.2	0.44	0.54	0.44	31.5
Approach		6	0.0	6	0.0	0.009	6.1	LOS A	0.0	0.2	0.44	0.54	0.44	30.6
North: Dickson Street - N														
7	L2	2	50.0	2	50.0	0.167	6.4	LOS A	0.3	2.3	0.14	0.05	0.14	38.3
8	T1	263	5.2	263	5.2	0.167	0.4	LOS A	0.3	2.3	0.14	0.05	0.14	37.7
9	R2	25	0.0	25	0.0	0.167	6.4	LOS A	0.3	2.3	0.14	0.05	0.14	36.4
Approach		291	5.1	291	5.1	0.167	1.0	NA	0.3	2.3	0.14	0.05	0.14	37.6
West: Merley Road - W														
10	L2	13	0.0	13	0.0	0.117	5.2	LOS A	0.4	2.9	0.62	0.77	0.62	33.7
11	T1	8	0.0	8	0.0	0.117	7.4	LOS A	0.4	2.9	0.62	0.77	0.62	34.1
12	R2	33	12.9	33	12.9	0.117	11.6	LOS A	0.4	2.9	0.62	0.77	0.62	32.6
Approach		54	7.8	54	7.8	0.117	9.4	LOS A	0.4	2.9	0.62	0.77	0.62	33.1
All Vehicles		915	4.1	915	4.1	0.299	1.3	NA	0.4	2.9	0.09	0.12	0.09	37.1

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

USER REPORT FOR NETWORK SITE

Project: 19235_Future Base 2028-2038_200226

Template: Intersection Summary

Site: 101 [[PM] 1. Shortland Ave - Fraser St]

Network: 6 [PM Peak FB 2038]

Site Category: Future Base 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	9	0.0	9	0.0	0.027	0.2	LOS A	0.1	0.7	0.19	0.10	0.19	17.4
2	T1	1	0.0	1	0.0	0.027	1.0	LOS A	0.1	0.7	0.19	0.10	0.19	17.3
3	R2	17	0.0	17	0.0	0.027	1.5	LOS A	0.1	0.7	0.19	0.10	0.19	9.9
Approach		27	0.0	27	0.0	0.027	1.0	LOS A	0.1	0.7	0.19	0.10	0.19	13.3
East: Shortland Avenue - E														
4	L2	82	0.0	82	0.0	0.083	0.0	LOS A	0.1	0.5	0.02	0.00	0.02	10.0
5	T1	59	0.0	59	0.0	0.083	0.0	LOS A	0.1	0.5	0.02	0.00	0.02	22.7
6	R2	8	0.0	8	0.0	0.083	0.1	LOS A	0.1	0.5	0.02	0.00	0.02	22.7
Approach		149	0.0	149	0.0	0.083	0.0	NA	0.1	0.5	0.02	0.00	0.02	17.5
North: Fraser Street - N														
7	L2	41	0.0	41	0.0	0.037	7.3	LOS A	0.1	1.0	0.10	0.71	0.10	34.8
8	T1	5	0.0	5	0.0	0.037	6.8	LOS A	0.1	1.0	0.10	0.71	0.10	34.8
9	R2	5	0.0	5	0.0	0.037	4.6	LOS A	0.1	1.0	0.10	0.71	0.10	37.0
Approach		52	0.0	52	0.0	0.037	7.0	LOS A	0.1	1.0	0.10	0.71	0.10	35.1
West: Shortland Avenue - W														
10	L2	3	0.0	3	0.0	0.089	3.8	LOS A	0.4	3.0	0.25	0.62	0.25	37.6
11	T1	41	0.0	41	0.0	0.089	6.1	LOS A	0.4	3.0	0.25	0.62	0.25	35.3
12	R2	104	0.0	104	0.0	0.089	6.1	LOS A	0.4	3.0	0.25	0.62	0.25	35.3
Approach		148	0.0	148	0.0	0.089	6.0	NA	0.4	3.0	0.25	0.62	0.25	35.4
All Vehicles		377	0.0	377	0.0	0.089	3.4	NA	0.4	3.0	0.14	0.35	0.14	24.0

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

Site: 101 [[PM] 2. Shortland Ave - Francis St]

Network: 6 [PM Peak FB 2038]

New Site
Site Category: Future Base 2038
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	17	0.0	17	0.0	0.111	6.6	LOS A	0.6	4.5	0.36	0.55	0.36	25.8
2	T1	38	19.4	38	19.4	0.111	3.6	LOS A	0.6	4.5	0.36	0.55	0.36	37.0
3	R2	46	27.3	46	27.3	0.111	6.8	LOS A	0.6	4.5	0.36	0.55	0.36	36.9
3u	U	3	0.0	3	0.0	0.111	7.7	LOS A	0.6	4.5	0.36	0.55	0.36	25.8
Approach		104	19.2	104	19.2	0.111	5.6	LOS A	0.6	4.5	0.36	0.55	0.36	36.2
East: Shortland Avenue - E														
4	L2	24	0.0	24	0.0	0.126	3.1	LOS A	0.7	4.6	0.26	0.70	0.26	34.3
5	T1	98	0.0	98	0.0	0.126	9.0	LOS A	0.7	4.6	0.26	0.70	0.26	34.3
6	R2	14	7.7	14	7.7	0.126	6.1	LOS A	0.7	4.6	0.26	0.70	0.26	37.3
6u	U	6	0.0	6	0.0	0.126	7.3	LOS A	0.7	4.6	0.26	0.70	0.26	37.8
Approach		142	0.7	142	0.7	0.126	7.7	LOS A	0.7	4.6	0.26	0.70	0.26	35.0
North: Francis Street - N														
7	L2	13	0.0	13	0.0	0.073	3.3	LOS A	0.4	2.6	0.33	0.67	0.33	37.0
8	T1	28	11.1	28	11.1	0.073	3.2	LOS A	0.4	2.6	0.33	0.67	0.33	34.5
9	R2	33	0.0	33	0.0	0.073	11.8	LOS A	0.4	2.6	0.33	0.67	0.33	34.5
9u	U	1	0.0	1	0.0	0.073	7.6	LOS A	0.4	2.6	0.33	0.67	0.33	37.9
Approach		75	4.2	75	4.2	0.073	7.0	LOS A	0.4	2.6	0.33	0.67	0.33	35.2
West: Shortland Avenue - W														
10	L2	23	0.0	23	0.0	0.104	1.2	LOS A	0.7	4.9	0.39	0.20	0.39	22.2
11	T1	62	0.0	62	0.0	0.104	1.2	LOS A	0.7	4.9	0.39	0.20	0.39	22.4
12	R2	22	0.0	22	0.0	0.104	1.2	LOS A	0.7	4.9	0.39	0.20	0.39	9.8
12u	U	1	0.0	1	0.0	0.104	1.2	LOS A	0.7	4.9	0.39	0.20	0.39	9.8
Approach		108	0.0	108	0.0	0.104	1.2	LOS A	0.7	4.9	0.39	0.20	0.39	20.6
All Vehicles		429	5.6	429	5.6	0.126	5.4	LOS A	0.7	4.9	0.33	0.53	0.33	30.0

