Traffic Impact Assessment

Planning Proposal
4-12 Railway Street, Lidcombe

Reference: 17.392r01v5 TRAFFIX TIA Report
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Contents

1. Introduction

TRAFFIX has been commissioned by Phoenix Builders to undertake a Traffic Impact Assessment to accompany a Planning Proposal relating to the subject site at 4-12 Railway Street, Lidcombe.

The site comprises numerous lots with an existing commercial use and has a combined site area of approximately 6,428m^2. The Planning Proposal would seek to amend the current LEP restrictions to the B4 – Mixed Use zoning to enable the redevelopment of the site allowing for an addition of high density residential units. The development is anticipated to yield some 320 apartments on top of a commercial base.

In this regard, we have reviewed all relevant documentation provided to us, including the Auburn LGA Traffic Modelling Study (2013) produced by Hyder Consulting for Auburn Council, as well as undertaken detailed site investigations. This report therefore examines the likely traffic and parking impacts of the proposed development.

It has been concluded that the planning proposal is supportable on traffic planning grounds at this initial assessment stage with the results of our assessment summarised in the following sections.

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Describes the proposed development
- Section 5: Assesses the parking requirements
- Section 6: Assesses traffic impacts
- Section 7: Discusses access and internal design aspects
- Section 8: Presents the overall study conclusions.

2. Location and Site

The subject site is known as 4-12 Railway Street, Lidcombe (Lots 1, 5, 6, 7 & 8 of DP397 and Lot 100 of DP793305) and located on the northeast corner of Railway Street and Raphael Street. It is located approximately 50 metres southeast of Lidcombe Railway Station, approximately 6.4 kilometres southeast of Parramatta and approximately 14.9 kilometres west of the Sydney CBD.

The site has an irregular configuration with a total area of 6,427m^2 and currently accommodates a number commercial and industrial developments, including a construction training centre and office block. It has a northern frontage of approximately 80 metres to Railway Street, an eastern frontage of approximately 100 metres to Raphael Street, a southern frontage of approximately 80 metres to a park (zoned RE1) and a western boundary of 80 metres to an adjacent commercial development.

Vehicular access to the site is provided via a driveway crossing along Railway Street and a driveway crossings on Raphael Street. The associated carpark to the south of the site also provides access to the site.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A**, which provides an appreciation of the general character of roads and other key attributes in proximity to the site.

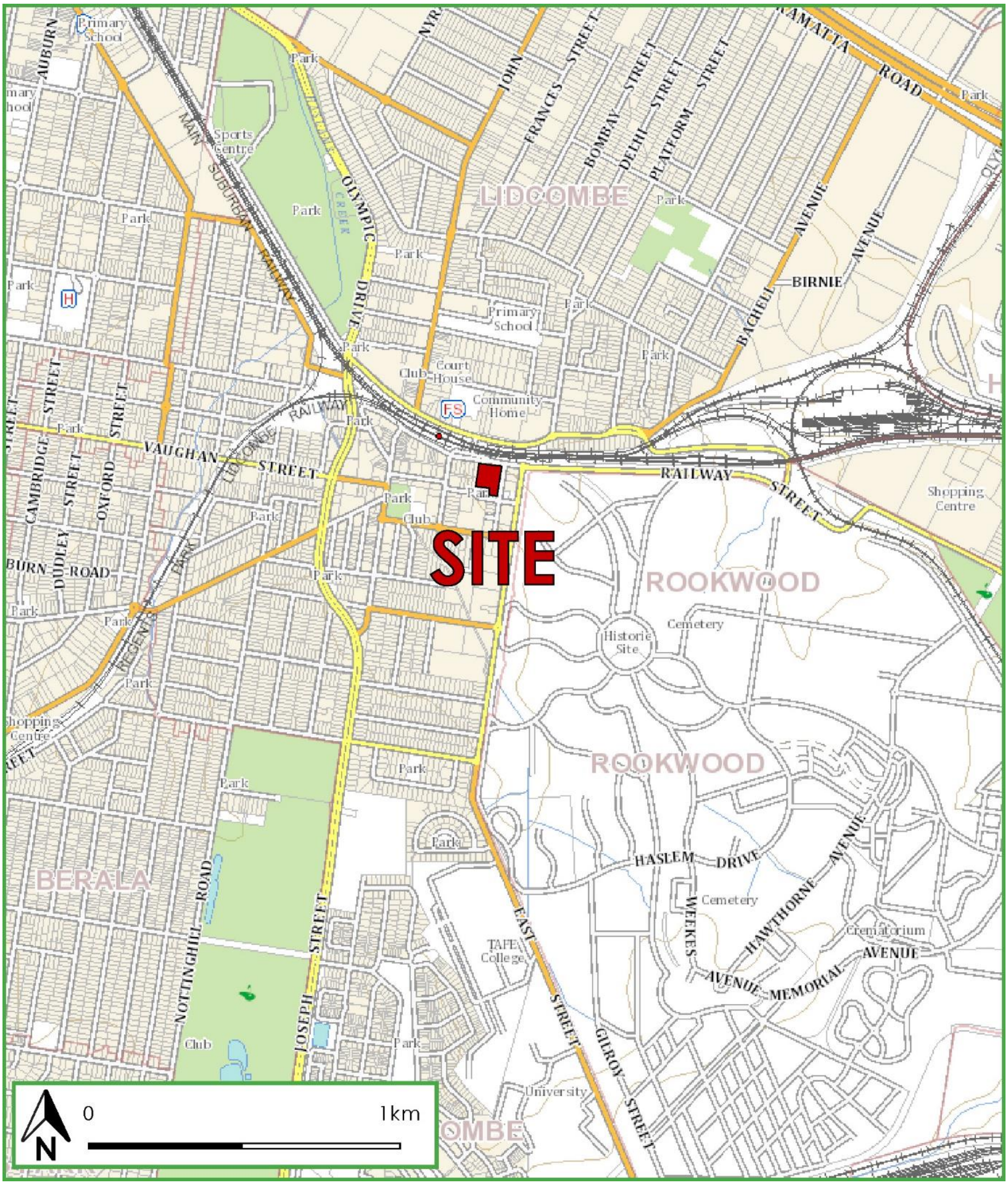


Figure 1: Location Plan

Figure 2: Site Plan

3. Existing Traffic Conditions

3.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

- Olympic Drive — An RMS Main Road (MR 190) that traverses in a north-south direction between St. Hilliers Road in the north and Joseph Street in the south. It carries approximately 47,000vpd in the vicinity of the site and is subject to 70km/hr speed zoning. Both kerbsides are signposted as 'No Parking', with Clearway restrictions applying between 6:00-10:00am and 3:00-7:00pm Monday to Friday. It carries three lanes of traffic in each direction within a divided carriageway of width 25.0 metres.

- Church Street: — East of Olympic Drive, Church Street is an RMS Secondary Road (SR 2100) that generally runs in an east-west direction till Bachel Avenue in the east. It is generally subject to a 50km/h speed zoning (40km/h during school times) and generally carries a single lane of traffic in each direction.

- Railway Street: — a local road that runs in an east-west direction between Joseph Street in the west and Arthur Street in the east. West of Mark Street and adjacent to Lidcombe Railway Station, Railway Street provides only one-way traffic flow in the eastbound direction. East of Mark Street, it provides two-way flow with a single lane of traffic in each direction and on-street parking on both sides.

- Raphael Street: — a local road that runs in a north-south direction between Railway Street in the north and James Street in the south. It is generally subject to a 50km/h speed zoning and a single lane of traffic over a 4m carrageway restricted to one way traffic southbound. No on-street parking is permitted on either side.

It can be seen from **Figure 3** that the site is has a number of options to connect to the arterial and local road systems serving the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts on any one intersection.

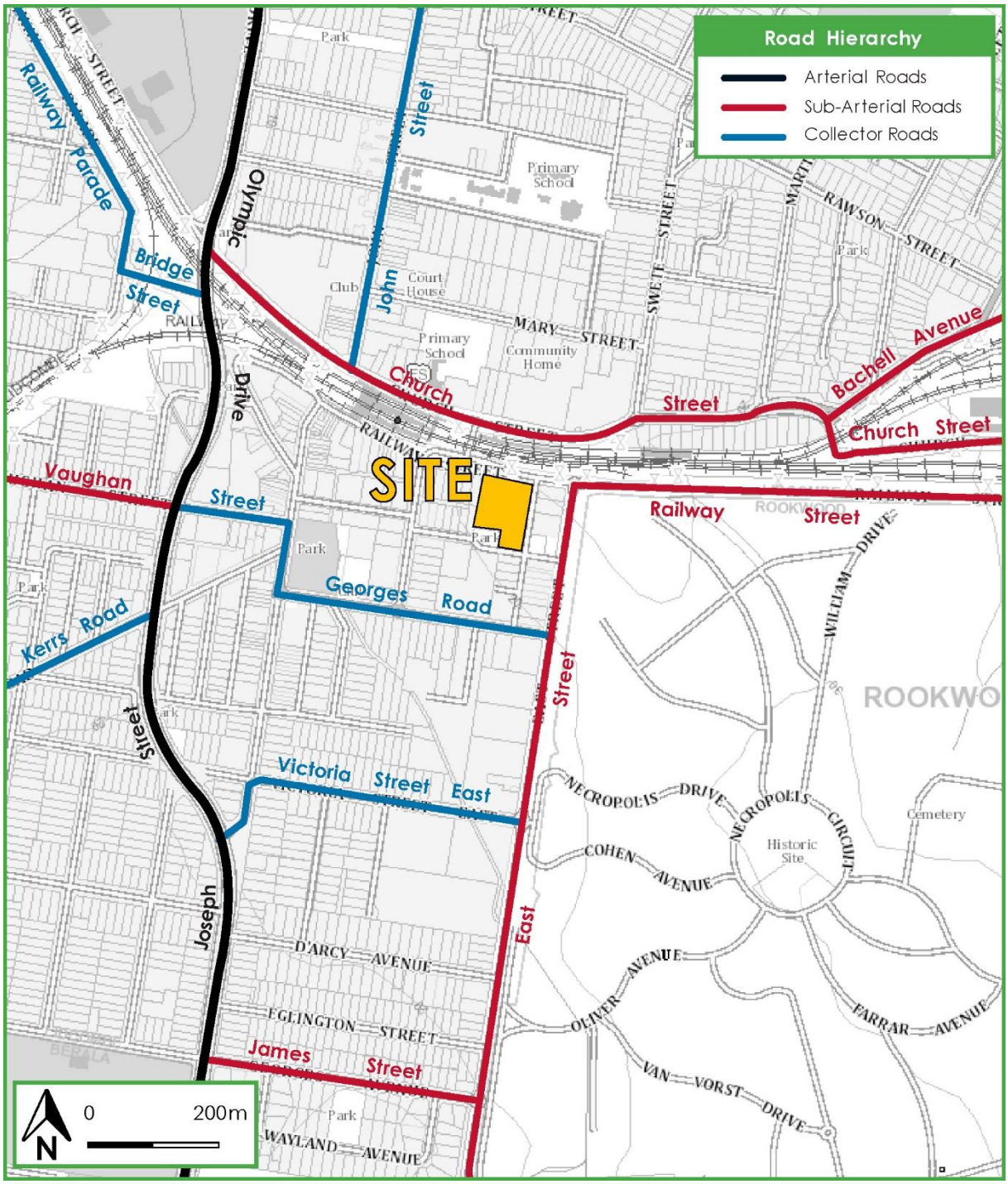


Figure 3: Road Hierarchy

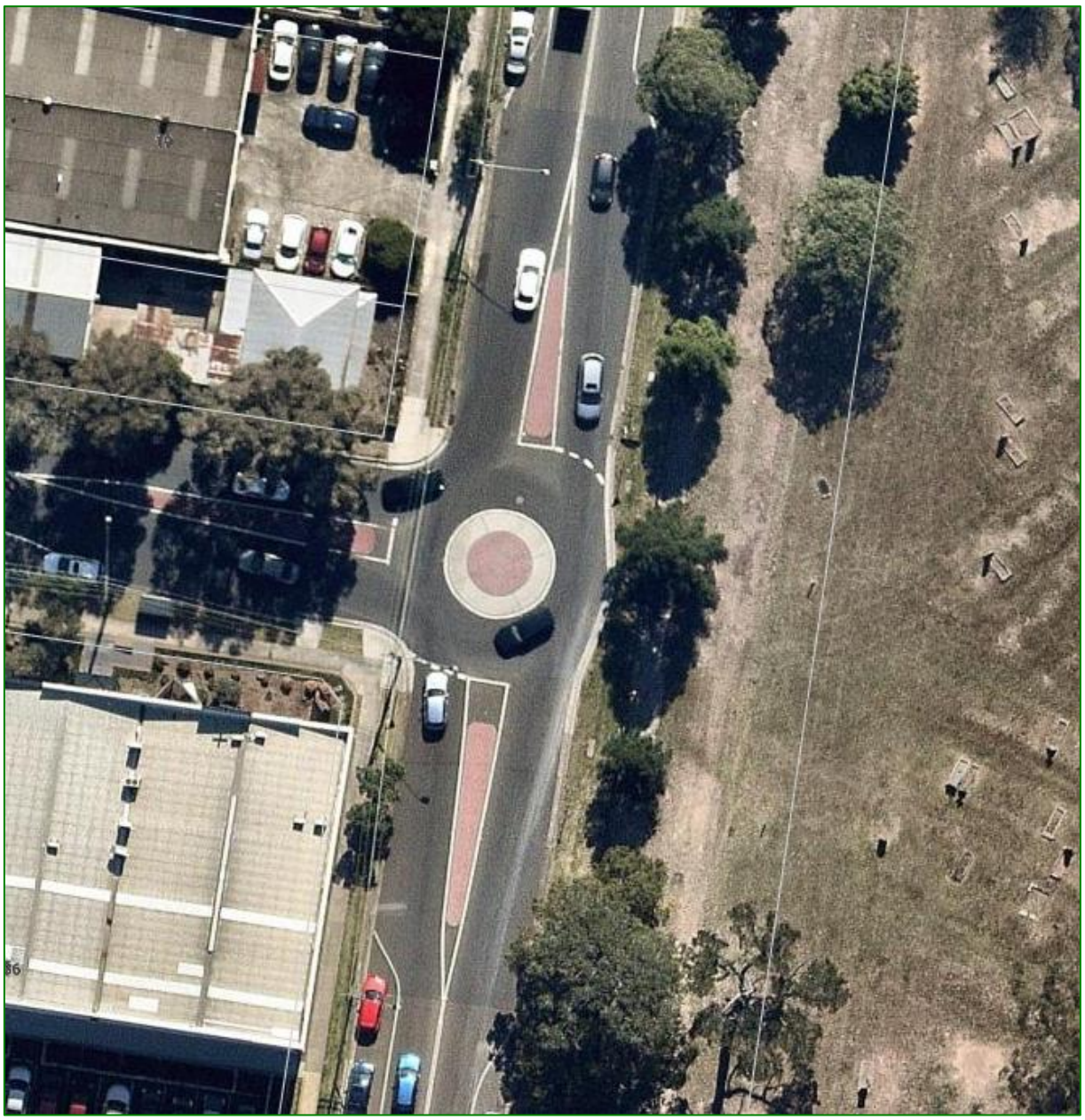
3.2 Key Intersections

The key intersections in the vicinity of the site are shown below where an understanding of the existing road geometry and alignment is provided:

Source: Near Map

Figure 4: Intersection of Vaughan Street and Olympic Drive

It can be seen from **Figure 4** that Vaughan Street crosses Olympic Drive to form a signal controlled intersection. Right turn bays are provided on Olympic Drive with clearway restrictions and no parking restrictions on all approaches during peak periods. Pedestrian crossing facilities are provided on all approaches in addition to kerbside footpaths.