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

Site: 101 [[PM] 3. Francis St - Hydebrae St]

Network: 6 [PM Peak FB 2038]

New Site
Site Category: Future Base 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	93	21.6	93	21.6	0.057	0.0	LOS A	0.0	0.3	0.02	0.03	0.02	39.7
3	R2	5	0.0	5	0.0	0.057	3.8	LOS A	0.0	0.3	0.02	0.03	0.02	39.5
Approach		98	20.4	98	20.4	0.057	0.2	NA	0.0	0.3	0.02	0.03	0.02	39.6
East: Hydebrae Street - E														
4	L2	16	0.0	16	0.0	0.022	3.6	LOS A	0.1	0.5	0.16	0.47	0.16	35.1
6	R2	13	0.0	13	0.0	0.022	4.2	LOS A	0.1	0.5	0.16	0.47	0.16	35.1
Approach		28	0.0	28	0.0	0.022	3.9	LOS A	0.1	0.5	0.16	0.47	0.16	35.1
North: Francis Street - N														
7	L2	14	0.0	14	0.0	0.043	3.4	LOS A	0.0	0.0	0.00	0.08	0.00	39.7
8	T1	67	4.7	67	4.7	0.043	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	37.6
Approach		81	3.9	81	3.9	0.043	0.6	NA	0.0	0.0	0.00	0.08	0.00	38.5
All Vehicles		207	11.2	207	11.2	0.057	0.9	NA	0.1	0.5	0.03	0.11	0.03	38.7

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

Site: 101 [[PM] 4. Marion St - Edgar St]

Network: 6 [PM Peak FB 2038]

New Site
Site Category: Future Base 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	83	0.0	83	0.0	0.049	0.0	LOS A	0.1	0.4	0.04	0.10	0.04	38.9
3	R2	11	0.0	11	0.0	0.049	5.8	LOS A	0.1	0.4	0.04	0.10	0.04	37.4
Approach		94	0.0	94	0.0	0.049	0.7	NA	0.1	0.4	0.04	0.10	0.04	38.9
East: Edgar St - E														
4	L2	145	0.0	145	0.0	0.132	0.1	LOS A	0.5	3.8	0.12	0.05	0.12	12.0
6	R2	45	0.0	45	0.0	0.132	0.6	LOS A	0.5	3.8	0.12	0.05	0.12	13.2
Approach		191	0.0	191	0.0	0.132	0.2	LOS A	0.5	3.8	0.12	0.05	0.12	12.3
North: Marion St - N														
7	L2	13	0.0	13	0.0	0.029	7.2	LOS A	0.0	0.0	0.00	0.24	0.00	36.6
8	T1	43	2.4	43	2.4	0.029	0.0	LOS A	0.0	0.0	0.00	0.24	0.00	37.8
Approach		56	1.9	56	1.9	0.029	1.6	NA	0.0	0.0	0.00	0.24	0.00	37.6
All Vehicles		340	0.3	340	0.3	0.132	0.6	NA	0.5	3.8	0.08	0.09	0.08	15.6

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

Site: 101 [[PM] 5. Dickson St - Merley Rd]

Network: 6 [PM Peak FB 2038]

New Site
Site Category: Future Base 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	72	22.1	72	22.1	0.174	3.7	LOS A	0.1	1.0	0.05	0.12	0.05	35.0
2	T1	233	0.9	233	0.9	0.174	0.1	LOS A	0.1	1.0	0.05	0.12	0.05	37.7
3	R2	13	0.0	13	0.0	0.174	4.6	LOS A	0.1	1.0	0.05	0.12	0.05	37.4
Approach		317	5.6	317	5.6	0.174	1.1	NA	0.1	1.0	0.05	0.12	0.05	37.4
East: Merley Road - E														
4	L2	8	12.5	8	12.5	0.020	4.4	LOS A	0.1	0.5	0.40	0.53	0.40	32.2
5	T1	5	0.0	5	0.0	0.020	5.1	LOS A	0.1	0.5	0.40	0.53	0.40	30.1
6	R2	3	0.0	3	0.0	0.020	6.9	LOS A	0.1	0.5	0.40	0.53	0.40	32.7
Approach		17	6.3	17	6.3	0.020	5.1	LOS A	0.1	0.5	0.40	0.53	0.40	31.8
North: Dickson Street - N														
7	L2	14	0.0	14	0.0	0.157	4.3	LOS A	0.2	1.6	0.09	0.06	0.09	39.3
8	T1	252	5.4	252	5.4	0.157	0.1	LOS A	0.2	1.6	0.09	0.06	0.09	38.1
9	R2	21	0.0	21	0.0	0.157	4.8	LOS A	0.2	1.6	0.09	0.06	0.09	37.1
Approach		286	4.8	286	4.8	0.157	0.7	NA	0.2	1.6	0.09	0.06	0.09	38.2
West: Merley Road - W														
10	L2	27	0.0	27	0.0	0.118	4.2	LOS A	0.4	3.0	0.44	0.64	0.44	35.5
11	T1	3	0.0	3	0.0	0.118	5.1	LOS A	0.4	3.0	0.44	0.64	0.44	35.8
12	R2	53	6.0	53	6.0	0.118	7.7	LOS A	0.4	3.0	0.44	0.64	0.44	34.6
Approach		83	3.8	83	3.8	0.118	6.4	LOS A	0.4	3.0	0.44	0.64	0.44	34.9
All Vehicles		703	5.1	703	5.1	0.174	1.6	NA	0.4	3.0	0.12	0.17	0.12	36.7

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

USER REPORT FOR NETWORK SITE

Project: 19235_Ultimate Future 2028-2038_200226

Template: Intersection Summary

Site: 101 [[AM] 1. Shortland Ave - Fraser St]

Network: 1 [AM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	13	0.0	13	0.0	0.022	0.1	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
2	T1	1	0.0	1	0.0	0.022	2.2	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
3	R2	8	0.0	8	0.0	0.022	2.8	LOS A	0.1	0.5	0.09	0.04	0.09	9.9
Approach		22	0.0	22	0.0	0.022	1.2	LOS A	0.1	0.5	0.09	0.04	0.09	10.0
East: Shortland Avenue - E														
4	L2	293	0.4	293	0.4	0.178	0.0	LOS A	0.0	0.3	0.01	0.00	0.01	10.0
5	T1	33	3.2	33	3.2	0.178	0.0	LOS A	0.0	0.3	0.01	0.00	0.01	22.6
6	R2	4	0.0	4	0.0	0.178	0.4	LOS A	0.0	0.3	0.01	0.00	0.01	22.6
Approach		329	0.6	329	0.6	0.178	0.0	NA	0.0	0.3	0.01	0.00	0.01	12.3
North: Fraser Street - N														
7	L2	17	0.0	17	0.0	0.014	7.5	LOS A	0.1	0.4	0.20	0.69	0.20	34.5
8	T1	1	0.0	1	0.0	0.014	8.7	LOS A	0.1	0.4	0.20	0.69	0.20	34.5
9	R2	1	0.0	1	0.0	0.014	5.3	LOS A	0.1	0.4	0.20	0.69	0.20	36.8
Approach		19	0.0	19	0.0	0.014	7.4	LOS A	0.1	0.4	0.20	0.69	0.20	34.7
West: Shortland Avenue - W														
10	L2	1	0.0	1	0.0	0.195	4.7	LOS A	1.0	7.2	0.42	0.59	0.42	37.3
11	T1	118	0.0	118	0.0	0.195	6.8	LOS A	1.0	7.2	0.42	0.59	0.42	34.7
12	R2	175	0.0	175	0.0	0.195	7.1	LOS A	1.0	7.2	0.42	0.59	0.42	34.7
Approach		294	0.0	294	0.0	0.195	6.9	NA	1.0	7.2	0.42	0.59	0.42	34.8
All Vehicles		664	0.3	664	0.3	0.195	3.3	NA	1.0	7.2	0.20	0.28	0.20	20.6