Source: Near Map

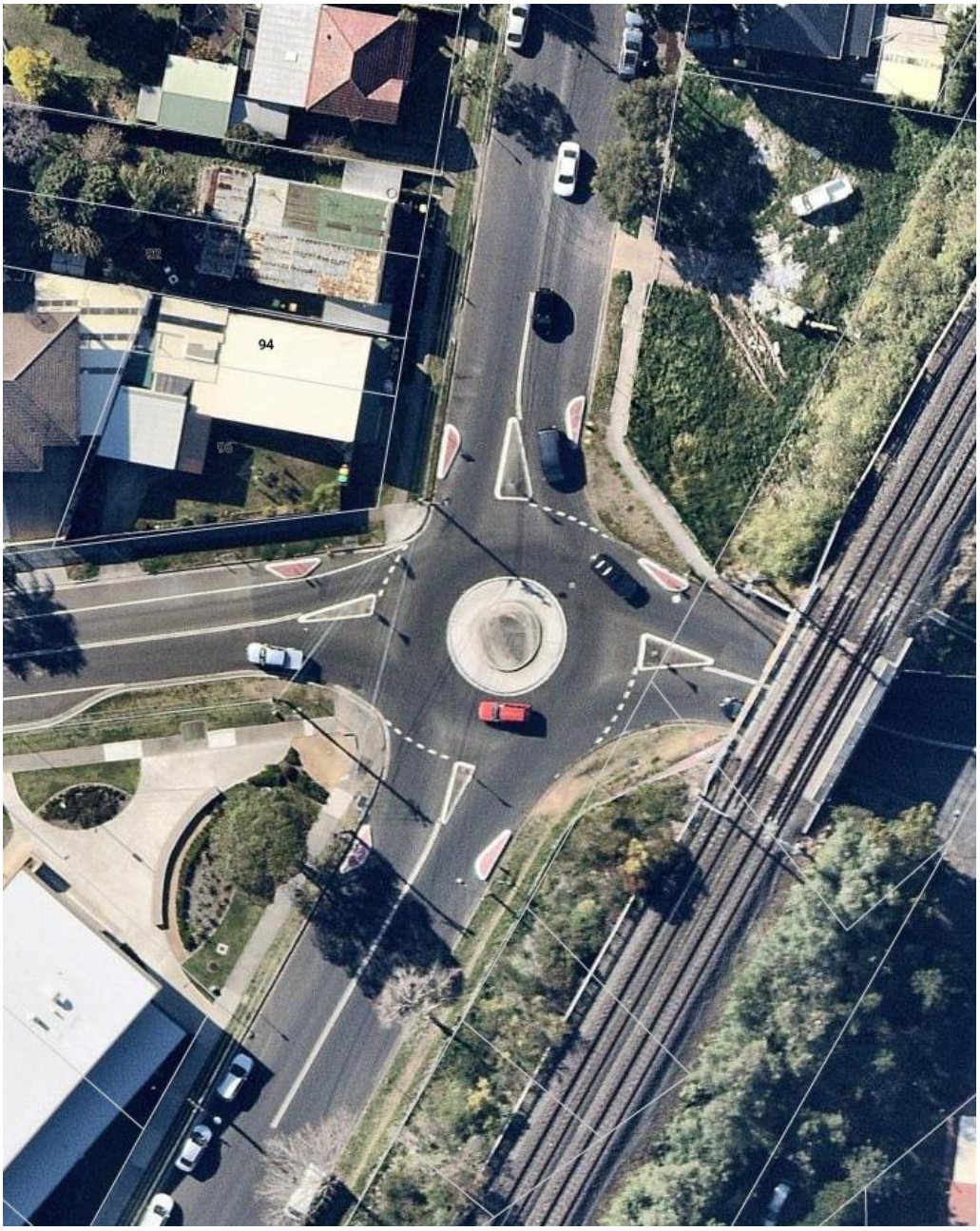
Figure 5: intersection of James Street and East Street

It can be seen from **Figure 5** that James Street terminates in the east at East Street to form a priority controlled roundabout intersection. One through lane is provided on all approaches with kerbside parking permitted. Kerbside footpaths are provided on the western reserve of East Street and both reserves of James Street.

Source: Near Map

Figure 6: intersection of Church Street and Olympic Drive

It can be seen from **Figure 6** that Church Street intersects with Olympic Drive form a four way signalised intersection. The northwest and southeast arms include left turn slip lanes whilst the north east arm includes a right turn lane for turning traffic. Pedestrian facilities are provided on the north east and west approaches, including pedestrian crossing facilities provided on these three arms.



Source: Near Map

Figure 7: intersection of Woodburn Road and Kerrs Road

It can be seen from **Figure 7** that Woodburn Road and Kerrs Road form a priority controlled roundabout intersection. One through lane is provided on all approaches with kerbside parking permitted. Kerbside footpaths are provided on one side of each arm.

Source: Near Map

Figure 8: intersection of Railway Street and Arthur Street

It can be seen from **Figure 8** that Railway Street terminates in the east Arthur Street to form a priority controlled 'T' intersection. One through lane is provided on all approaches with an additional left turn

lane given priority on the eastern arm, kerbside parking is permitted on the remaining two approaches. A kerbside footpath is provided on the northern road reserve.

Source: Near Map

Figure 9: intersection of Joseph Street and Olympic Drive

It can be seen from **Figure 9** that Joseph Street and Olympic Drive form a signal controlled 'T' intersection. No right turns are permitted from the east arms whilst the south arm includes a dedicated

right turn bay. Pedestrian footways are provided on both sides of all approaches however no pedestrian crossing facilities are provided at this intersection.

Source: Near Map

Figure 10: intersection of Georges Avenue and Joseph Street

It can be seen from **Figure 10** that Georges Ave and Joseph Street form a signal controlled intersection. Right turn bays are provided on both arms of Joseph Street. Pedestrian footways are provided on both sides of all approaches with pedestrian crossing facilities provided across the north and east arms.

3.3 Public and Active Transport

The existing bus and train services that operate in the locality are shown in **Figure 11**. It is evident that the site is less than 100 metres southwest of Lidcombe Railway Station which provides services along the T1 – North Shore, Northern and Western Line, T2 – Airport, Inner West and South Line, T3 – Bankstown Line and T7 – Olympic Park Line. Essentially, direct train services from most areas of the Sydney metropolitan area can be provided from this station.

Nevertheless, bus services are also provided along Railway Street and Church Street, connecting the site to East Hills, Sydney Olympic Park, Parramatta, Southerland and the University of Sydney. The closest bus stops are located within 100 metres of the site access.

In summary, the site provides excellent accessibility to the Sydney public transport network.

3.4 Existing Site Generation

The existing uses at the site consists of commercial uses over the whole of the site area. The site currently operates as a training centre for construction accreditation, attracting a significant volume of visitors daily. In addition the eastern portion of the site (Lot 1 DP397) is currently occupied with a retail use.

For the purposes of this assessment the existing commercial generation is considered to be consistent with the future commercial uses expected to occupy the base a future mixed use development.

Hence the expected net change in traffic generation from the existing site generation relates primarily to the increase in residential development to be proposed above.

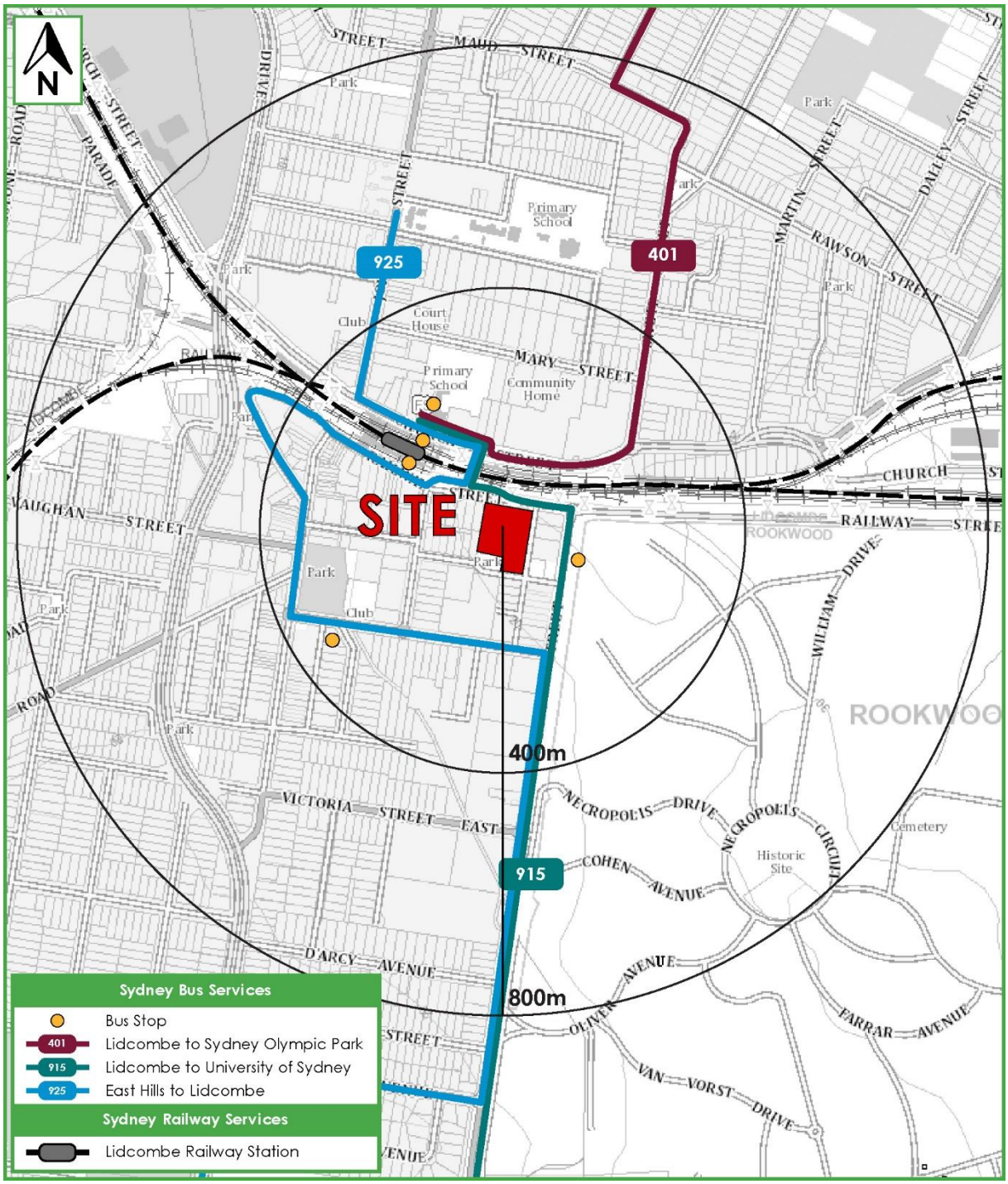


Figure 11: Public Transport

4. Description of Proposed Development

This Planning Proposal seeks to amend the LEP controls to enable the development of high density residential units above the commercial base. A detailed description of the proposal is provided in the Planning Proposal prepared separately.

It is understood the proposal shall include the addition of 320 units as summarised in **Table 1** below. This addition of high-density residential shall be provided above the commercial base (of a comparable size and use to the existing commercial development).

Table 1: Summary of Anticipated Additional Development Yield

Land Use	Yield
High Density Residential	320 units

The traffic and parking impacts arising from this assessment of the potential development yield are discussed below.

For the purposes of this assessment it has been assumed the residential yield is made up of 30% one bedroom, 60% two bedroom and 10% three bedroom apartments.

5. Parking Requirements

5.1 Council Controls

The proposed development lies within 400 metres of Lidcombe Train Station and therefore the State Environmental Planning Police 65 (SEPP65) applies to this DA. The SEPP65 requires the RMS Guide to Traffic Generation guidelines be utilised for calculating minimum parking provisions at the rates for residential shown in **Table 2**. Furthermore, the Cumberland Council's Auburn DCP 2010 – Parking and Loading, Section 5.1.5, requires parking for mixed-use developments located within 1,000 metres of a railway station to be determined at the rates shown in **Table 3.** For the purposes of this parking assessment a commercial floor area in the order of 3450m^2 has been adopted.

Table 2: SEPP 65 Parking Rates and Provision

Type	Unit/Area	SEPP Parking Rate	Minimum Requirement	Provision
1-Bedroom	100	0.6 space per unit	60	
2-Bedroom	198	0.9 space per unit	178	
3-Bedroom	22	1.4 space per unit	31	
Visitor[1]	320	1 space per 5 units	64	
Commercial[1]	3450m^2	-	86	
		Total	**419**	**TBA**

Note [1] Adoption of Council's DCP rate for Commercial parking rates.

Table 3: Council Parking Rates

Type	Unit/Area	Council's Parking Rate	Requirement
		Minimum	Minimum
1-Bedroom	100	1 space per unit	100
2-Bedroom	198	1.2 space per unit	238
3-Bedroom	22	1.5 space per unit	33
Visitor[2]	320	1 space per 5 units	64
Retail	3450m^2	1 space per 40m^2	86
		Total	**521**

Note [2] Visitor parking range applicable for developments with 320 residential units.

It can be seen that based on SEPP65 and Council's DCP rates, the development is required to provide 426 car parking spaces within the development.

The SEPP provisions provided above present an opportunity to encourage a reduction in private vehicle use in this precinct, in line with state and local government planning policy. A restrained parking provision will result in achieving a lower traffic generation rate for the subject site, reducing the resulting impact on the local network.

Compliance with relevant car parking controls will be confirmed as part of any subsequent development application(s), following approval of this rezoning application. However, it is noteworthy that the subject site presents no obvious constraints and the requisite parking can be provided generally at basement level.

5.2 Accessible Parking

Cumberland Council's Auburn DCP 2010 requires all residential developments with more than 50 units to provide a minimum of 10% of the total units as adaptable units. It also states that the development shall include the provision of an accessible car space for each adaptable dwelling. Hence a yield of 320 residential units is required to provide a minimum of 32 disabled car spaces.

5.3 Bicycle Facilities

Cumberland Council's Auburn DCP 2010 specifies that 1 bicycle parking space per 10 commercial employees. The DCP also requires that residential developments as part of mixed use developments within local centres to provide 1 bicycle storage area for every 5 residential units. Based on the above rates and an estimated total of 20 employees for the commercial uses, the development is required to provide 2 bicycle spaces for the commercial use and 64 bicycle parking spaces for the residential use.

The bicycle parking provision shall be detailed a future DA stage(s) however the provision of adequate bicycle facilities shall encourage the use of active transport modes for residents and employees in any future development at this site.

5.4 Servicing

It is noted the servicing arrangements for the site shall be detailed at any future Development Application stage following development of a concept design for the site.

6. Traffic Impacts

6.1 Trip Generation

6.1.1 Residential

The RMS *Technical Direction TDT 2013/04a* provides traffic generation rates for high density residential developments based on surveys conducted during 2012. It recommends, for Sydney based developments, an average trip generation rate of 0.19 vehicle trips per unit during the AM peak hourly period and 0.15 vehicle trips per unit during the PM peak hourly period. This rate is considered appropriate for the subject site due to its central location in close proximity to the network railway station, bus stops and Lidcombe town centre shops.

The application of these rates has been applied to a proposed maximum yield of 320 residential apartments, resulting in the following traffic generation:

- 61 vehicle trips per hour during the AM peak period (12 in and 49 out); and
- 48 vehicle trips per hour during the PM peak period (38 in and 10 out).

6.2 Peak Period Intersection Performances

For the purposes of the assessment of traffic impacts of this development, surveys were undertaken of the key intersections surrounding the site, being:

- Railway Street / Arthur Street;
- Church Street / Olympic Drive.
- East Street / James Street;
- Joseph Street / Georges Avenue.
- Olympic Drive / Vaughan Street; and
- Woodburn Road / Kerrs Road.

These were undertaken during the AM and PM peak period between the 7:00am and 9:00am and 3:00pm to 6:00pm respectively. The traffic volumes obtained from the survey are being referred to as the 'Existing' scenario.

For the purposes of the assessing the traffic volumes resulting from the proposed development, it has been assumed that the traffic generated from the development has been distributed onto the key intersections in line with the findings of the Bureau of Transport Statistics 'Journey to Work' data for car drivers in this precinct. These additional volumes and distribution of traffic has been added onto the existing traffic volumes, resulting in the 'Future' scenario, **Figure 12** depicts this distribution.