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

Site: 101 [[AM] 2. Shortland Ave - Francis St]

Network: 1 [AM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	48	0.0	48	0.0	0.142	7.6	LOS A	0.7	5.5	0.49	0.66	0.49	23.8
2	T1	28	3.7	28	3.7	0.142	4.4	LOS A	0.7	5.5	0.49	0.66	0.49	36.3
3	R2	40	26.3	40	26.3	0.142	8.0	LOS A	0.7	5.5	0.49	0.66	0.49	36.1
3u	U	5	0.0	5	0.0	0.142	8.6	LOS A	0.7	5.5	0.49	0.66	0.49	23.8
Approach		122	9.5	122	9.5	0.142	7.0	LOS A	0.7	5.5	0.49	0.66	0.49	33.9
East: Shortland Avenue - E														
4	L2	4	25.0	4	25.0	0.195	3.9	LOS A	1.1	7.7	0.37	0.72	0.37	33.4
5	T1	186	1.1	186	1.1	0.195	9.5	LOS A	1.1	7.7	0.37	0.72	0.37	33.4
6	R2	11	0.0	11	0.0	0.195	6.4	LOS A	1.1	7.7	0.37	0.72	0.37	36.8
6u	U	3	0.0	3	0.0	0.195	7.7	LOS A	1.1	7.7	0.37	0.72	0.37	37.2
Approach		204	1.5	204	1.5	0.195	9.2	LOS A	1.1	7.7	0.37	0.72	0.37	33.8
North: Francis Street - N														
7	L2	14	0.0	14	0.0	0.139	3.6	LOS A	0.7	5.1	0.38	0.76	0.38	36.2
8	T1	31	10.3	31	10.3	0.139	3.5	LOS A	0.7	5.1	0.38	0.76	0.38	33.2
9	R2	95	0.0	95	0.0	0.139	12.1	LOS A	0.7	5.1	0.38	0.76	0.38	33.2
9u	U	1	0.0	1	0.0	0.139	7.9	LOS A	0.7	5.1	0.38	0.76	0.38	37.1
Approach		140	2.3	140	2.3	0.139	9.3	LOS A	0.7	5.1	0.38	0.76	0.38	33.8
West: Shortland Avenue - W														
10	L2	19	0.0	19	0.0	0.126	0.6	LOS A	0.7	4.8	0.28	0.13	0.28	22.3
11	T1	111	0.0	111	0.0	0.126	0.6	LOS A	0.7	4.8	0.28	0.13	0.28	22.5
12	R2	13	0.0	13	0.0	0.126	0.6	LOS A	0.7	4.8	0.28	0.13	0.28	9.9
12u	U	1	0.0	1	0.0	0.126	0.6	LOS A	0.7	4.8	0.28	0.13	0.28	9.9
Approach		143	0.0	143	0.0	0.126	0.6	LOS A	0.7	4.8	0.28	0.13	0.28	21.7
All Vehicles		609	2.9	609	2.9	0.195	6.8	LOS A	1.1	7.7	0.37	0.58	0.37	29.4

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

Site: 101 [[AM] 3. Francis St - Hydebrae St]

Network: 1 [AM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	117	9.9	117	9.9	0.075	0.0	LOS A	0.1	0.9	0.04	0.07	0.04	39.3
3	R2	19	0.0	19	0.0	0.075	3.8	LOS A	0.1	0.9	0.04	0.07	0.04	39.3
Approach		136	8.5	136	8.5	0.075	0.6	NA	0.1	0.9	0.04	0.07	0.04	39.3
East: Hydebrae Street - E														
4	L2	4	0.0	4	0.0	0.007	3.5	LOS A	0.0	0.2	0.13	0.46	0.13	35.2
6	R2	4	0.0	4	0.0	0.007	4.2	LOS A	0.0	0.2	0.13	0.46	0.13	35.2
Approach		8	0.0	8	0.0	0.007	3.9	LOS A	0.0	0.2	0.13	0.46	0.13	35.2
North: Francis Street - N														
7	L2	8	0.0	8	0.0	0.029	3.4	LOS A	0.0	0.0	0.00	0.07	0.00	39.7
8	T1	45	9.3	45	9.3	0.029	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	37.7
Approach		54	7.8	54	7.8	0.029	0.5	NA	0.0	0.0	0.00	0.07	0.00	38.5
All Vehicles		198	8.0	198	8.0	0.075	0.7	NA	0.1	0.9	0.04	0.09	0.04	39.0

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

Site: 101 [[AM] 4. Marion St - Edgar St]

Network: 1 [AM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	168	0.6	168	0.6	0.099	0.0	LOS A	0.1	0.9	0.03	0.09	0.03	39.0
3	R2	20	0.0	20	0.0	0.099	5.8	LOS A	0.1	0.9	0.03	0.09	0.03	37.6
Approach		188	0.6	188	0.6	0.099	0.6	NA	0.1	0.9	0.03	0.09	0.03	39.0
East: Edgar St - E														
4	L2	305	0.3	305	0.3	0.345	0.1	LOS A	1.7	11.9	0.11	0.05	0.11	12.0
6	R2	162	0.0	162	0.0	0.345	1.2	LOS A	1.7	11.9	0.11	0.05	0.11	13.2
Approach		467	0.2	467	0.2	0.345	0.5	LOS A	1.7	11.9	0.11	0.05	0.11	12.5
North: Marion St - N														
7	L2	4	0.0	4	0.0	0.018	7.2	LOS A	0.0	0.0	0.00	0.13	0.00	38.2
8	T1	31	0.0	31	0.0	0.018	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	38.8
Approach		35	0.0	35	0.0	0.018	0.9	NA	0.0	0.0	0.00	0.13	0.00	38.8
All Vehicles		691	0.3	691	0.3	0.345	0.6	NA	1.7	11.9	0.08	0.07	0.08	14.6

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

Site: 101 [[AM] 5. Dickson St - Merley Rd]