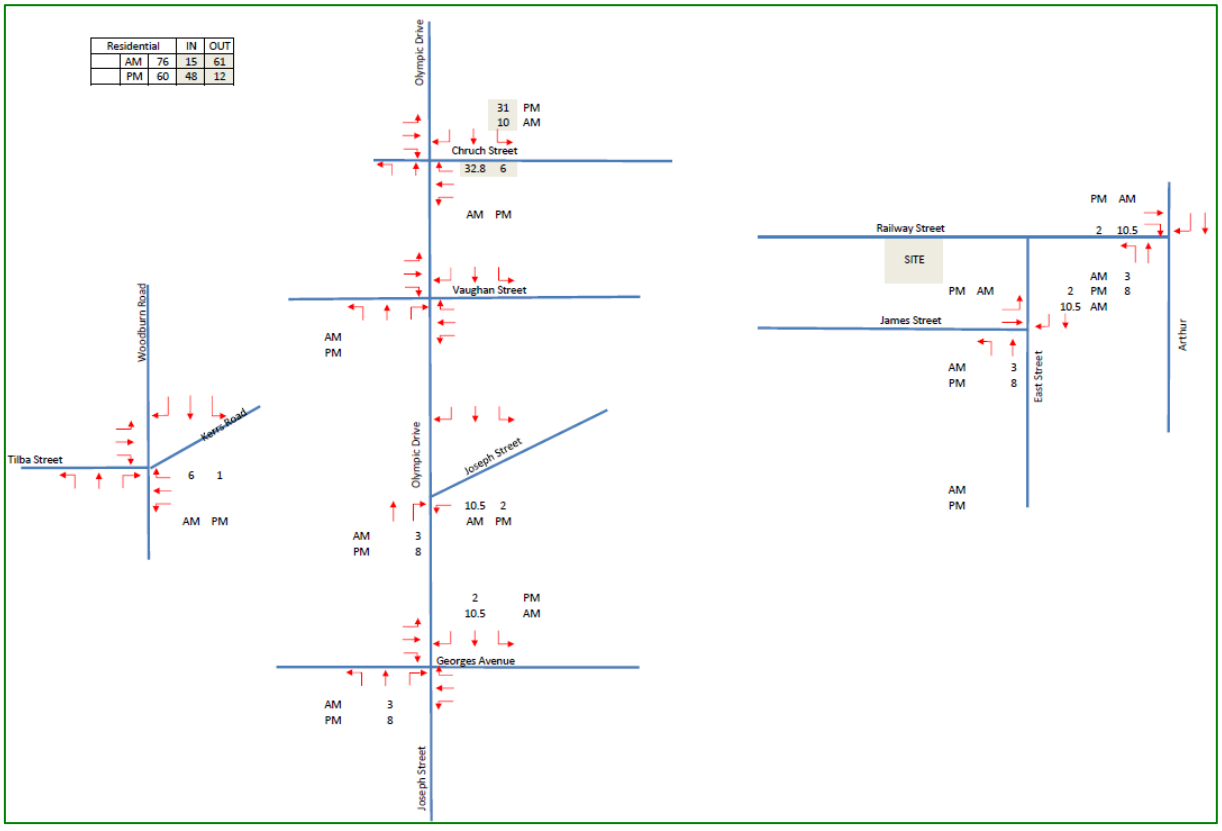


Figure 12: Traffic Distribution

The 'Existing' and 'Future' scenarios were analysed using the SIDRA computer program to determine their performance characteristics under existing traffic conditions. The SIDRA model produces a range of outputs, the most useful of which are the Degree of Saturation (DOS) and Average Vehicle Delay per

vehicle (AVD). The AVD is in turn related to a level of service (LOS) criteria. These performance measures can be interpreted using the following explanations:

DOS - the DOS is a measure of the operational performance of individual intersections. As both queue length and delay increase rapidly as DOS approaches 1, it is usual to attempt to keep DOS to less than 0.9. When DOS exceeds 0.9 residual queues can be anticipated, as occurs at many major intersections throughout the metropolitan area during peak periods. For intersections controlled by roundabout or give way/stop control, satisfactory intersection operation is generally indicated by a DOS of 0.8 or less.

AVD - the AVD for individual intersections provides a measure of the operational performance of an intersection. In general, levels of acceptability of AVD for individual intersections depend on the time of day (motorists generally accept higher delays during peak commuter periods) and the road system being modelled (motorists are more likely to accept longer delays on side streets than on the main road system).

LOS - this is a comparative measure which provides an indication of the operating performance of an intersection as shown below:

Table 4: SIDRA Performance Indicators

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
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	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

The ‘Existing’ and ‘Future’ scenarios were analysed using the SIDRA Network program to determine their performance characteristics, with a summary of the modelling results provided in **Table 5** below. Reference should also be made to the detailed SIDRA outputs which are provided in **Appendix B**, which provide detailed results for individual lanes and approaches.

Table 5: Intersection Performance: AM and PM Peak Hour

Intersection Description	Control Type	Model	Period	Degree of Saturation	Intersection Delay	Level of Service
Railway Street / Arthur Street	Priority	AM	Existing	0.186	43.6	D
			Future	0.195	45.6	D
		PM	Existing	0.151	42.4	C
			Future	0.155	43.3	D
Church Street / Olympic Drive	Signals	AM	Existing	1.031	74.1	F
			Future	1.046	80.1	F
		PM	Existing	1.066	96.7	F
			Future	1.080	102.2	F
East Street / James Street	Roundabout	AM	Existing	0.623	21.2	B
			Future	0.626	21.4	B
		PM	Existing	1.089	94.9	F
			Future	1.090	96.5	F
Joseph Street / Georges Avenue	Signals	AM	Existing	1.063	96.2	F
			Future	1.064	96.7	F
		PM	Existing	1.409	248.0	F
			Future	1.409	248.6	F
Olympic Drive / Vaughan Street	Signals	AM	Existing	1.087	117.2	F
			Future	1.087	117.2	F
		PM	Existing	1.115	129.0	F
			Future	1.115	129.0	F

Woodburn Road / Kerrs Road	Roundabout	AM	Existing	0.370	10.1	A
			Future	0.371	10.1	A
		PM	Existing	0.250	9.6	A
			Future	0.250	9.6	A
Joseph Street / Olympic Drive	Signals	AM	Existing	0.735	19.1	B
			Future	0.735	19.2	B
		PM	Existing	0.733	18.8	B
			Future	0.733	18.9	B

It can be seen from **Table 5,** and in line with the findings of the Hyder Traffic Modelling study, that a number of intersections in the Lidcombe area are currently operating at capacity, particularly on Olympic Drive.

However it can be seen that a residential proposal for the site results in only minimal increase in delay due to the development traffic, with most intersections retaining the current level of service. The largest increase in delay was recorded at the intersection of Olympic Drive and Church Street in the AM Peak period with an average increase in delay of only 6 seconds.

This assessment demonstrates the relatively low impact of high density residential developments on the wider network when situated close to public transport and shopping facilities. Accordingly, the additional traffic will have negligible impacts on key intersections analysed above and as such the proposal does not trigger the requirement for external improvements in itself.

However, it is considered noteworthy that the aforementioned Hyder study has identified a number of potential intersection improvements recommended for adoption in response to the existing constraints and in anticipation of an increase in FSA across the Auburn LGA. The study tested an increase of 6,566 dwellings and 162,864m^2 of commercial GFA and recommended a suite of improvements to enable a level of service at the above intersections to be increased to a 'D' or better.

Hence it is noted the current capacity constraints identified above have been previously identified to Council and the RMS and included an LGA wide proposal to improve this capacity. It is expected the

Section 94 contributions associated with this planning proposal shall assist with the implantation of this works program. As such it is anticipated the current conditions are temporary and shall be improved as these strategies are adopted and implemented.

7. Access

Vehicular access, internal roads and car parking of any future development will be designed to comply with the Australian Standard requirements of *AS2890.1 (2004) Part 1: Off-street car parking, AS2890.2 (2002) Part 2: Off-street commercial vehicle facilities* and *AS2890.6 (2009) Part 6: Off-street parking for people with disabilities.*

Compliance with relevant controls will be confirmed as part of any subsequent development application(s), following approval of this rezoning application. Council will be invited to impose a standard condition of consent requiring compliance with AS2890.1, AS2890.2 and AS2890.6 on any future development application.

7.1 Vehicle Access

With a minimum of 426 car spaces accessing a local road the minimum requirement of the design standards AS2890.1 (2004) is a 'Category 3' driveway, being a separated entry/exit driveway with each lane of four to six metres in width.

All vehicles are to enter and exit site in a forward direction, including potential service and emergency vehicles. The design of the access requirements is to be further detailed during subsequent development applications following a successful rezoning of the subject planning proposal.

In this regard the proposed access arrangements are considered supportable at this planning proposal stage.

8. Conclusions

In summary:

- High Density residential developments (transit-oriented) such as that proposed under the subject concept plan are appropriate on this site given its close proximity to Lidcombe railway station and Lidcombe shopping precinct, promoting alternate (non-car) travel modes. That is, it is consistent with Council and State Government objectives.

- The subject site presents no obvious constraints and full compliance with the Council and SEPP parking requirements (as appropriate) is expected to be achieved. Parking is to be provided generally within basement levels.

- The site access requires a minimum of a consolidated Category 3 driveway. The location and details of the access driveway is to be assessed during subsequent development applications following a successful planning proposal application.

- With an expected maximum net increase in generation of up to 61 vehicles in the peak hour period, split between arrivals and departures, it is expected this generation will have a negligible impact on the operation of any one intersection on the surrounding network in the vicinity of site.

It is therefore concluded that the planning proposal is supportable on traffic planning grounds.

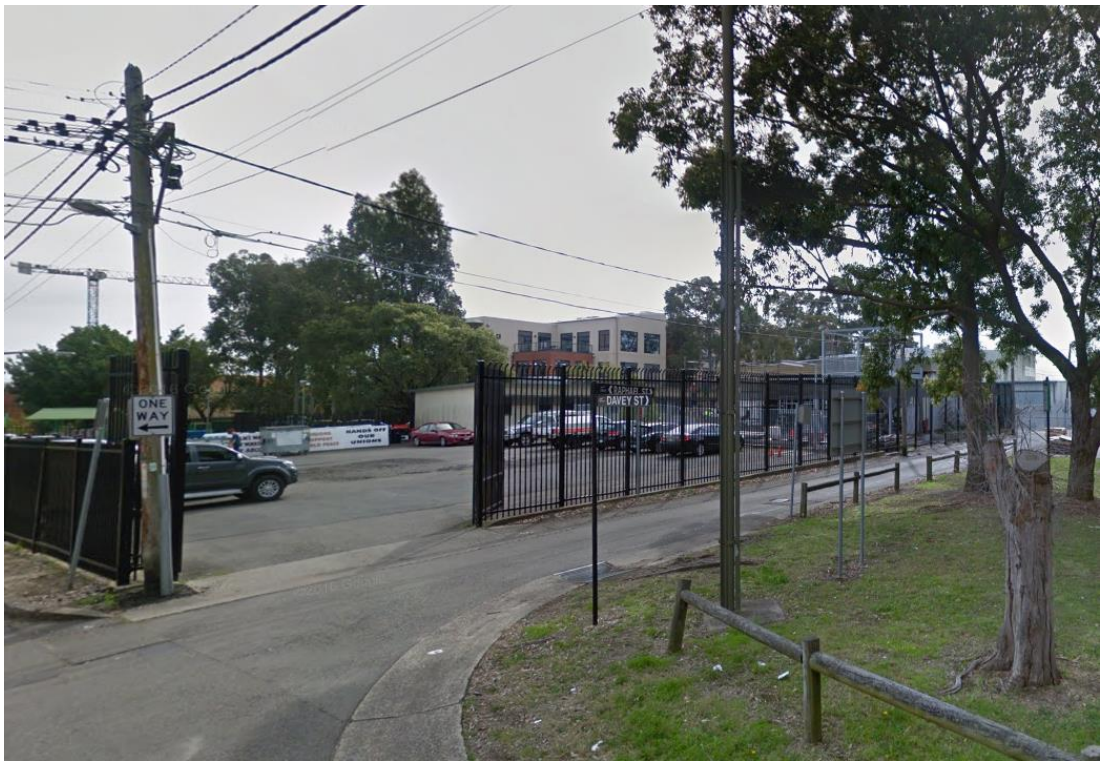
Appendix A

Photographic Record

View looking west along Railway Street from the northern frontage of the site

View looking east along Railway Street from the site frontage

View looking south towards site and Raphael Lane



View looking west towards the laneway and along the eastern frontage of the site

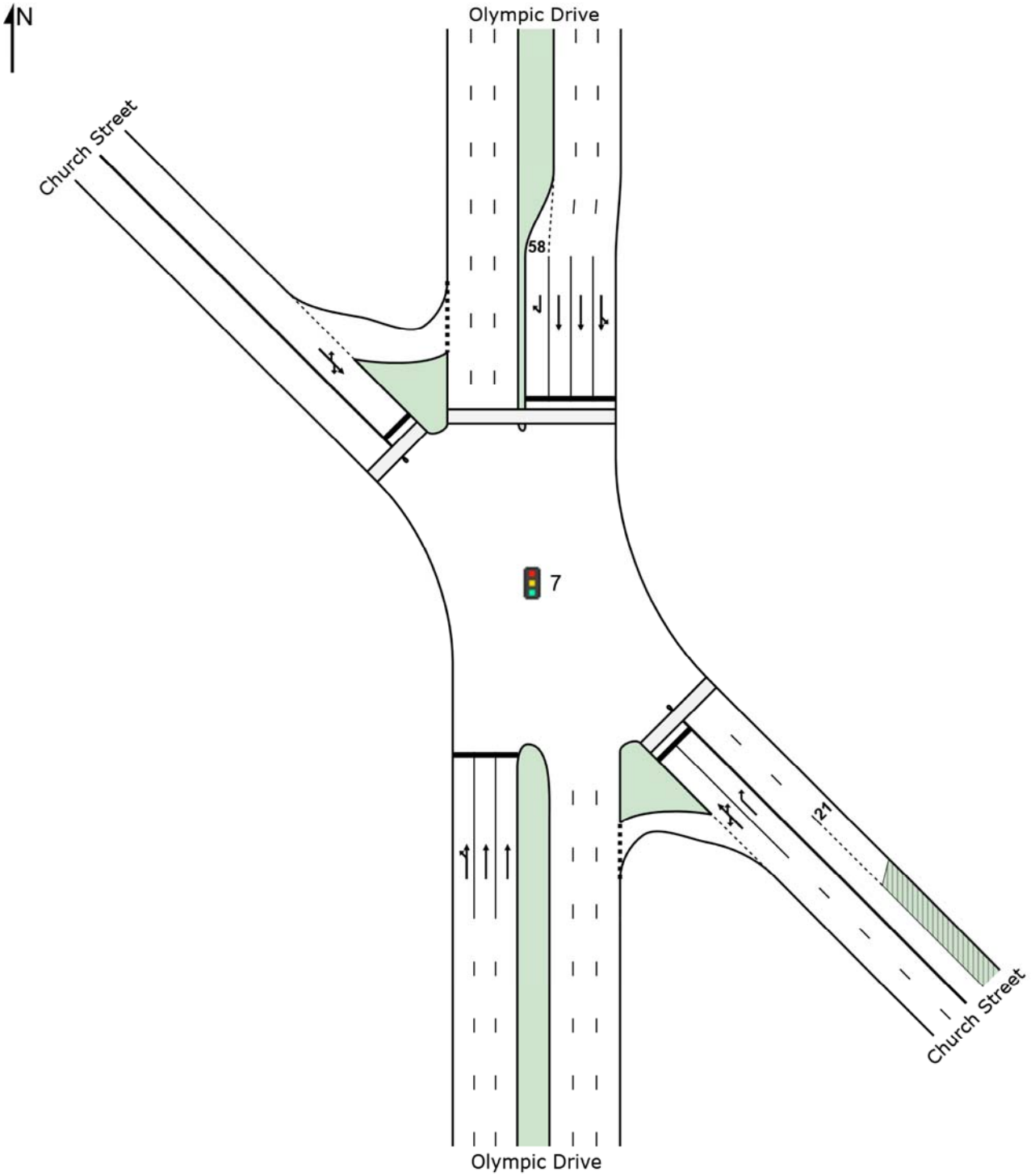
Appendix B

SIDRA Results

SITE LAYOUT

Site: 7 [AM EX Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Existing situation
AM peak period
Signals - Fixed Time Isolated


N
Olympic Drive
Church Street
58
7
21
Church Street
Olympic Drive

MOVEMENT SUMMARY

Site: 7 [AM EX Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Existing situation
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1a	L1	127	5.0	1.031	117.1	LOS F	102.2	746.2	1.00	1.28	18.3
2	T1	2661	5.0	1.031	110.9	LOS F	103.7	756.9	1.00	1.30	24.3
Approach		2788	5.0	1.031	111.2	LOS F	103.7	756.9	1.00	1.30	24.0
SouthEast: Church Street											
21b	L3	241	5.0	0.500	31.1	LOS C	10.7	78.1	0.87	0.83	22.3
22	T1	14	5.0	0.500	25.6	LOS B	10.7	78.1	0.87	0.83	36.4
23a	R1	161	5.0	0.500	65.0	LOS E	10.7	78.1	0.95	0.80	33.6
Approach		416	5.0	0.500	44.1	LOS D	10.7	78.1	0.90	0.82	29.9
North: Olympic Drive											
7a	L1	233	5.0	0.574	28.6	LOS C	27.7	202.3	0.71	0.71	46.3
8	T1	1567	5.0	0.574	22.2	LOS B	27.9	204.0	0.70	0.65	48.0
9b	R3	9	5.0	0.082	77.9	LOS F	0.7	4.9	0.97	0.65	33.2
Approach		1809	5.0	0.574	23.3	LOS B	27.9	204.0	0.70	0.66	47.5
NorthWest: Church Street											
27b	L3	1	5.0	0.296	90.0	LOS F	7.0	50.9	0.93	0.76	31.6
28	T1	76	5.0	0.296	84.5	LOS F	7.0	50.9	0.93	0.76	21.9
29a	R1	12	5.0	0.296	87.8	LOS F	7.0	50.9	0.93	0.76	18.4
Approach		88	5.0	0.296	85.0	LOS F	7.0	50.9	0.93	0.76	21.6
All Vehicles		5102	5.0	1.031	74.1	LOS F	103.7	756.9	0.88	1.02	29.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	SouthEast Full Crossing	53	18.8	LOS B	0.1	0.1	0.50	0.50
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P7	NorthWest Full Crossing	53	23.6	LOS C	0.1	0.1	0.56	0.56
All Pedestrians		158	37.2	LOS D			0.67	0.67