Network: 1 [AM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	115	11.0	115	11.0	0.322	3.5	LOS A	0.0	0.1	0.00	0.09	0.00	36.7
2	T1	492	1.3	492	1.3	0.322	0.0	LOS A	0.0	0.1	0.00	0.09	0.00	38.6
3	R2	1	0.0	1	0.0	0.322	4.8	LOS A	0.0	0.1	0.00	0.09	0.00	38.1
Approach		607	3.1	607	3.1	0.322	0.7	NA	0.0	0.1	0.00	0.09	0.00	38.4
East: Merley Road - E														
4	L2	3	0.0	3	0.0	0.009	4.1	LOS A	0.0	0.2	0.43	0.53	0.43	31.2
5	T1	2	0.0	2	0.0	0.009	7.9	LOS A	0.0	0.2	0.43	0.53	0.43	28.3
6	R2	1	0.0	1	0.0	0.009	9.3	LOS A	0.0	0.2	0.43	0.53	0.43	31.4
Approach		6	0.0	6	0.0	0.009	6.2	LOS A	0.0	0.2	0.43	0.53	0.43	30.5
North: Dickson Street - N														
7	L2	2	50.0	2	50.0	0.157	6.7	LOS A	0.3	2.4	0.15	0.05	0.15	38.1
8	T1	243	5.6	243	5.6	0.157	0.5	LOS A	0.3	2.4	0.15	0.05	0.15	37.4
9	R2	24	0.0	24	0.0	0.157	6.7	LOS A	0.3	2.4	0.15	0.05	0.15	36.0
Approach		269	5.5	269	5.5	0.157	1.1	NA	0.3	2.4	0.15	0.05	0.15	37.3
West: Merley Road - W														
10	L2	12	0.0	12	0.0	0.115	5.3	LOS A	0.4	2.8	0.64	0.78	0.64	33.5
11	T1	8	0.0	8	0.0	0.115	7.6	LOS A	0.4	2.8	0.64	0.78	0.64	33.9
12	R2	31	13.8	31	13.8	0.115	12.0	LOS A	0.4	2.8	0.64	0.78	0.64	32.3
Approach		51	8.3	51	8.3	0.115	9.8	LOS A	0.4	2.8	0.64	0.78	0.64	32.9
All Vehicles		934	4.1	934	4.1	0.322	1.3	NA	0.4	2.8	0.08	0.12	0.08	37.1

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

USER REPORT FOR NETWORK SITE

Project: 19235_Ultimate Future 2028-2038_200226

Template: Intersection Summary

Site: 101 [[PM] 1. Shortland Ave - Fraser St]

Network: 2 [PM Peak UF 2028]

Site Category: Ultimate Future 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	9	0.0	9	0.0	0.027	0.1	LOS A	0.1	0.6	0.18	0.10	0.18	17.3
2	T1	1	0.0	1	0.0	0.027	1.2	LOS A	0.1	0.6	0.18	0.10	0.18	17.3
3	R2	16	0.0	16	0.0	0.027	1.7	LOS A	0.1	0.6	0.18	0.10	0.18	9.9
Approach		26	0.0	26	0.0	0.027	1.1	LOS A	0.1	0.6	0.18	0.10	0.18	13.4
East: Shortland Avenue - E														
4	L2	187	0.0	187	0.0	0.140	0.0	LOS A	0.1	0.5	0.01	0.00	0.01	10.0
5	T1	55	0.0	55	0.0	0.140	0.0	LOS A	0.1	0.5	0.01	0.00	0.01	22.7
6	R2	8	0.0	8	0.0	0.140	0.1	LOS A	0.1	0.5	0.01	0.00	0.01	22.7
Approach		251	0.0	251	0.0	0.140	0.0	NA	0.1	0.5	0.01	0.00	0.01	14.7
North: Fraser Street - N														
7	L2	39	0.0	39	0.0	0.034	7.3	LOS A	0.1	0.9	0.09	0.71	0.09	34.7
8	T1	4	0.0	4	0.0	0.034	7.4	LOS A	0.1	0.9	0.09	0.71	0.09	34.7
9	R2	4	0.0	4	0.0	0.034	4.6	LOS A	0.1	0.9	0.09	0.71	0.09	37.0
Approach		47	0.0	47	0.0	0.034	7.1	LOS A	0.1	0.9	0.09	0.71	0.09	35.1
West: Shortland Avenue - W														
10	L2	3	0.0	3	0.0	0.094	4.2	LOS A	0.5	3.2	0.35	0.61	0.35	37.5
11	T1	39	0.0	39	0.0	0.094	6.4	LOS A	0.5	3.2	0.35	0.61	0.35	35.1
12	R2	103	0.0	103	0.0	0.094	6.5	LOS A	0.5	3.2	0.35	0.61	0.35	35.1
Approach		145	0.0	145	0.0	0.094	6.4	NA	0.5	3.2	0.35	0.61	0.35	35.2
All Vehicles		469	0.0	469	0.0	0.140	2.8	NA	0.5	3.2	0.13	0.27	0.13	21.2

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

Site: 101 [[PM] 2. Shortland Ave - Francis St]

Network: 2 [PM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	25	0.0	25	0.0	0.124	7.2	LOS A	0.6	5.1	0.45	0.61	0.45	24.6
2	T1	35	21.2	35	21.2	0.124	4.3	LOS A	0.6	5.1	0.45	0.61	0.45	36.5
3	R2	43	29.3	43	29.3	0.124	7.6	LOS A	0.6	5.1	0.45	0.61	0.45	36.4
3u	U	3	0.0	3	0.0	0.124	8.2	LOS A	0.6	5.1	0.45	0.61	0.45	24.6
Approach		106	18.8	106	18.8	0.124	6.4	LOS A	0.6	5.1	0.45	0.61	0.45	35.4
East: Shortland Avenue - E														
4	L2	23	0.0	23	0.0	0.186	3.2	LOS A	1.0	7.2	0.30	0.71	0.30	33.9
5	T1	168	0.0	168	0.0	0.186	9.2	LOS A	1.0	7.2	0.30	0.71	0.30	33.9
6	R2	13	8.3	13	8.3	0.186	6.2	LOS A	1.0	7.2	0.30	0.71	0.30	37.1
6u	U	5	0.0	5	0.0	0.186	7.4	LOS A	1.0	7.2	0.30	0.71	0.30	37.5
Approach		209	0.5	209	0.5	0.186	8.3	LOS A	1.0	7.2	0.30	0.71	0.30	34.4
North: Francis Street - N														
7	L2	12	0.0	12	0.0	0.090	3.3	LOS A	0.4	3.2	0.32	0.73	0.32	36.6
8	T1	26	12.0	26	12.0	0.090	3.1	LOS A	0.4	3.2	0.32	0.73	0.32	33.8
9	R2	55	0.0	55	0.0	0.090	11.8	LOS A	0.4	3.2	0.32	0.73	0.32	33.8
9u	U	1	0.0	1	0.0	0.090	7.5	LOS A	0.4	3.2	0.32	0.73	0.32	37.5
Approach		94	3.4	94	3.4	0.090	8.2	LOS A	0.4	3.2	0.32	0.73	0.32	34.4
West: Shortland Avenue - W														
10	L2	21	0.0	21	0.0	0.095	1.1	LOS A	0.6	4.5	0.38	0.19	0.38	22.2
11	T1	58	0.0	58	0.0	0.095	1.1	LOS A	0.6	4.5	0.38	0.19	0.38	22.4
12	R2	20	0.0	20	0.0	0.095	1.1	LOS A	0.6	4.5	0.38	0.19	0.38	9.8
12u	U	1	0.0	1	0.0	0.095	1.1	LOS A	0.6	4.5	0.38	0.19	0.38	9.8
Approach		100	0.0	100	0.0	0.095	1.1	LOS A	0.6	4.5	0.38	0.19	0.38	20.7
All Vehicles		509	4.8	509	4.8	0.186	6.5	LOS A	1.0	7.2	0.35	0.59	0.35	30.5

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

Site: 101 [[PM] 3. Francis St - Hydebrae St]

Network: 2 [PM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	96	20.9	96	20.9	0.058	0.0	LOS A	0.0	0.2	0.02	0.02	0.02	39.7
3	R2	4	0.0	4	0.0	0.058	3.8	LOS A	0.0	0.2	0.02	0.02	0.02	39.5
Approach		100	20.0	100	20.0	0.058	0.2	NA	0.0	0.2	0.02	0.02	0.02	39.7
East: Hydebrae Street - E														
4	L2	15	0.0	15	0.0	0.020	3.6	LOS A	0.1	0.5	0.15	0.46	0.15	35.1
6	R2	12	0.0	12	0.0	0.020	4.2	LOS A	0.1	0.5	0.15	0.46	0.15	35.1
Approach		26	0.0	26	0.0	0.020	3.8	LOS A	0.1	0.5	0.15	0.46	0.15	35.1
North: Francis Street - N														
7	L2	13	0.0	13	0.0	0.040	3.4	LOS A	0.0	0.0	0.00	0.08	0.00	39.7
8	T1	62	5.1	62	5.1	0.040	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	37.6
Approach		75	4.2	75	4.2	0.040	0.6	NA	0.0	0.0	0.00	0.08	0.00	38.5
All Vehicles		201	11.5	201	11.5	0.058	0.8	NA	0.1	0.5	0.03	0.10	0.03	38.8

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

Site: 101 [[PM] 4. Marion St - Edgar St]

Network: 2 [PM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	77	0.0	77	0.0	0.046	0.0	LOS A	0.1	0.4	0.04	0.11	0.04	38.9
3	R2	11	0.0	11	0.0	0.046	5.8	LOS A	0.1	0.4	0.04	0.11	0.04	37.3
Approach		87	0.0	87	0.0	0.046	0.7	NA	0.1	0.4	0.04	0.11	0.04	38.8
East: Edgar St - E														
4	L2	225	0.0	225	0.0	0.204	0.1	LOS A	0.9	6.3	0.12	0.05	0.12	12.0
6	R2	71	0.0	71	0.0	0.204	0.6	LOS A	0.9	6.3	0.12	0.05	0.12	13.2
Approach		296	0.0	296	0.0	0.204	0.2	LOS A	0.9	6.3	0.12	0.05	0.12	12.3
North: Marion St - N														
7	L2	12	0.0	12	0.0	0.027	7.2	LOS A	0.0	0.0	0.00	0.24	0.00	36.7
8	T1	40	2.6	40	2.6	0.027	0.0	LOS A	0.0	0.0	0.00	0.24	0.00	37.8
Approach		52	2.0	52	2.0	0.027	1.6	NA	0.0	0.0	0.00	0.24	0.00	37.6
All Vehicles		435	0.2	435	0.2	0.204	0.5	NA	0.9	6.3	0.09	0.08	0.09	14.4

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

Site: 101 [[PM] 5. Dickson St - Merley Rd]

Network: 2 [PM Peak UF 2028]

New Site
Site Category: Ultimate Future 2028
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	76	20.8	76	20.8	0.200	3.7	LOS A	0.1	1.0	0.04	0.11	0.04	35.5
2	T1	281	0.7	281	0.7	0.200	0.1	LOS A	0.1	1.0	0.04	0.11	0.04	38.0
3	R2	12	0.0	12	0.0	0.200	4.6	LOS A	0.1	1.0	0.04	0.11	0.04	37.6
Approach		368	4.9	368	4.9	0.200	0.9	NA	0.1	1.0	0.04	0.11	0.04	37.7
East: Merley Road - E														
4	L2	8	12.5	8	12.5	0.018	4.3	LOS A	0.1	0.5	0.38	0.52	0.38	32.1
5	T1	4	0.0	4	0.0	0.018	5.3	LOS A	0.1	0.5	0.38	0.52	0.38	30.0
6	R2	3	0.0	3	0.0	0.018	7.1	LOS A	0.1	0.5	0.38	0.52	0.38	32.7
Approach		16	6.7	16	6.7	0.018	5.1	LOS A	0.1	0.5	0.38	0.52	0.38	31.8
North: Dickson Street - N														
7	L2	13	0.0	13	0.0	0.146	4.5	LOS A	0.2	1.5	0.10	0.06	0.10	39.2
8	T1	234	5.9	234	5.9	0.146	0.2	LOS A	0.2	1.5	0.10	0.06	0.10	38.1
9	R2	19	0.0	19	0.0	0.146	5.0	LOS A	0.2	1.5	0.10	0.06	0.10	37.1
Approach		265	5.2	265	5.2	0.146	0.7	NA	0.2	1.5	0.10	0.06	0.10	38.1
West: Merley Road - W														
10	L2	25	0.0	25	0.0	0.114	4.4	LOS A	0.4	2.9	0.47	0.66	0.47	35.4
11	T1	3	0.0	3	0.0	0.114	5.3	LOS A	0.4	2.9	0.47	0.66	0.47	35.7
12	R2	48	6.5	48	6.5	0.114	8.0	LOS A	0.4	2.9	0.47	0.66	0.47	34.3
Approach		77	4.1	77	4.1	0.114	6.7	LOS A	0.4	2.9	0.47	0.66	0.47	34.8
All Vehicles		726	4.9	726	4.9	0.200	1.6	NA	0.4	2.9	0.11	0.16	0.11	36.9

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

USER REPORT FOR NETWORK SITE

Project: 19235_Ultimate Future 2028-2038_200226

Template: Intersection Summary

Site: 101 [[AM] 1. Shortland Ave - Fraser St]