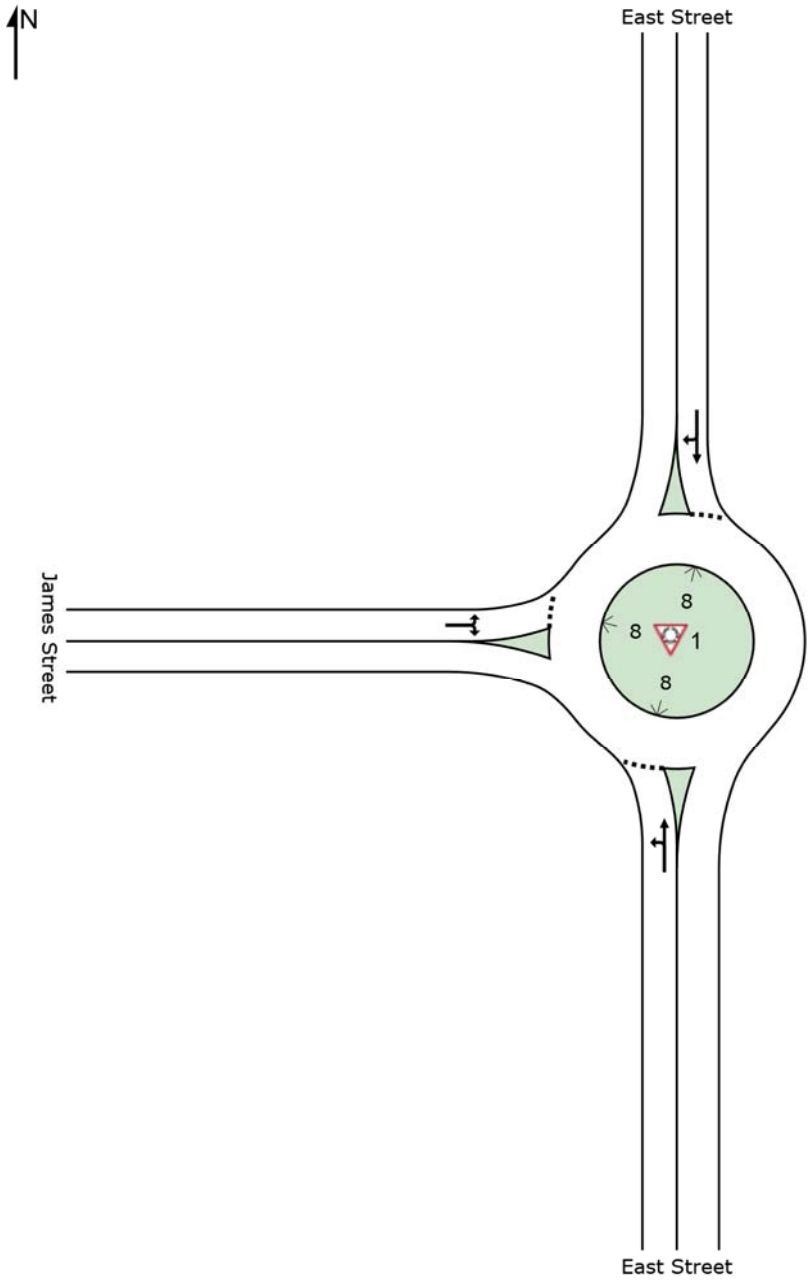
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Project: \\192.168.3.1\tdata\Synergy\Projects\17\17.392\Modelling\17.392m01v01 SIDRA Model.sip7

SITE LAYOUT

Site: 1 [AM EX James Street & East Street]

James Street and East Street intersection
Existing Situation
AM peak period
Roundabout



MOVEMENT SUMMARY

Site: 1 [AM EX James Street & East Street]

James Street and East Street intersection
Existing Situation
AM peak period
Roundabout

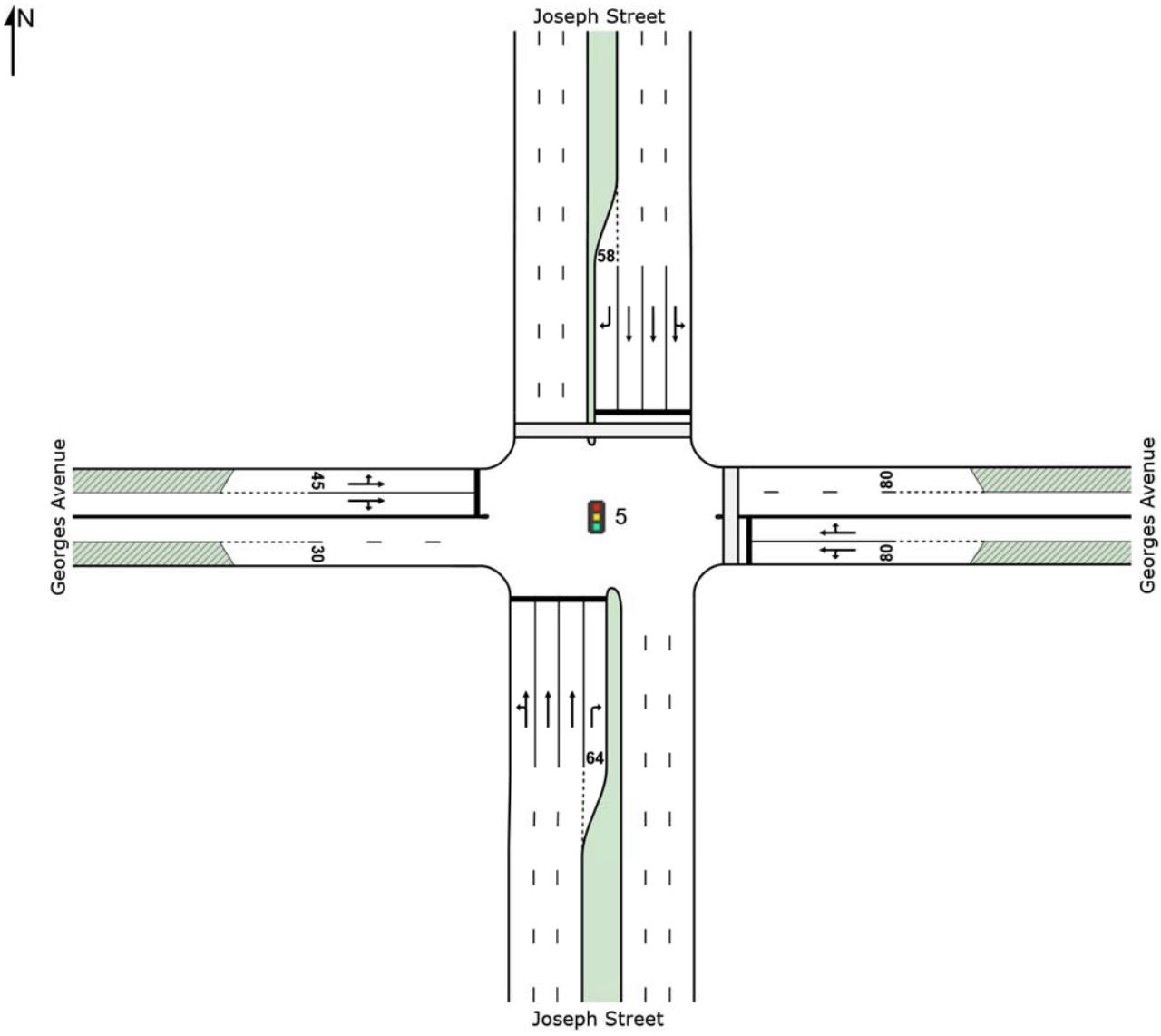
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: East Street											
1	L2	58	5.0	0.880	14.9	LOS B	17.4	127.3	1.00	0.98	36.1
2	T1	794	5.0	0.880	14.8	LOS B	17.4	127.3	1.00	0.98	37.7
Approach		852	5.0	0.880	14.8	LOS B	17.4	127.3	1.00	0.98	37.6
North: East Street											
8	T1	545	5.0	0.572	5.1	LOS A	6.8	49.3	0.28	0.51	45.7
9	R2	237	5.0	0.572	8.0	LOS A	6.8	49.3	0.28	0.51	43.1
Approach		782	5.0	0.572	6.0	LOS A	6.8	49.3	0.28	0.51	44.9
West: James Street											
10	L2	217	5.0	0.623	18.6	LOS B	5.4	39.4	0.98	1.13	30.3
12	R2	26	5.0	0.623	21.2	LOS B	5.4	39.4	0.98	1.13	32.2
Approach		243	5.0	0.623	18.9	LOS B	5.4	39.4	0.98	1.13	30.5
All Vehicles		1877	5.0	0.880	11.6	LOS A	17.4	127.3	0.70	0.80	39.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 5 [AM EX Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Existing situation
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 5 [AM EX Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Existing situation
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Joseph Street											
1	L2	35	5.0	1.063	137.8	LOS F	122.3	892.9	1.00	1.40	18.5
2	T1	2788	5.0	1.063	133.4	LOS F	122.3	892.9	1.00	1.41	15.2
3	R2	301	5.0	0.909	73.7	LOS F	20.0	146.3	1.00	1.02	27.5
Approach		3124	5.0	1.063	127.7	LOS F	122.3	892.9	1.00	1.37	16.2
East: Georges Avenue											
4	L2	398	5.0	0.372	20.8	LOS B	14.6	106.9	0.55	0.73	43.7
5	T1	203	5.0	0.426	48.0	LOS D	12.7	92.5	0.87	0.74	25.9
6	R2	8	5.0	0.426	52.6	LOS D	12.7	92.5	0.87	0.74	20.2
Approach		609	5.0	0.426	30.3	LOS C	14.6	106.9	0.66	0.73	36.8
North: Joseph Street											
7	L2	84	5.0	0.853	62.0	LOS E	36.9	269.4	1.00	0.95	18.3
8	T1	1403	5.0	0.853	56.8	LOS E	37.5	273.7	0.99	0.95	27.8
9	R2	99	5.0	0.805	52.5	LOS D	5.3	38.4	1.00	0.84	18.5
Approach		1586	5.0	0.853	56.9	LOS E	37.5	273.7	0.99	0.94	26.8
West: Georges Avenue											
10	L2	199	5.0	0.528	42.5	LOS C	13.0	94.5	0.79	0.76	15.0
11	T1	321	5.0	1.045	128.4	LOS F	43.1	314.3	0.97	1.30	14.1
12	R2	89	5.0	1.045	146.8	LOS F	43.1	314.3	1.00	1.38	17.3
Approach		609	5.0	1.045	103.1	LOS F	43.1	314.3	0.92	1.14	14.9
All Vehicles		5929	5.0	1.063	96.2	LOS F	122.3	892.9	0.95	1.17	19.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

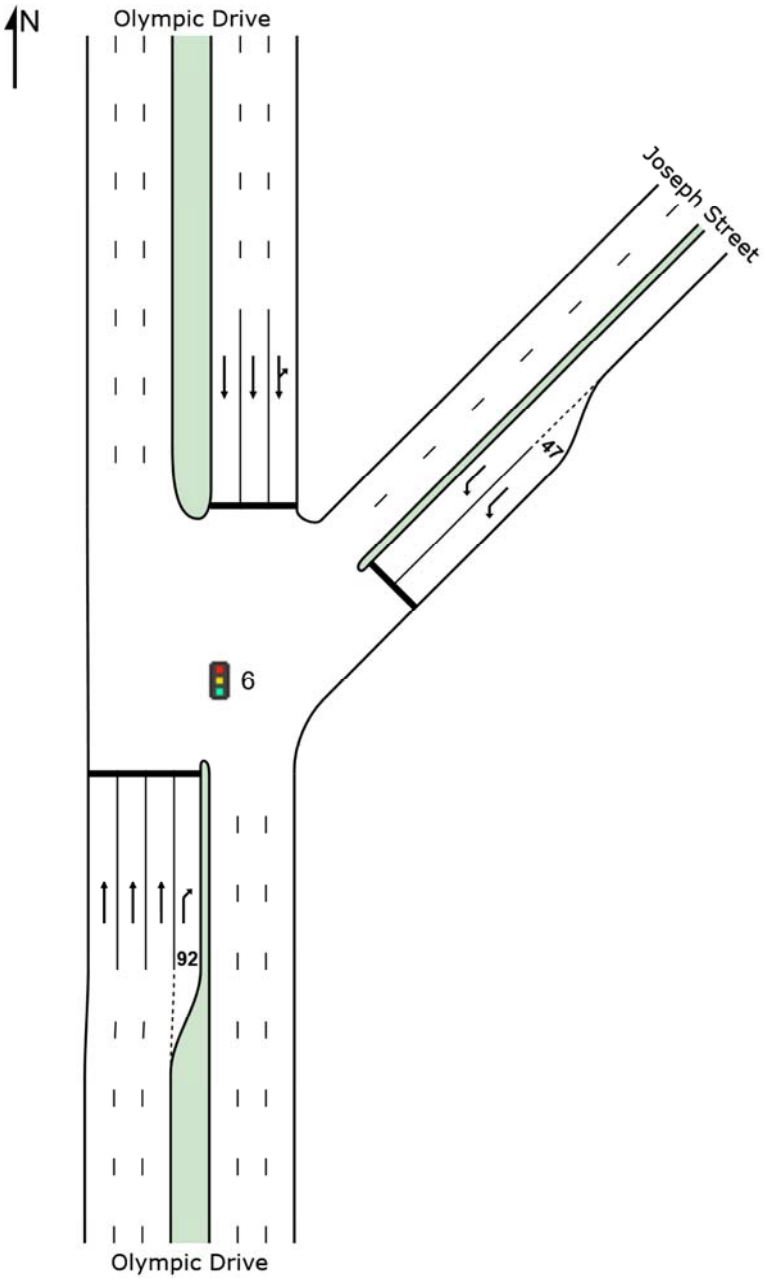
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	41.9	LOS E	0.2	0.2	0.75	0.75
P3	North Full Crossing	53	47.3	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		105	44.6	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 6 [AM EX Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Existing situation
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 6 [AM EX Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Existing situation
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Phase Times)

Movement Performance - Vehicles

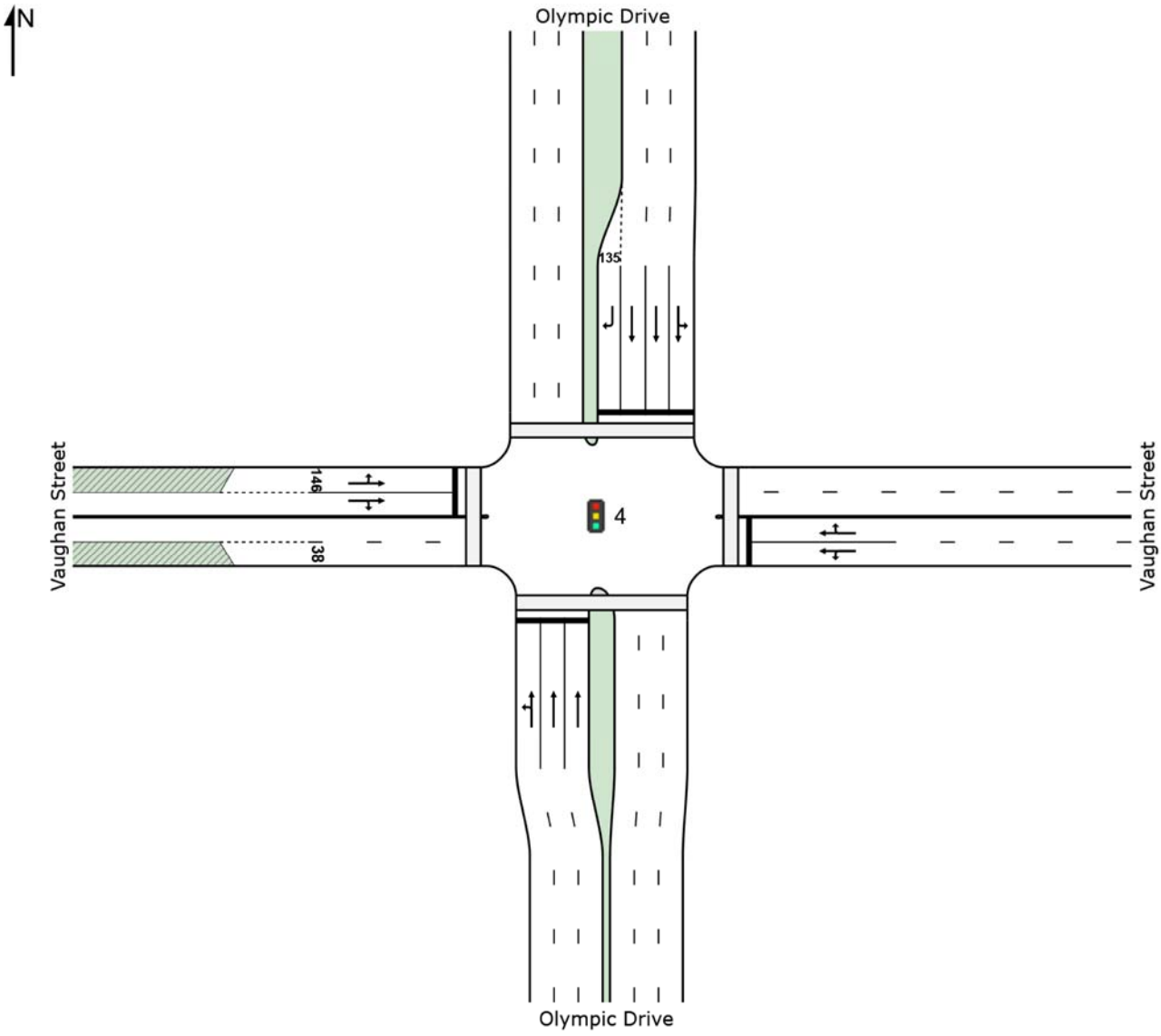
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Olympic Drive											
2	T1	2379	5.0	0.456	0.4	LOS A	4.0	29.0	0.15	0.09	68.5
3a	R1	700	5.0	0.670	29.2	LOS C	29.0	212.0	0.75	0.93	28.3
Approach		3079	5.0	0.670	7.0	LOS A	29.0	212.0	0.29	0.28	55.9
NorthEast: Joseph Street											
24a	L1	197	5.0	0.099	21.9	LOS B	3.5	25.5	0.53	0.63	30.6
Approach		197	5.0	0.099	21.9	LOS B	3.5	25.5	0.53	0.63	30.6
North: Olympic Drive											
7b	L3	177	5.0	0.735	48.8	LOS D	31.6	230.5	0.92	0.84	22.4
8	T1	1428	5.0	0.735	41.3	LOS C	33.9	247.2	0.92	0.83	30.6
Approach		1605	5.0	0.735	42.1	LOS C	33.9	247.2	0.92	0.83	29.8
All Vehicles		4881	5.0	0.735	19.1	LOS B	33.9	247.2	0.50	0.48	42.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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 LAYOUT