Network: 5 [AM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	14	0.0	14	0.0	0.023	0.1	LOS A	0.1	0.6	0.10	0.05	0.10	10.0
2	T1	1	0.0	1	0.0	0.023	2.4	LOS A	0.1	0.6	0.10	0.05	0.10	10.0
3	R2	8	0.0	8	0.0	0.023	3.1	LOS A	0.1	0.6	0.10	0.05	0.10	9.9
Approach		23	0.0	23	0.0	0.023	1.3	LOS A	0.1	0.6	0.10	0.05	0.10	9.9
East: Shortland Avenue - E														
4	L2	305	0.3	305	0.3	0.186	0.0	LOS A	0.0	0.3	0.01	0.00	0.01	10.0
5	T1	36	2.9	36	2.9	0.186	0.0	LOS A	0.0	0.3	0.01	0.00	0.01	22.6
6	R2	4	0.0	4	0.0	0.186	0.5	LOS A	0.0	0.3	0.01	0.00	0.01	22.6
Approach		345	0.6	345	0.6	0.186	0.0	NA	0.0	0.3	0.01	0.00	0.01	12.4
North: Fraser Street - N														
7	L2	18	0.0	18	0.0	0.015	7.5	LOS A	0.1	0.4	0.21	0.69	0.21	34.4
8	T1	1	0.0	1	0.0	0.015	9.0	LOS A	0.1	0.4	0.21	0.69	0.21	34.4
9	R2	1	0.0	1	0.0	0.015	5.5	LOS A	0.1	0.4	0.21	0.69	0.21	36.8
Approach		20	0.0	20	0.0	0.015	7.5	LOS A	0.1	0.4	0.21	0.69	0.21	34.6
West: Shortland Avenue - W														
10	L2	1	0.0	1	0.0	0.212	4.8	LOS A	1.1	7.9	0.44	0.59	0.44	37.3
11	T1	127	0.0	127	0.0	0.212	6.9	LOS A	1.1	7.9	0.44	0.59	0.44	34.7
12	R2	187	0.0	187	0.0	0.212	7.2	LOS A	1.1	7.9	0.44	0.59	0.44	34.7
Approach		316	0.0	316	0.0	0.212	7.0	NA	1.1	7.9	0.44	0.59	0.44	34.7
All Vehicles		704	0.3	704	0.3	0.212	3.4	NA	1.1	7.9	0.21	0.29	0.21	20.7

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

Site: 101 [[AM] 2. Shortland Ave - Francis St]

Network: 5 [AM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	52	0.0	52	0.0	0.154	7.7	LOS A	0.8	6.1	0.50	0.67	0.50	23.7
2	T1	31	3.4	31	3.4	0.154	4.5	LOS A	0.8	6.1	0.50	0.67	0.50	36.2
3	R2	43	24.4	43	24.4	0.154	8.1	LOS A	0.8	6.1	0.50	0.67	0.50	36.1
3u	U	6	0.0	6	0.0	0.154	8.7	LOS A	0.8	6.1	0.50	0.67	0.50	23.7
Approach		132	8.8	132	8.8	0.154	7.1	LOS A	0.8	6.1	0.50	0.67	0.50	33.9
East: Shortland Avenue - E														
4	L2	5	20.0	5	20.0	0.205	3.9	LOS A	1.2	8.2	0.38	0.72	0.38	33.3
5	T1	195	1.1	195	1.1	0.205	9.6	LOS A	1.2	8.2	0.38	0.72	0.38	33.3
6	R2	11	0.0	11	0.0	0.205	6.5	LOS A	1.2	8.2	0.38	0.72	0.38	36.8
6u	U	3	0.0	3	0.0	0.205	7.8	LOS A	1.2	8.2	0.38	0.72	0.38	37.2
Approach		214	1.5	214	1.5	0.205	9.2	LOS A	1.2	8.2	0.38	0.72	0.38	33.7
North: Francis Street - N														
7	L2	15	0.0	15	0.0	0.149	3.7	LOS A	0.8	5.5	0.39	0.76	0.39	36.2
8	T1	33	9.7	33	9.7	0.149	3.6	LOS A	0.8	5.5	0.39	0.76	0.39	33.2
9	R2	99	0.0	99	0.0	0.149	12.2	LOS A	0.8	5.5	0.39	0.76	0.39	33.2
9u	U	1	0.0	1	0.0	0.149	8.0	LOS A	0.8	5.5	0.39	0.76	0.39	37.1
Approach		147	2.1	147	2.1	0.149	9.4	LOS A	0.8	5.5	0.39	0.76	0.39	33.7
West: Shortland Avenue - W														
10	L2	21	0.0	21	0.0	0.138	0.6	LOS A	0.8	5.3	0.29	0.14	0.29	22.3
11	T1	120	0.0	120	0.0	0.138	0.6	LOS A	0.8	5.3	0.29	0.14	0.29	22.5
12	R2	14	0.0	14	0.0	0.138	0.6	LOS A	0.8	5.3	0.29	0.14	0.29	9.9
12u	U	1	0.0	1	0.0	0.138	0.6	LOS A	0.8	5.3	0.29	0.14	0.29	9.9
Approach		156	0.0	156	0.0	0.138	0.6	LOS A	0.8	5.3	0.29	0.14	0.29	21.7
All Vehicles		648	2.8	648	2.8	0.205	6.8	LOS A	1.2	8.2	0.39	0.58	0.39	29.3

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

Site: 101 [[AM] 3. Francis St - Hydebrae St]

Network: 5 [AM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	125	9.2	125	9.2	0.080	0.0	LOS A	0.1	0.9	0.05	0.07	0.05	39.2
3	R2	21	0.0	21	0.0	0.080	3.8	LOS A	0.1	0.9	0.05	0.07	0.05	39.2
Approach		146	7.9	146	7.9	0.080	0.6	NA	0.1	0.9	0.05	0.07	0.05	39.2
East: Hydebrae Street - E														
4	L2	5	0.0	5	0.0	0.008	3.5	LOS A	0.0	0.2	0.13	0.47	0.13	35.2
6	R2	5	0.0	5	0.0	0.008	4.3	LOS A	0.0	0.2	0.13	0.47	0.13	35.2
Approach		11	0.0	11	0.0	0.008	3.9	LOS A	0.0	0.2	0.13	0.47	0.13	35.2
North: Francis Street - N														
7	L2	8	0.0	8	0.0	0.031	3.4	LOS A	0.0	0.0	0.00	0.07	0.00	39.8
8	T1	48	8.7	48	8.7	0.031	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	37.8
Approach		57	7.4	57	7.4	0.031	0.5	NA	0.0	0.0	0.00	0.07	0.00	38.6
All Vehicles		214	7.4	214	7.4	0.080	0.7	NA	0.1	0.9	0.04	0.09	0.04	39.0

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

Site: 101 [[AM] 4. Marion St - Edgar St]

Network: 5 [AM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	182	0.6	182	0.6	0.106	0.0	LOS A	0.1	0.9	0.03	0.09	0.03	39.0
3	R2	21	0.0	21	0.0	0.106	5.9	LOS A	0.1	0.9	0.03	0.09	0.03	37.7
Approach		203	0.5	203	0.5	0.106	0.6	NA	0.1	0.9	0.03	0.09	0.03	39.0
East: Edgar St - E														
4	L2	322	0.3	322	0.3	0.367	0.1	LOS A	1.8	13.0	0.12	0.05	0.12	12.0
6	R2	172	0.0	172	0.0	0.367	1.3	LOS A	1.8	13.0	0.12	0.05	0.12	13.2
Approach		494	0.2	494	0.2	0.367	0.6	LOS A	1.8	13.0	0.12	0.05	0.12	12.5
North: Marion St - N														
7	L2	5	0.0	5	0.0	0.020	7.2	LOS A	0.0	0.0	0.00	0.15	0.00	37.9
8	T1	33	0.0	33	0.0	0.020	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	38.6
Approach		38	0.0	38	0.0	0.020	1.0	NA	0.0	0.0	0.00	0.15	0.00	38.6
All Vehicles		735	0.3	735	0.3	0.367	0.6	NA	1.8	13.0	0.09	0.07	0.09	14.6