Site: 4 [AM EX Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Exisitng Situation
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 4 [AM EX Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Exisitng Situation
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1	L2	142	5.0	1.087	163.2	LOS F	104.9	765.7	1.00	1.43	10.9
2	T1	2382	5.0	1.087	158.6	LOS F	107.3	783.1	1.00	1.47	5.9
Approach		2524	5.0	1.087	158.9	LOS F	107.3	783.1	1.00	1.46	6.3
East: Vaughan Street											
4	L2	34	5.0	0.341	61.9	LOS E	7.4	54.1	0.91	0.75	13.6
5	T1	362	5.0	1.076	136.8	LOS F	46.6	339.8	0.98	1.28	12.3
6	R2	107	5.0	1.076	164.7	LOS F	46.6	339.8	1.00	1.44	6.0
Approach		503	5.0	1.076	137.7	LOS F	46.6	339.8	0.98	1.28	10.9
North: Olympic Drive											
7	L2	100	5.0	0.561	32.1	LOS C	26.6	194.5	0.73	0.69	23.6
8	T1	1563	5.0	0.561	25.3	LOS B	27.0	197.1	0.73	0.66	26.2
9	R2	139	5.0	1.068	164.1	LOS F	15.9	116.4	1.00	1.15	10.8
Approach		1802	5.0	1.068	36.4	LOS C	27.0	197.1	0.75	0.70	21.5
West: Vaughan Street											
10	L2	117	5.0	1.077	167.4	LOS F	38.4	280.0	1.00	1.42	10.7
11	T1	372	5.0	1.077	162.6	LOS F	38.4	280.0	1.00	1.41	10.7
12	R2	146	5.0	1.077	167.1	LOS F	37.9	276.6	1.00	1.40	10.5
Approach		635	5.0	1.077	164.5	LOS F	38.4	280.0	1.00	1.41	10.7
All Vehicles		5464	5.0	1.087	117.2	LOS F	107.3	783.1	0.92	1.19	9.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

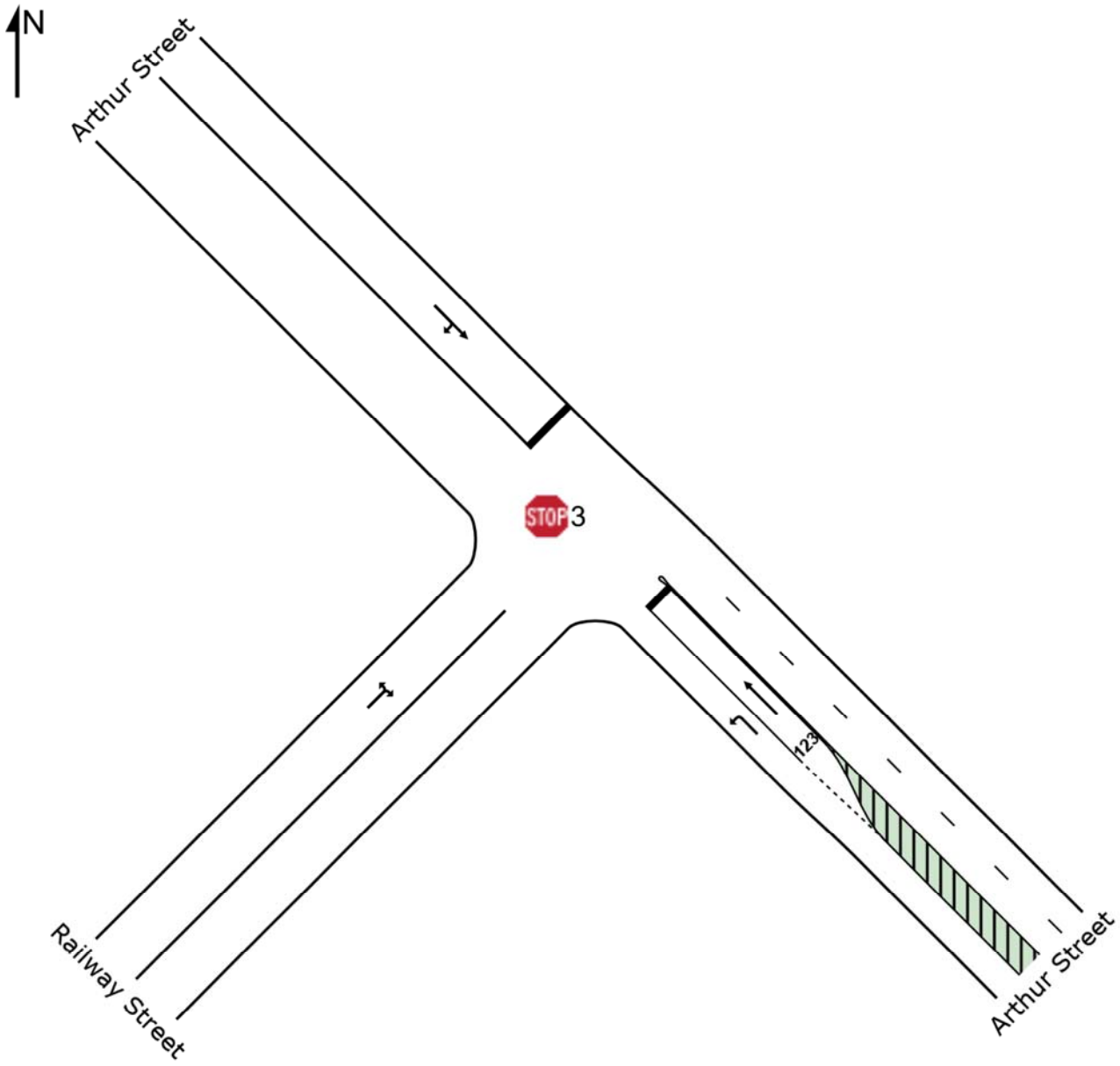
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	65.5	LOS F	0.2	0.2	0.94	0.94
P2	East Full Crossing	53	21.9	LOS C	0.1	0.1	0.54	0.54
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	32.1	LOS D	0.1	0.1	0.65	0.65
All Pedestrians		211	47.2	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 3 [AM EX Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Existing Situation
AM peak period
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 3 [AM EX Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Existing Situation
AM peak period
Stop (Two-Way)

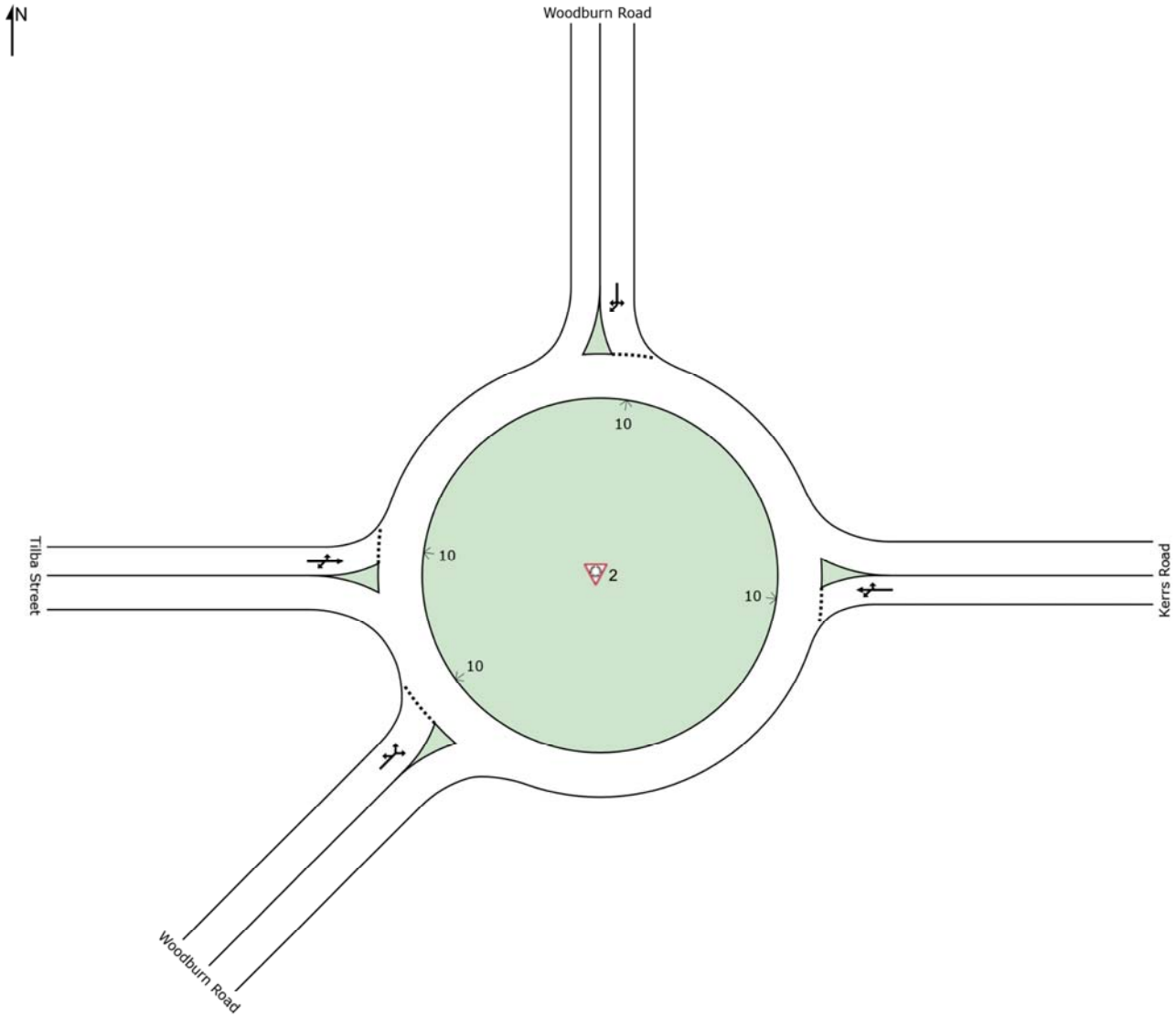
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Arthur Street											
21	L2	977	5.0	0.542	5.7	LOS A	0.0	0.0	0.00	0.57	50.2
22	T1	18	5.0	0.186	43.6	LOS D	0.5	3.4	0.94	1.01	35.3
Approach		995	5.0	0.542	6.4	LOS A	0.5	3.4	0.02	0.58	49.6
NorthWest: Arthur Street											
28	T1	6	5.0	0.038	14.6	LOS B	0.1	0.8	0.88	1.00	42.1
29	R2	3	5.0	0.038	33.3	LOS C	0.1	0.8	0.88	1.00	40.2
Approach		9	5.0	0.038	20.9	LOS B	0.1	0.8	0.88	1.00	41.5
SouthWest: Railway Street											
30	L2	9	5.0	0.680	5.7	LOS A	0.0	0.0	0.00	0.57	53.1
32	R2	1318	5.0	0.680	5.7	LOS A	0.0	0.0	0.00	0.57	50.8
Approach		1327	5.0	0.680	5.7	NA	0.0	0.0	0.00	0.57	50.8
All Vehicles		2332	5.0	0.680	6.0	NA	0.5	3.4	0.01	0.58	50.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 2 [AM EX Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Existing Situation
AM peak period
Roundabout



MOVEMENT SUMMARY

Site: 2 [AM EX Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Existing Situation
AM peak period
Roundabout

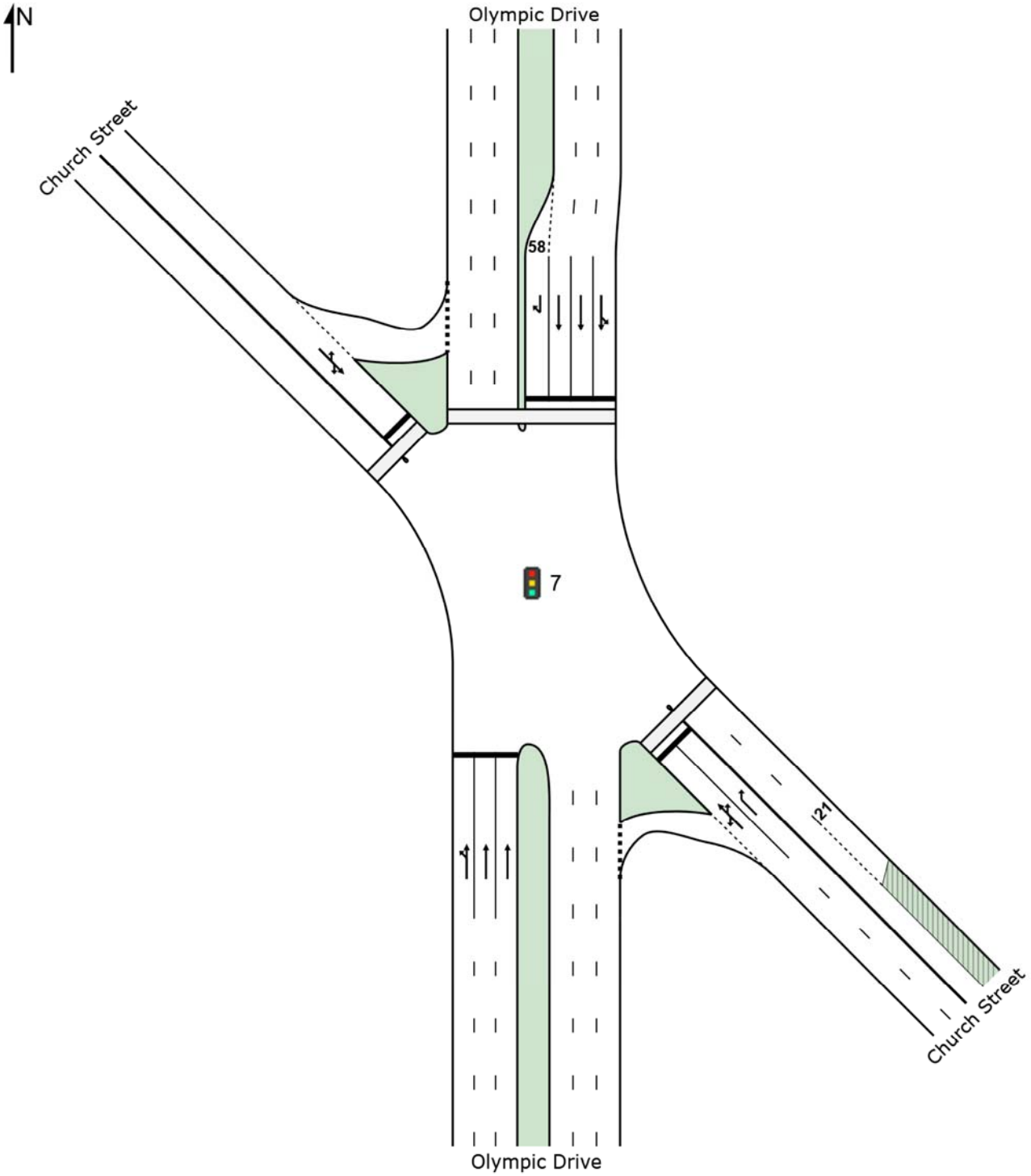
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Kerrs Road											
4a	L1	177	5.0	0.476	3.9	LOS A	2.7	20.0	0.34	0.54	46.9
5	T1	227	5.0	0.476	4.2	LOS A	2.7	20.0	0.34	0.54	46.6
6	R2	215	5.0	0.476	7.5	LOS A	2.7	20.0	0.34	0.54	46.4
Approach		619	5.0	0.476	5.3	LOS A	2.7	20.0	0.34	0.54	46.6
North: Woodburn Road											
7	L2	234	5.0	0.367	5.7	LOS A	1.6	12.0	0.49	0.71	45.5
9a	R1	89	5.0	0.367	8.0	LOS A	1.6	12.0	0.49	0.71	46.1
9	R2	16	5.0	0.367	8.8	LOS A	1.6	12.0	0.49	0.71	45.6
Approach		339	5.0	0.367	6.5	LOS A	1.6	12.0	0.49	0.71	45.6
West: Tilba Street											
10	L2	28	5.0	0.370	6.2	LOS A	1.8	13.1	0.54	0.69	44.7
11	T1	267	5.0	0.370	6.0	LOS A	1.8	13.1	0.54	0.69	46.2
12b	R3	31	5.0	0.370	10.1	LOS A	1.8	13.1	0.54	0.69	46.4
Approach		326	5.0	0.370	6.4	LOS A	1.8	13.1	0.54	0.69	46.1
SouthWest: Woodburn Road											
30b	L3	29	5.0	0.273	6.0	LOS A	1.2	8.5	0.46	0.68	45.3
30a	L1	106	5.0	0.273	4.9	LOS A	1.2	8.5	0.46	0.68	46.2
32a	R1	135	5.0	0.273	7.8	LOS A	1.2	8.5	0.46	0.68	46.4
Approach		271	5.0	0.273	6.5	LOS A	1.2	8.5	0.46	0.68	46.2
All Vehicles		1555	5.0	0.476	6.0	LOS A	2.7	20.0	0.43	0.63	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 7 [AM FU Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Future Scenario
AM peak period
Signals - Fixed Time Isolated


N
Olympic Drive
Church Street
58
7
21
Church Street
Olympic Drive

MOVEMENT SUMMARY

Site: 7 [AM FU Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Future Scenario
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1a	L1	127	5.0	1.046	127.6	LOS F	106.0	774.1	1.00	1.33	17.2
2	T1	2661	5.0	1.046	121.5	LOS F	107.6	785.5	1.00	1.35	22.8
Approach		2788	5.0	1.046	121.7	LOS F	107.6	785.5	1.00	1.35	22.6
SouthEast: Church Street											
21b	L3	241	5.0	0.526	37.2	LOS C	11.3	82.7	0.96	0.87	19.7
22	T1	14	5.0	0.526	31.7	LOS C	11.3	82.7	0.96	0.87	34.2
23a	R1	196	4.1	0.526	62.0	LOS E	11.3	82.7	0.96	0.82	34.4
Approach		451	4.6	0.526	47.8	LOS D	11.3	82.7	0.96	0.85	29.6
North: Olympic Drive											
7a	L1	243	4.8	0.584	29.4	LOS C	28.4	206.9	0.72	0.72	45.9
8	T1	1567	5.0	0.584	23.0	LOS B	28.6	209.1	0.71	0.66	47.5
9b	R3	9	5.0	0.082	77.9	LOS F	0.7	4.9	0.97	0.65	33.2
Approach		1820	5.0	0.584	24.1	LOS B	28.6	209.1	0.71	0.67	47.1
NorthWest: Church Street											
27b	L3	1	5.0	0.296	90.5	LOS F	7.1	51.5	0.93	0.76	31.5
28	T1	76	5.0	0.296	85.0	LOS F	7.1	51.5	0.93	0.76	21.8
29a	R1	12	5.0	0.296	88.3	LOS F	7.1	51.5	0.93	0.76	18.3
Approach		88	5.0	0.296	85.5	LOS F	7.1	51.5	0.93	0.76	21.5
All Vehicles		5147	5.0	1.046	80.1	LOS F	107.6	785.5	0.89	1.05	27.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	SouthEast Full Crossing	53	19.3	LOS B	0.1	0.1	0.51	0.51
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P7	NorthWest Full Crossing	53	24.1	LOS C	0.1	0.1	0.57	0.57
All Pedestrians		158	37.6	LOS D			0.68	0.68

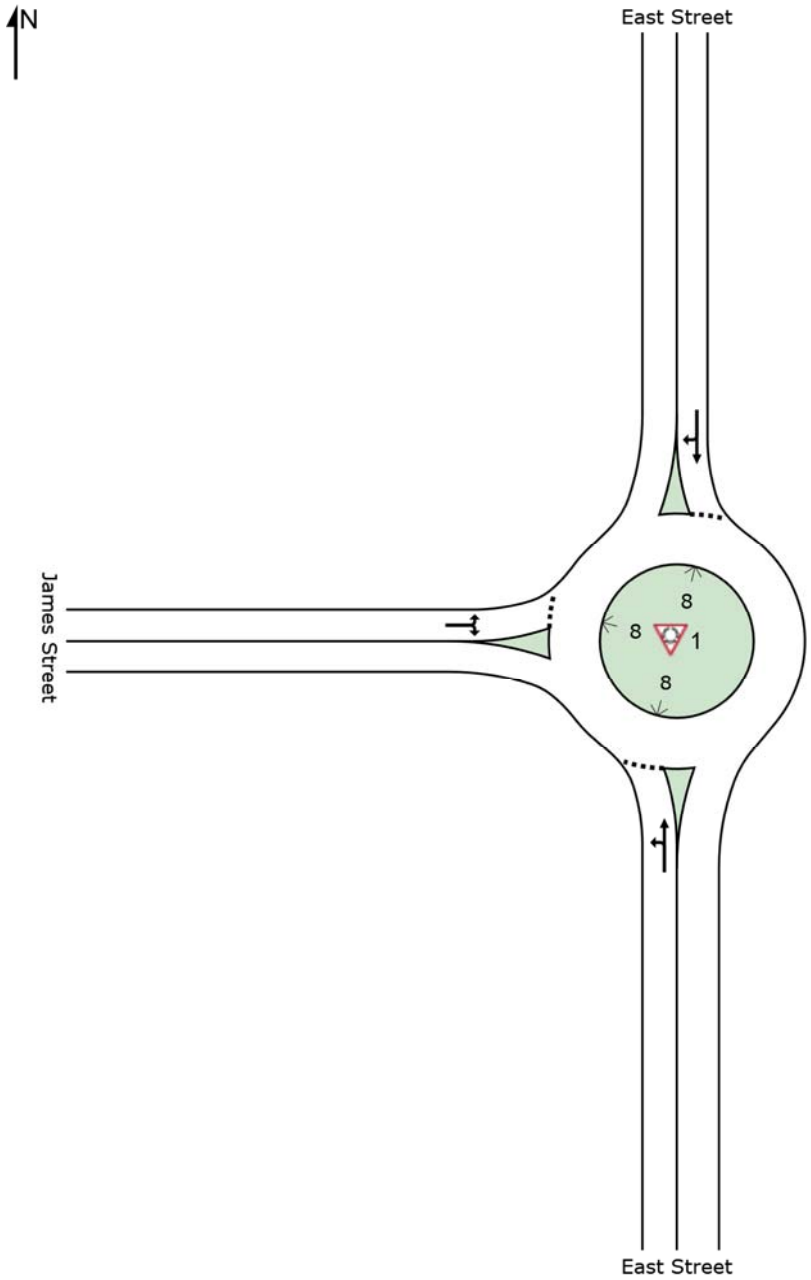
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Project: \\192.168.3.1\tdata\Synergy\Projects\17\17.392\Modelling\17.392m01v01 SIDRA Model.sip7

SITE LAYOUT

Site: 1 [AM FU James Street & East Street]

James Street and East Street intersection
Future Scenario
AM peak period
Roundabout



MOVEMENT SUMMARY

Site: 1 [AM FU James Street & East Street]

James Street and East Street intersection
Future Scenario
AM peak period
Roundabout

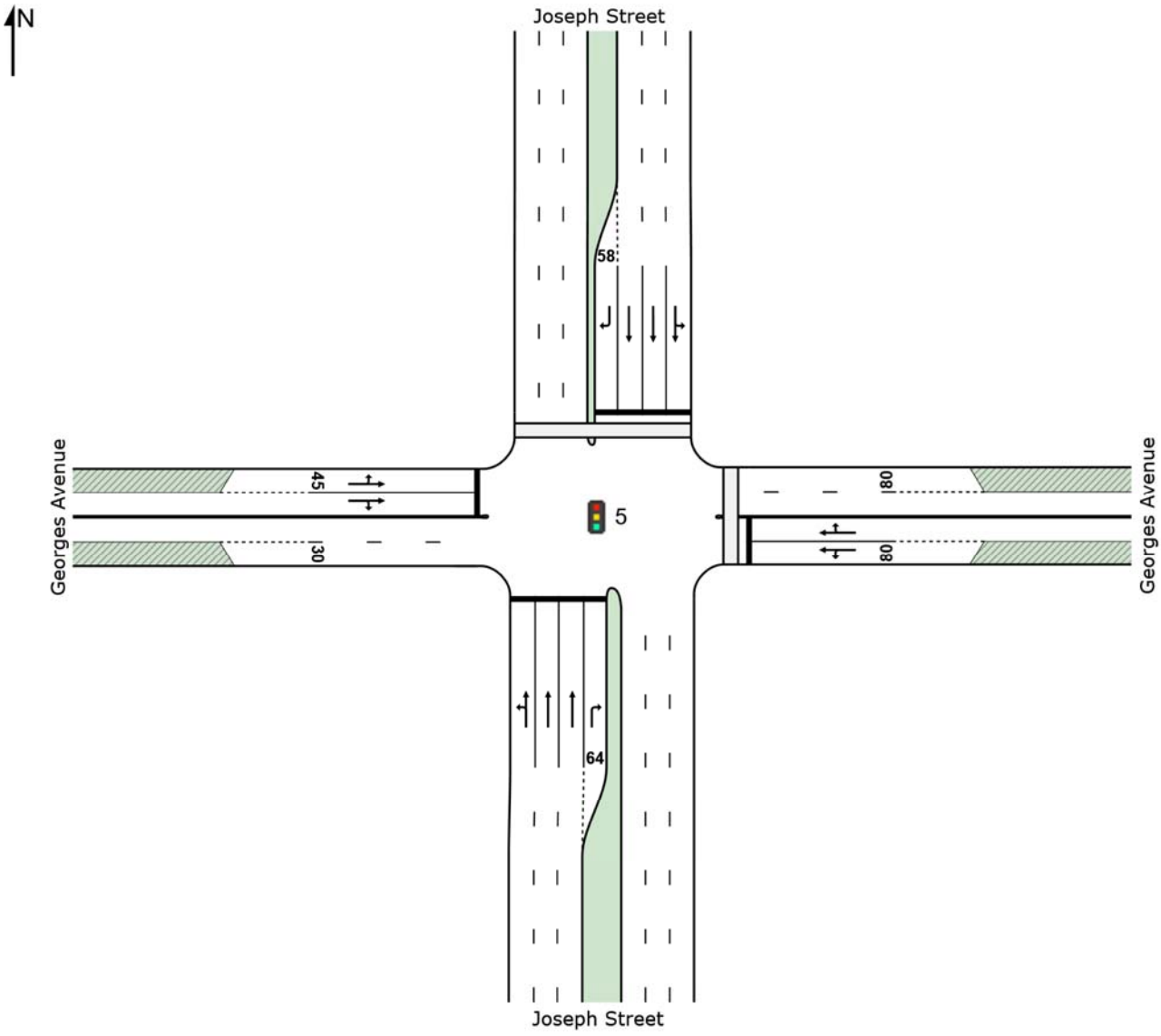
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: East Street											
1	L2	58	5.0	0.883	15.1	LOS B	17.8	129.7	1.00	0.98	36.0
2	T1	797	5.0	0.883	15.0	LOS B	17.8	129.7	1.00	0.98	37.5
Approach		855	5.0	0.883	15.0	LOS B	17.8	129.7	1.00	0.98	37.4
North: East Street											
8	T1	557	4.9	0.580	5.1	LOS A	6.9	50.7	0.28	0.51	45.7
9	R2	237	5.0	0.580	8.0	LOS A	6.9	50.7	0.28	0.51	43.1
Approach		794	4.9	0.580	6.0	LOS A	6.9	50.7	0.28	0.51	45.0
West: James Street											
10	L2	217	5.0	0.626	18.8	LOS B	5.4	39.8	0.98	1.13	30.2
12	R2	26	5.0	0.626	21.4	LOS B	5.4	39.8	0.98	1.13	32.1
Approach		243	5.0	0.626	19.1	LOS B	5.4	39.8	0.98	1.13	30.4
All Vehicles		1892	5.0	0.883	11.7	LOS A	17.8	129.7	0.70	0.80	39.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 5 [AM FU Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Future Scenario
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 5 [AM FU Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Future Scenario
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Joseph Street											
1	L2	35	5.0	1.064	138.6	LOS F	122.8	896.1	1.00	1.41	18.4
2	T1	2792	5.0	1.064	134.2	LOS F	122.8	896.1	1.00	1.42	15.1
3	R2	301	5.0	0.909	73.7	LOS F	20.0	146.3	1.00	1.02	27.5
Approach		3127	5.0	1.064	128.4	LOS F	122.8	896.1	1.00	1.38	16.1
East: Georges Avenue											
4	L2	398	5.0	0.372	20.8	LOS B	14.6	106.9	0.55	0.73	43.7
5	T1	203	5.0	0.426	48.0	LOS D	12.7	92.5	0.87	0.74	25.9
6	R2	8	5.0	0.426	52.6	LOS D	12.7	92.5	0.87	0.74	20.2
Approach		609	5.0	0.426	30.3	LOS C	14.6	106.9	0.66	0.73	36.8
North: Joseph Street											
7	L2	84	5.0	0.859	62.8	LOS E	37.5	274.0	1.00	0.96	18.1
8	T1	1415	5.0	0.859	57.7	LOS E	38.1	278.3	0.99	0.95	27.6
9	R2	99	5.0	0.805	52.5	LOS D	5.3	38.4	1.00	0.84	18.5
Approach		1598	5.0	0.859	57.6	LOS E	38.1	278.3	0.99	0.95	26.6
West: Georges Avenue											
10	L2	199	5.0	0.528	42.5	LOS C	13.0	94.5	0.79	0.76	15.0
11	T1	321	5.0	1.045	128.4	LOS F	43.1	314.3	0.97	1.30	14.1
12	R2	89	5.0	1.045	146.8	LOS F	43.1	314.3	1.00	1.38	17.3
Approach		609	5.0	1.045	103.1	LOS F	43.1	314.3	0.92	1.14	14.9
All Vehicles		5944	5.0	1.064	96.7	LOS F	122.8	896.1	0.95	1.17	19.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

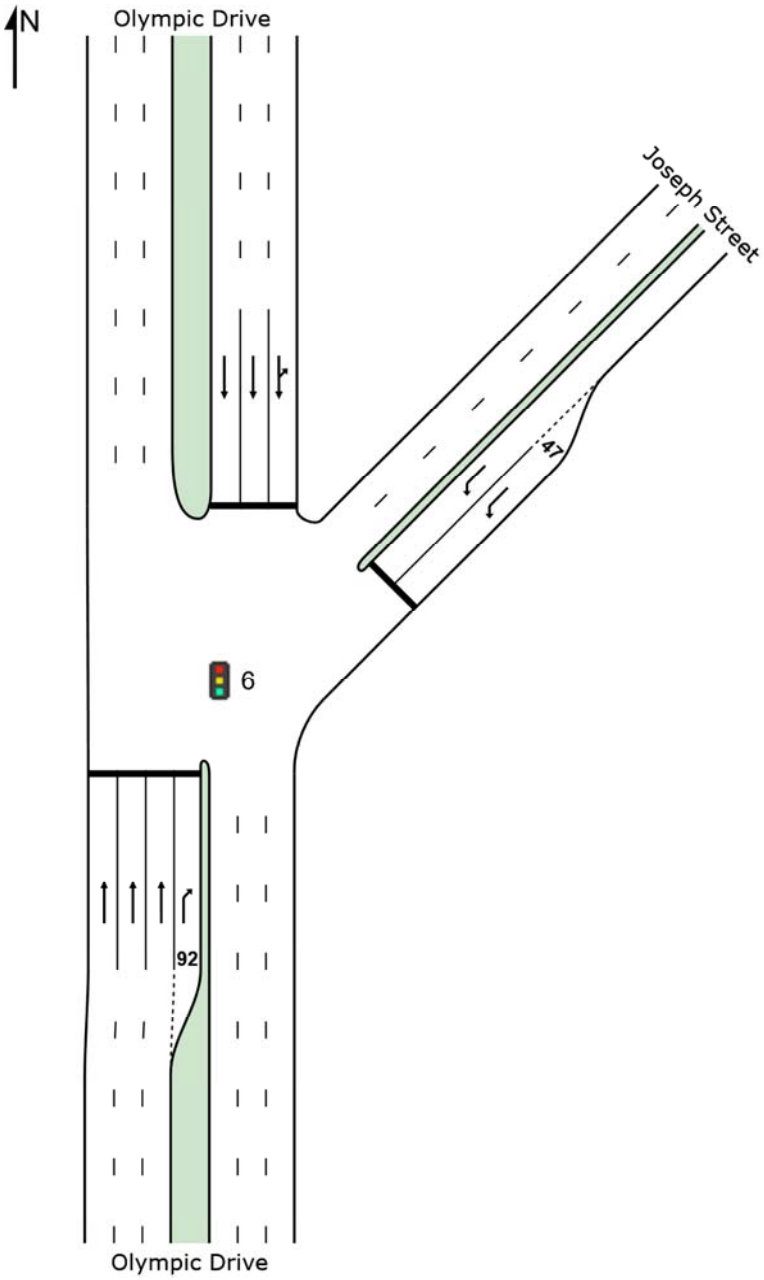
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	41.9	LOS E	0.2	0.2	0.75	0.75
P3	North Full Crossing	53	47.3	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		105	44.6	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 6 [AM FU Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Future Scenario
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 6 [AM FU Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Future Scenario
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