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

Site: 101 [[AM] 5. Dickson St - Merley Rd]

Network: 5 [AM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	123	10.3	123	10.3	0.343	3.5	LOS A	0.0	0.1	0.00	0.09	0.00	36.7
2	T1	524	1.2	524	1.2	0.343	0.0	LOS A	0.0	0.1	0.00	0.09	0.00	38.5
3	R2	1	0.0	1	0.0	0.343	4.9	LOS A	0.0	0.1	0.00	0.09	0.00	38.0
Approach		648	2.9	648	2.9	0.343	0.7	NA	0.0	0.1	0.00	0.09	0.00	38.4
East: Merley Road - E														
4	L2	3	0.0	3	0.0	0.010	4.2	LOS A	0.0	0.2	0.45	0.55	0.45	30.7
5	T1	2	0.0	2	0.0	0.010	8.7	LOS A	0.0	0.2	0.45	0.55	0.45	27.7
6	R2	1	0.0	1	0.0	0.010	10.0	LOS A	0.0	0.2	0.45	0.55	0.45	31.0
Approach		6	0.0	6	0.0	0.010	6.7	LOS A	0.0	0.2	0.45	0.55	0.45	29.9
North: Dickson Street - N														
7	L2	2	50.0	2	50.0	0.170	7.1	LOS A	0.4	2.6	0.16	0.05	0.16	38.0
8	T1	263	5.2	263	5.2	0.170	0.6	LOS A	0.4	2.6	0.16	0.05	0.16	37.2
9	R2	25	0.0	25	0.0	0.170	7.1	LOS A	0.4	2.6	0.16	0.05	0.16	35.8
Approach		291	5.1	291	5.1	0.170	1.2	NA	0.4	2.6	0.16	0.05	0.16	37.1
West: Merley Road - W														
10	L2	13	0.0	13	0.0	0.133	5.5	LOS A	0.4	3.2	0.67	0.80	0.67	33.0
11	T1	8	0.0	8	0.0	0.133	8.4	LOS A	0.4	3.2	0.67	0.80	0.67	33.5
12	R2	33	12.9	33	12.9	0.133	13.2	LOS A	0.4	3.2	0.67	0.80	0.67	31.8
Approach		54	7.8	54	7.8	0.133	10.6	LOS A	0.4	3.2	0.67	0.80	0.67	32.4
All Vehicles		999	3.8	999	3.8	0.343	1.4	NA	0.4	3.2	0.09	0.12	0.09	36.9

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

USER REPORT FOR NETWORK SITE

Project: 19235_Ultimate Future 2028-2038_200226

Template: Intersection Summary

Site: 101 [[PM] 1. Shortland Ave - Fraser St]

Network: 6 [PM Peak UF 2038]

Site Category: Ultimate Future 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Fraser Street - S														
1	L2	9	0.0	9	0.0	0.029	0.2	LOS A	0.1	0.7	0.19	0.11	0.19	17.3
2	T1	1	0.0	1	0.0	0.029	1.3	LOS A	0.1	0.7	0.19	0.11	0.19	17.3
3	R2	17	0.0	17	0.0	0.029	1.9	LOS A	0.1	0.7	0.19	0.11	0.19	9.9
Approach		27	0.0	27	0.0	0.029	1.3	LOS A	0.1	0.7	0.19	0.11	0.19	13.3
East: Shortland Avenue - E														
4	L2	194	0.0	194	0.0	0.146	0.0	LOS A	0.1	0.5	0.01	0.00	0.01	10.0
5	T1	59	0.0	59	0.0	0.146	0.0	LOS A	0.1	0.5	0.01	0.00	0.01	22.7
6	R2	8	0.0	8	0.0	0.146	0.1	LOS A	0.1	0.5	0.01	0.00	0.01	22.7
Approach		261	0.0	261	0.0	0.146	0.0	NA	0.1	0.5	0.01	0.00	0.01	14.8
North: Fraser Street - N														
7	L2	41	0.0	41	0.0	0.038	7.3	LOS A	0.1	1.0	0.10	0.71	0.10	34.7
8	T1	5	0.0	5	0.0	0.038	7.5	LOS A	0.1	1.0	0.10	0.71	0.10	34.7
9	R2	5	0.0	5	0.0	0.038	4.7	LOS A	0.1	1.0	0.10	0.71	0.10	37.0
Approach		52	0.0	52	0.0	0.038	7.0	LOS A	0.1	1.0	0.10	0.71	0.10	35.1
West: Shortland Avenue - W														
10	L2	3	0.0	3	0.0	0.102	4.3	LOS A	0.5	3.5	0.36	0.61	0.36	37.5
11	T1	41	0.0	41	0.0	0.102	6.5	LOS A	0.5	3.5	0.36	0.61	0.36	35.1
12	R2	112	0.0	112	0.0	0.102	6.5	LOS A	0.5	3.5	0.36	0.61	0.36	35.1
Approach		156	0.0	156	0.0	0.102	6.4	NA	0.5	3.5	0.36	0.61	0.36	35.2
All Vehicles		496	0.0	496	0.0	0.146	2.8	NA	0.5	3.5	0.14	0.27	0.14	21.4

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

Site: 101 [[PM] 2. Shortland Ave - Francis St]