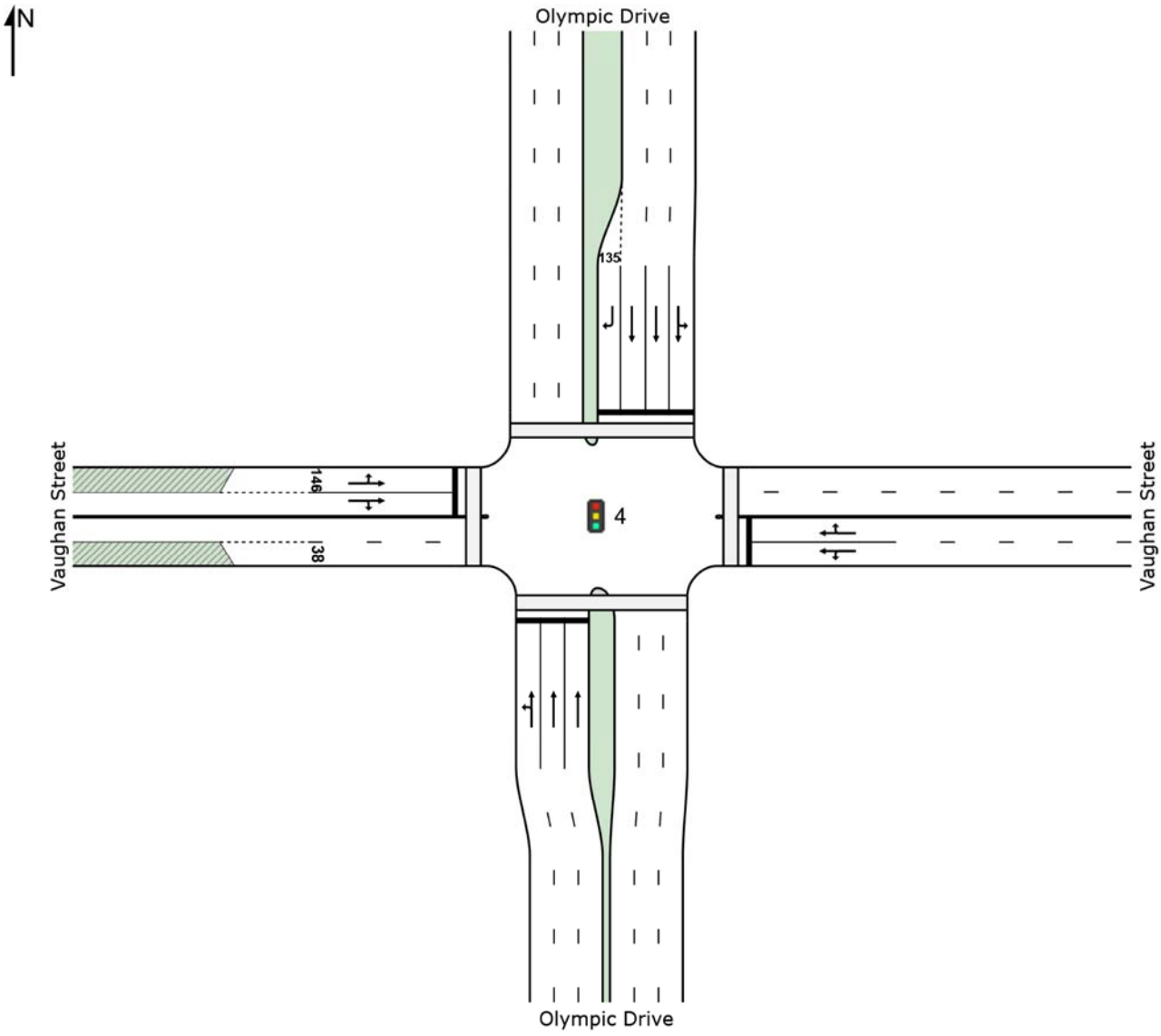
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Olympic Drive											
2	T1	2379	5.0	0.456	0.4	LOS A	4.0	29.0	0.15	0.09	68.5
3a	R1	703	5.0	0.673	29.3	LOS C	29.3	213.8	0.75	0.93	28.3
Approach		3082	5.0	0.673	7.0	LOS A	29.3	213.8	0.29	0.28	55.8
NorthEast: Joseph Street											
24a	L1	208	4.7	0.105	22.0	LOS B	3.7	27.1	0.53	0.63	30.6
Approach		208	4.7	0.105	22.0	LOS B	3.7	27.1	0.53	0.63	30.6
North: Olympic Drive											
7b	L3	177	5.0	0.735	48.8	LOS D	31.6	230.5	0.92	0.84	22.4
8	T1	1428	5.0	0.735	41.3	LOS C	33.9	247.2	0.92	0.83	30.6
Approach		1605	5.0	0.735	42.1	LOS C	33.9	247.2	0.92	0.83	29.8
All Vehicles		4896	5.0	0.735	19.2	LOS B	33.9	247.2	0.50	0.48	42.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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 LAYOUT

Site: 4 [AM FU Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Future Scenario
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 4 [AM FU Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Future Scenario
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1	L2	142	5.0	1.087	163.2	LOS F	104.9	765.7	1.00	1.43	10.9
2	T1	2382	5.0	1.087	158.6	LOS F	107.3	783.1	1.00	1.47	5.9
Approach		2524	5.0	1.087	158.9	LOS F	107.3	783.1	1.00	1.46	6.3
East: Vaughan Street											
4	L2	34	5.0	0.341	61.9	LOS E	7.4	54.1	0.91	0.75	13.6
5	T1	362	5.0	1.076	136.8	LOS F	46.6	339.8	0.98	1.28	12.3
6	R2	107	5.0	1.076	164.7	LOS F	46.6	339.8	1.00	1.44	6.0
Approach		503	5.0	1.076	137.7	LOS F	46.6	339.8	0.98	1.28	10.9
North: Olympic Drive											
7	L2	100	5.0	0.561	32.1	LOS C	26.6	194.5	0.73	0.69	23.6
8	T1	1563	5.0	0.561	25.3	LOS B	27.0	197.1	0.73	0.66	26.2
9	R2	139	5.0	1.068	164.1	LOS F	15.9	116.4	1.00	1.15	10.8
Approach		1802	5.0	1.068	36.4	LOS C	27.0	197.1	0.75	0.70	21.5
West: Vaughan Street											
10	L2	117	5.0	1.077	167.4	LOS F	38.4	280.0	1.00	1.42	10.7
11	T1	372	5.0	1.077	162.6	LOS F	38.4	280.0	1.00	1.41	10.7
12	R2	146	5.0	1.077	167.1	LOS F	37.9	276.6	1.00	1.40	10.5
Approach		635	5.0	1.077	164.5	LOS F	38.4	280.0	1.00	1.41	10.7
All Vehicles		5464	5.0	1.087	117.2	LOS F	107.3	783.1	0.92	1.19	9.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

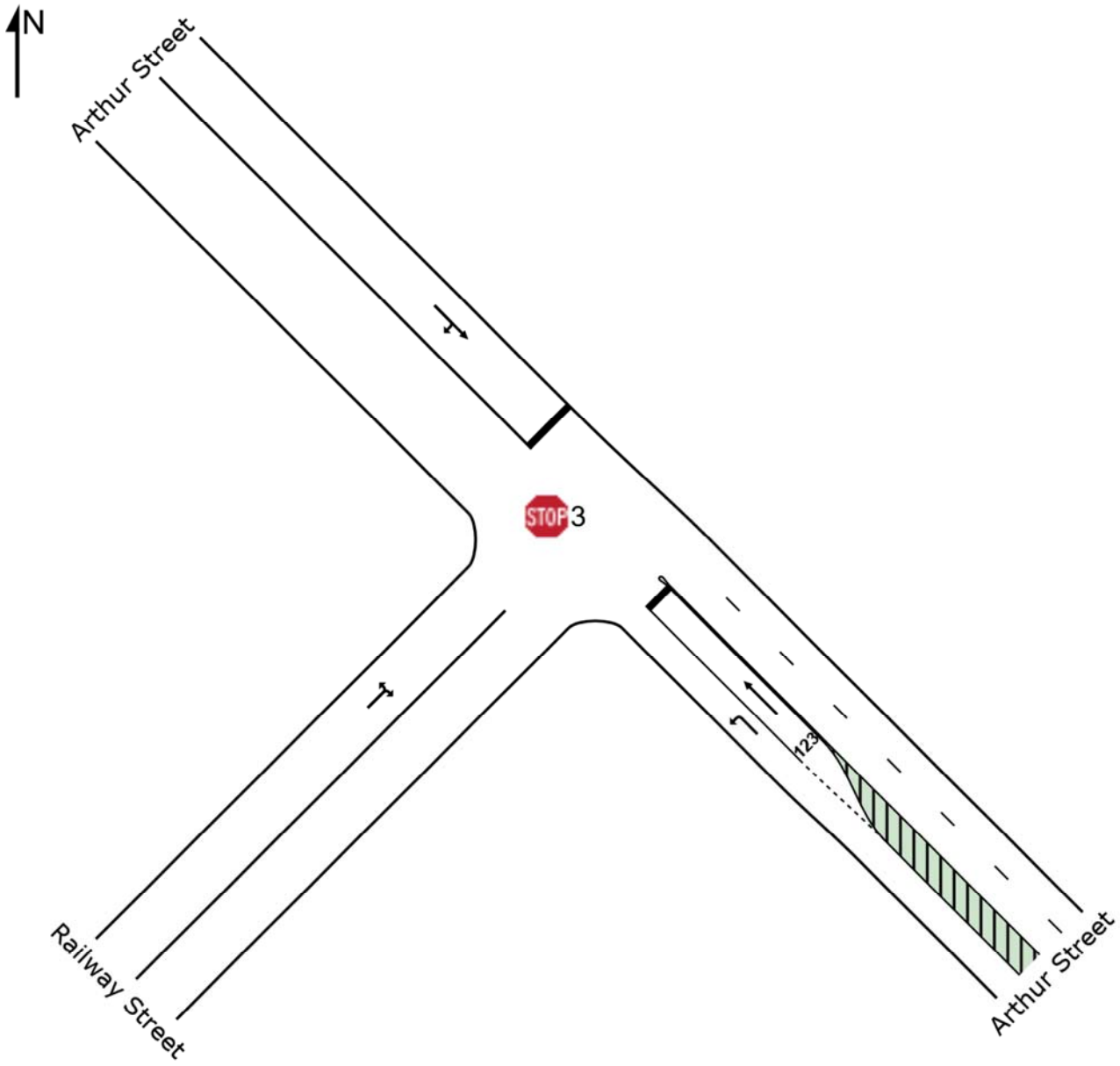
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	65.5	LOS F	0.2	0.2	0.94	0.94
P2	East Full Crossing	53	21.9	LOS C	0.1	0.1	0.54	0.54
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	32.1	LOS D	0.1	0.1	0.65	0.65
All Pedestrians		211	47.2	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 3 [AM FU Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Future Scenario
AM peak period
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 3 [AM FU Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Future Scenario
AM peak period
Stop (Two-Way)

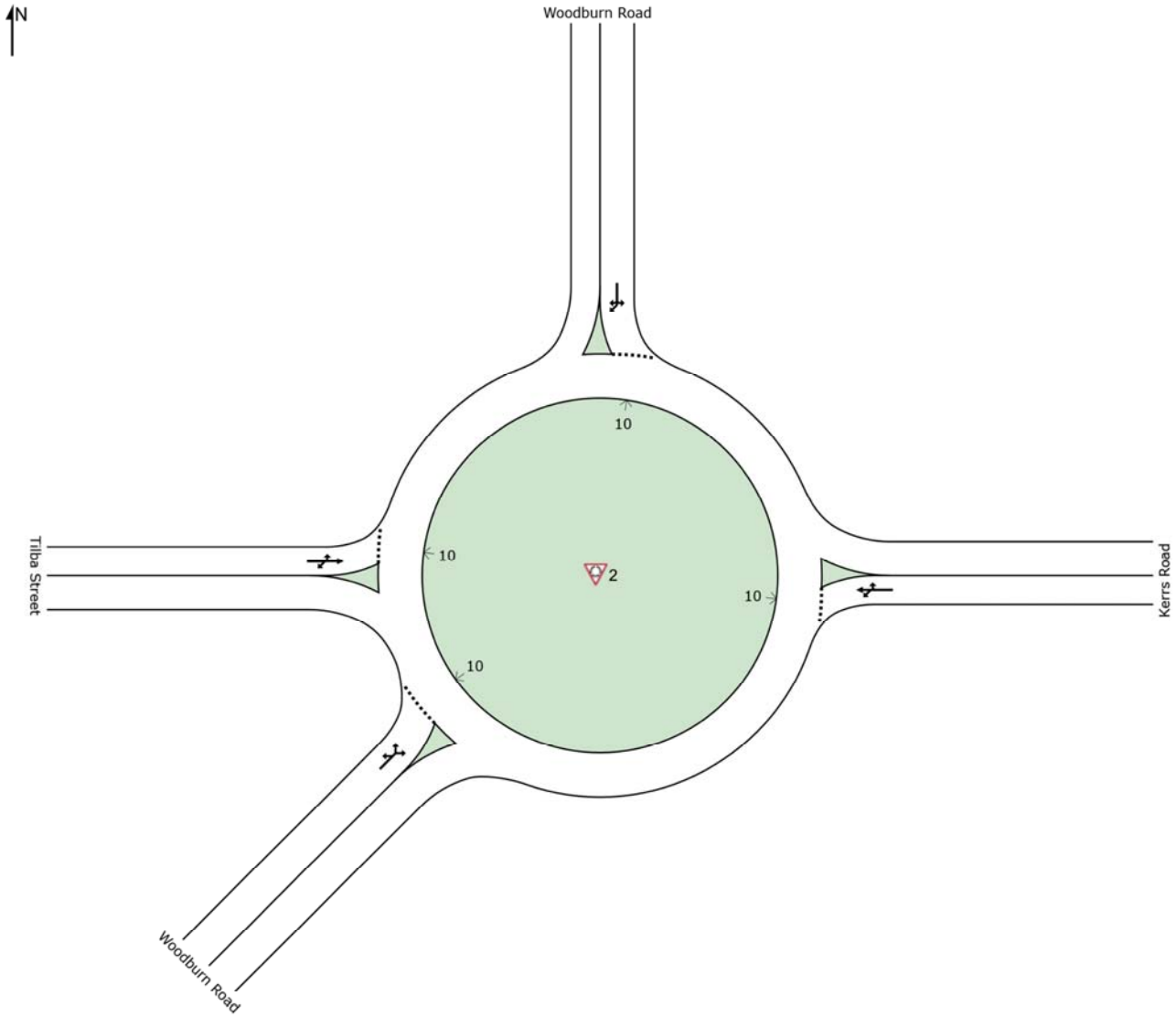
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Arthur Street											
21	L2	980	5.0	0.544	5.7	LOS A	0.0	0.0	0.00	0.57	50.2
22	T1	18	5.0	0.195	45.6	LOS D	0.5	3.6	0.94	1.01	34.7
Approach		998	5.0	0.544	6.4	LOS A	0.5	3.6	0.02	0.58	49.5
NorthWest: Arthur Street											
28	T1	6	5.0	0.039	14.9	LOS B	0.1	0.8	0.89	1.00	41.9
29	R2	3	5.0	0.039	34.2	LOS C	0.1	0.8	0.89	1.00	40.0
Approach		9	5.0	0.039	21.3	LOS B	0.1	0.8	0.89	1.00	41.3
SouthWest: Railway Street											
30	L2	9	5.0	0.686	5.7	LOS A	0.0	0.0	0.00	0.57	53.1
32	R2	1329	5.0	0.686	5.7	LOS A	0.0	0.0	0.00	0.57	50.8
Approach		1339	5.0	0.686	5.7	NA	0.0	0.0	0.00	0.57	50.8
All Vehicles		2346	5.0	0.686	6.0	NA	0.5	3.6	0.01	0.58	50.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 2 [AM FU Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Future Scenario
AM peak period
Roundabout