Network: 6 [PM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Arrival Flows Total veh/h	Arrival Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
1	L2	26	0.0	26	0.0	0.133	7.3	LOS A	0.7	5.5	0.46	0.62	0.46	24.6
2	T1	38	19.4	38	19.4	0.133	4.4	LOS A	0.7	5.5	0.46	0.62	0.46	36.5
3	R2	46	27.3	46	27.3	0.133	7.7	LOS A	0.7	5.5	0.46	0.62	0.46	36.4
3u	U	3	0.0	3	0.0	0.133	8.3	LOS A	0.7	5.5	0.46	0.62	0.46	24.6
Approach		114	17.6	114	17.6	0.133	6.5	LOS A	0.7	5.5	0.46	0.62	0.46	35.4
East: Shortland Avenue - E														
4	L2	24	0.0	24	0.0	0.197	3.3	LOS A	1.1	7.7	0.32	0.71	0.32	33.9
5	T1	176	0.0	176	0.0	0.197	9.2	LOS A	1.1	7.7	0.32	0.71	0.32	33.9
6	R2	14	7.7	14	7.7	0.197	6.3	LOS A	1.1	7.7	0.32	0.71	0.32	37.1
6u	U	6	0.0	6	0.0	0.197	7.5	LOS A	1.1	7.7	0.32	0.71	0.32	37.5
Approach		220	0.5	220	0.5	0.197	8.3	LOS A	1.1	7.7	0.32	0.71	0.32	34.4
North: Francis Street - N														
7	L2	13	0.0	13	0.0	0.096	3.3	LOS A	0.5	3.5	0.33	0.73	0.33	36.6
8	T1	28	11.1	28	11.1	0.096	3.2	LOS A	0.5	3.5	0.33	0.73	0.33	33.8
9	R2	57	0.0	57	0.0	0.096	11.8	LOS A	0.5	3.5	0.33	0.73	0.33	33.8
9u	U	1	0.0	1	0.0	0.096	7.6	LOS A	0.5	3.5	0.33	0.73	0.33	37.5
Approach		99	3.2	99	3.2	0.096	8.2	LOS A	0.5	3.5	0.33	0.73	0.33	34.5
West: Shortland Avenue - W														
10	L2	23	0.0	23	0.0	0.105	1.2	LOS A	0.7	5.0	0.40	0.20	0.40	22.2
11	T1	62	0.0	62	0.0	0.105	1.2	LOS A	0.7	5.0	0.40	0.20	0.40	22.4
12	R2	22	0.0	22	0.0	0.105	1.2	LOS A	0.7	5.0	0.40	0.20	0.40	9.8
12u	U	1	0.0	1	0.0	0.105	1.2	LOS A	0.7	5.0	0.40	0.20	0.40	9.8
Approach		108	0.0	108	0.0	0.105	1.2	LOS A	0.7	5.0	0.40	0.20	0.40	20.6
All Vehicles		541	4.5	541	4.5	0.197	6.5	LOS A	1.1	7.7	0.37	0.59	0.37	30.4

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

Site: 101 [[PM] 3. Francis St - Hydebrae St]

Network: 6 [PM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Francis Street - S														
2	T1	102	19.6	102	19.6	0.062	0.0	LOS A	0.0	0.3	0.02	0.03	0.02	39.7
3	R2	5	0.0	5	0.0	0.062	3.8	LOS A	0.0	0.3	0.02	0.03	0.02	39.5
Approach		107	18.6	107	18.6	0.062	0.2	NA	0.0	0.3	0.02	0.03	0.02	39.7
East: Hydebrae Street - E														
4	L2	16	0.0	16	0.0	0.022	3.6	LOS A	0.1	0.5	0.16	0.47	0.16	35.1
6	R2	13	0.0	13	0.0	0.022	4.2	LOS A	0.1	0.5	0.16	0.47	0.16	35.1
Approach		28	0.0	28	0.0	0.022	3.9	LOS A	0.1	0.5	0.16	0.47	0.16	35.1
North: Francis Street - N														
7	L2	14	0.0	14	0.0	0.043	3.4	LOS A	0.0	0.0	0.00	0.08	0.00	39.7
8	T1	67	4.7	67	4.7	0.043	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	37.6
Approach		81	3.9	81	3.9	0.043	0.6	NA	0.0	0.0	0.00	0.08	0.00	38.5
All Vehicles		217	10.7	217	10.7	0.062	0.8	NA	0.1	0.5	0.03	0.10	0.03	38.8

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

Site: 101 [[PM] 4. Marion St - Edgar St]

Network: 6 [PM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Marion St - S														
2	T1	83	0.0	83	0.0	0.049	0.0	LOS A	0.1	0.4	0.04	0.10	0.04	38.9
3	R2	11	0.0	11	0.0	0.049	5.8	LOS A	0.1	0.4	0.04	0.10	0.04	37.4
Approach		94	0.0	94	0.0	0.049	0.7	NA	0.1	0.4	0.04	0.10	0.04	38.9
East: Edgar St - E														
4	L2	236	0.0	236	0.0	0.214	0.2	LOS A	1.0	6.7	0.13	0.05	0.13	12.0
6	R2	74	0.0	74	0.0	0.214	0.6	LOS A	1.0	6.7	0.13	0.05	0.13	13.2
Approach		309	0.0	309	0.0	0.214	0.3	LOS A	1.0	6.7	0.13	0.05	0.13	12.3
North: Marion St - N														
7	L2	13	0.0	13	0.0	0.029	7.2	LOS A	0.0	0.0	0.00	0.24	0.00	36.6
8	T1	43	2.4	43	2.4	0.029	0.0	LOS A	0.0	0.0	0.00	0.24	0.00	37.8
Approach		56	1.9	56	1.9	0.029	1.6	NA	0.0	0.0	0.00	0.24	0.00	37.6
All Vehicles		459	0.2	459	0.2	0.214	0.5	NA	1.0	6.7	0.10	0.08	0.10	14.5

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

Site: 101 [[PM] 5. Dickson St - Merley Rd]

Network: 6 [PM Peak UF 2038]

New Site
Site Category: Ultimate Future 2038
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dickson Street - S														
1	L2	81	19.5	81	19.5	0.213	3.7	LOS A	0.1	1.1	0.04	0.11	0.04	35.4
2	T1	299	0.7	299	0.7	0.213	0.1	LOS A	0.1	1.1	0.04	0.11	0.04	37.9
3	R2	13	0.0	13	0.0	0.213	4.7	LOS A	0.1	1.1	0.04	0.11	0.04	37.6
Approach		393	4.6	393	4.6	0.213	1.0	NA	0.1	1.1	0.04	0.11	0.04	37.7
East: Merley Road - E														
4	L2	8	12.5	8	12.5	0.021	4.4	LOS A	0.1	0.5	0.41	0.54	0.41	31.8
5	T1	5	0.0	5	0.0	0.021	5.7	LOS A	0.1	0.5	0.41	0.54	0.41	29.6
6	R2	3	0.0	3	0.0	0.021	7.4	LOS A	0.1	0.5	0.41	0.54	0.41	32.4
Approach		17	6.3	17	6.3	0.021	5.4	LOS A	0.1	0.5	0.41	0.54	0.41	31.4
North: Dickson Street - N														
7	L2	14	0.0	14	0.0	0.158	4.6	LOS A	0.2	1.7	0.10	0.06	0.10	39.2
8	T1	252	5.4	252	5.4	0.158	0.2	LOS A	0.2	1.7	0.10	0.06	0.10	38.0
9	R2	21	0.0	21	0.0	0.158	5.2	LOS A	0.2	1.7	0.10	0.06	0.10	37.0
Approach		286	4.8	286	4.8	0.158	0.8	NA	0.2	1.7	0.10	0.06	0.10	38.0
West: Merley Road - W														
10	L2	27	0.0	27	0.0	0.130	4.4	LOS A	0.4	3.2	0.49	0.68	0.49	35.1
11	T1	3	0.0	3	0.0	0.130	5.7	LOS A	0.4	3.2	0.49	0.68	0.49	35.4
12	R2	53	6.0	53	6.0	0.130	8.5	LOS A	0.4	3.2	0.49	0.68	0.49	34.1
Approach		83	3.8	83	3.8	0.130	7.1	LOS A	0.4	3.2	0.49	0.68	0.49	34.5
All Vehicles		779	4.6	779	4.6	0.213	1.6	NA	0.4	3.2	0.12	0.16	0.12	36.7

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

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