MOVEMENT SUMMARY

Site: 2 [AM FU Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Future Scenario
AM peak period
Roundabout

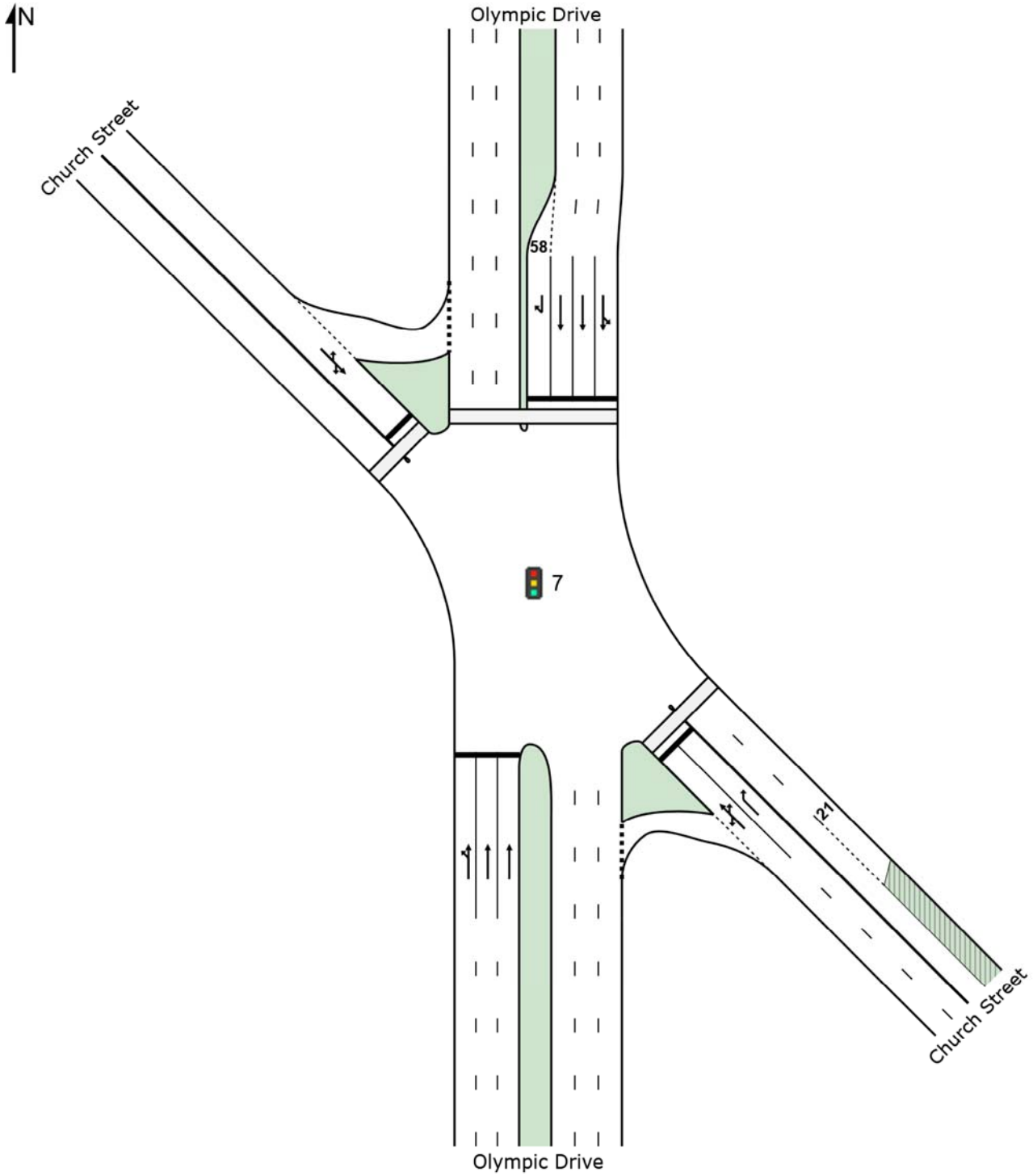
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Kerrs Road											
4a	L1	177	5.0	0.481	3.9	LOS A	2.8	20.3	0.34	0.54	46.9
5	T1	227	5.0	0.481	4.2	LOS A	2.8	20.3	0.34	0.54	46.6
6	R2	221	4.9	0.481	7.5	LOS A	2.8	20.3	0.34	0.54	46.4
Approach		625	4.9	0.481	5.3	LOS A	2.8	20.3	0.34	0.54	46.6
North: Woodburn Road											
7	L2	234	5.0	0.367	5.7	LOS A	1.6	12.0	0.49	0.71	45.5
9a	R1	89	5.0	0.367	8.0	LOS A	1.6	12.0	0.49	0.71	46.1
9	R2	16	5.0	0.367	8.8	LOS A	1.6	12.0	0.49	0.71	45.6
Approach		339	5.0	0.367	6.5	LOS A	1.6	12.0	0.49	0.71	45.6
West: Tilba Street											
10	L2	28	5.0	0.371	6.2	LOS A	1.8	13.1	0.55	0.69	44.7
11	T1	267	5.0	0.371	6.0	LOS A	1.8	13.1	0.55	0.69	46.2
12b	R3	31	5.0	0.371	10.1	LOS A	1.8	13.1	0.55	0.69	46.4
Approach		326	5.0	0.371	6.4	LOS A	1.8	13.1	0.55	0.69	46.1
SouthWest: Woodburn Road											
30b	L3	29	5.0	0.274	6.0	LOS A	1.2	8.5	0.46	0.68	45.3
30a	L1	106	5.0	0.274	5.0	LOS A	1.2	8.5	0.46	0.68	46.2
32a	R1	135	5.0	0.274	7.8	LOS A	1.2	8.5	0.46	0.68	46.4
Approach		271	5.0	0.274	6.5	LOS A	1.2	8.5	0.46	0.68	46.2
All Vehicles		1561	5.0	0.481	6.0	LOS A	2.8	20.3	0.44	0.63	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 7 [PM EX Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Existing situation
PM peak period
Signals - Fixed Time Isolated


N
Olympic Drive
Church Street
58
7
21
Church Street
Olympic Drive

MOVEMENT SUMMARY

Site: 7 [PM EX Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Existing situation
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1a	L1	101	5.0	0.867	61.3	LOS E	41.8	304.8	1.00	0.96	27.2
2	T1	1627	5.0	0.867	54.9	LOS D	42.6	311.3	1.00	0.97	36.4
Approach		1728	5.0	0.867	55.3	LOS D	42.6	311.3	1.00	0.96	35.8
SouthEast: Church Street											
21b	L3	495	5.0	0.807	52.0	LOS D	27.4	200.2	0.95	1.04	15.4
22	T1	9	5.0	0.807	46.5	LOS D	27.4	200.2	0.95	1.04	29.6
23a	R1	345	5.0	0.644	54.8	LOS D	21.9	160.0	0.93	0.84	36.5
Approach		849	5.0	0.807	53.1	LOS D	27.4	200.2	0.94	0.96	27.0
North: Olympic Drive											
7a	L1	196	5.0	1.066	145.3	LOS F	103.9	758.7	1.00	1.38	20.3
8	T1	2384	5.0	1.066	139.7	LOS F	106.0	773.5	1.00	1.42	18.0
9b	R3	19	5.0	0.156	72.2	LOS F	1.3	9.6	0.94	0.73	34.3
Approach		2599	5.0	1.066	139.6	LOS F	106.0	773.5	1.00	1.41	18.3
NorthWest: Church Street											
27b	L3	21	5.0	0.464	78.9	LOS F	9.2	67.5	0.96	0.84	33.4
28	T1	67	5.0	0.464	73.4	LOS F	9.2	67.5	0.96	0.84	23.4
29a	R1	54	5.0	0.464	76.7	LOS F	9.2	67.5	0.96	0.84	19.8
Approach		142	5.0	0.464	75.5	LOS F	9.2	67.5	0.96	0.84	24.0
All Vehicles		5319	5.0	1.066	96.7	LOS F	106.0	773.5	0.99	1.18	23.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

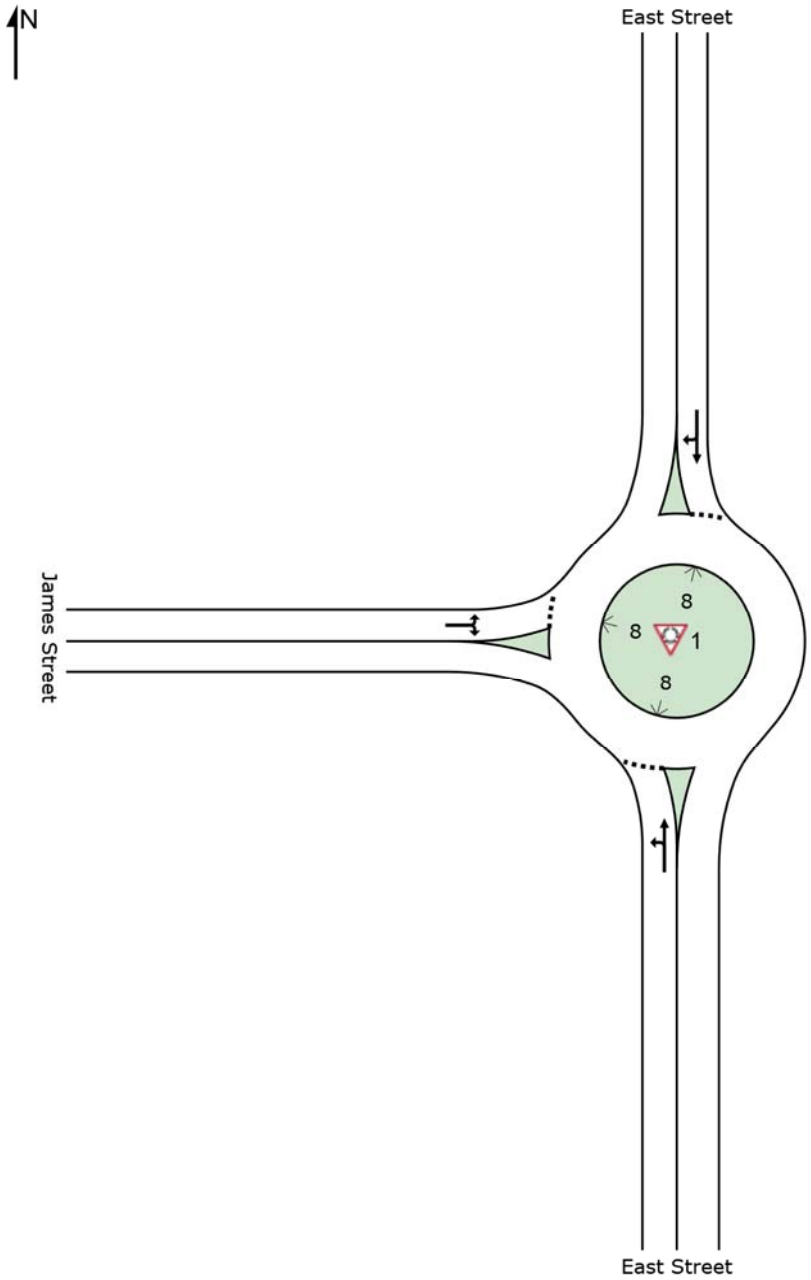
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	SouthEast Full Crossing	53	29.5	LOS C	0.1	0.1	0.63	0.63
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P7	NorthWest Full Crossing	53	35.4	LOS D	0.2	0.2	0.69	0.69
All Pedestrians		158	44.7	LOS E			0.76	0.76

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 1 [PM EX James Street & East Street]

James Street and East Street intersection
Existing Situation
PM peak period
Roundabout



MOVEMENT SUMMARY

Site: 1 [PM EX James Street & East Street]

James Street and East Street intersection
Existing Situation
PM peak period
Roundabout

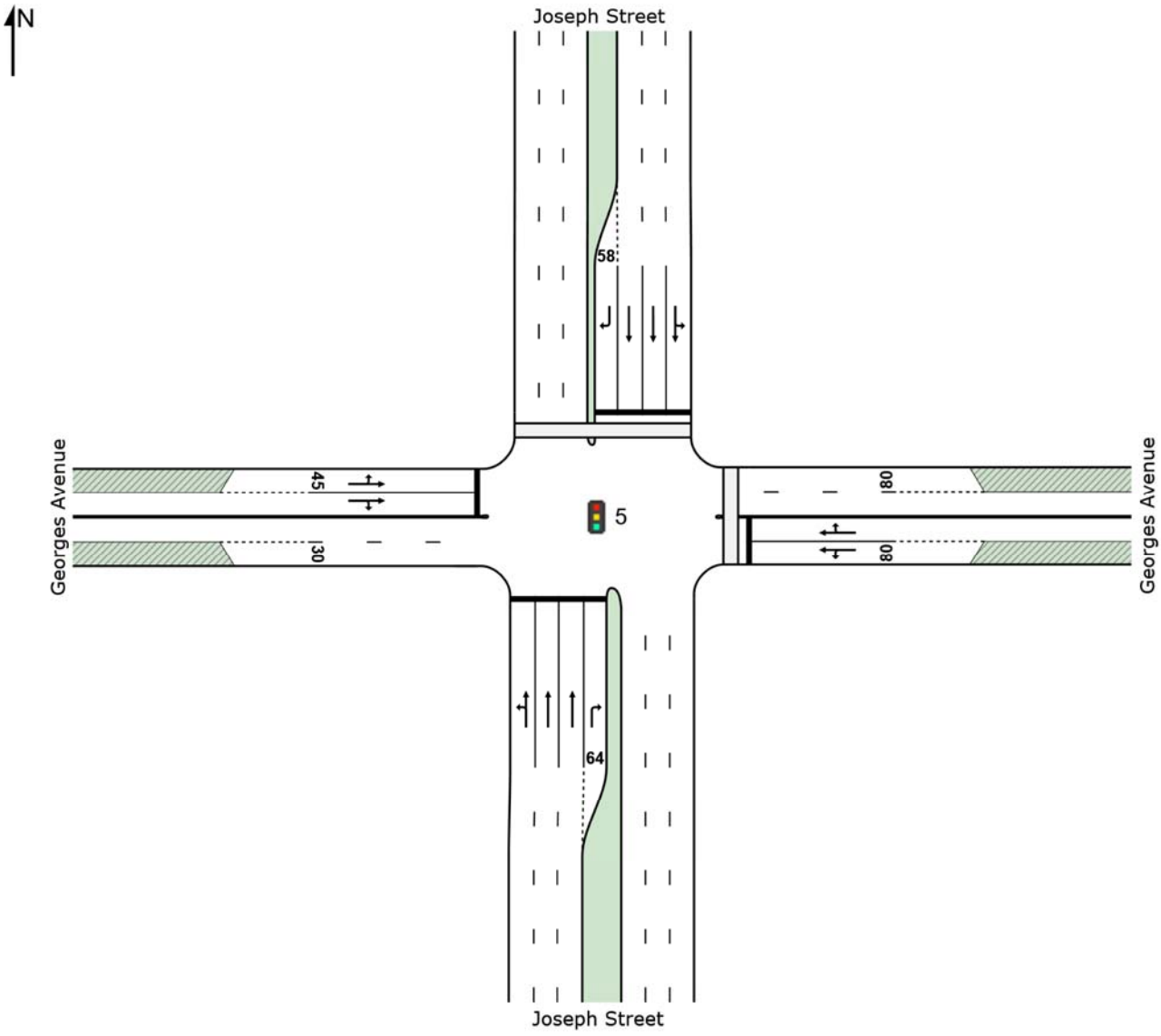
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: East Street											
1	L2	67	5.0	0.677	7.9	LOS A	7.2	52.4	0.75	0.70	41.9
2	T1	579	5.0	0.677	7.7	LOS A	7.2	52.4	0.75	0.70	44.1
Approach		646	5.0	0.677	7.7	LOS A	7.2	52.4	0.75	0.70	43.9
North: East Street											
8	T1	1074	5.0	1.089	92.0	LOS F	113.5	828.2	1.00	1.35	13.5
9	R2	216	5.0	1.089	94.9	LOS F	113.5	828.2	1.00	1.35	12.4
Approach		1289	5.0	1.089	92.5	LOS F	113.5	828.2	1.00	1.35	13.3
West: James Street											
10	L2	197	5.0	0.510	11.4	LOS A	3.9	28.3	0.84	0.99	35.2
12	R2	95	5.0	0.510	14.0	LOS A	3.9	28.3	0.84	0.99	37.1
Approach		292	5.0	0.510	12.2	LOS A	3.9	28.3	0.84	0.99	35.8
All Vehicles		2227	5.0	1.089	57.4	LOS E	113.5	828.2	0.91	1.12	18.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 5 [PM EX Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Existing situation
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 5 [PM EX Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Existing situation
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Joseph Street											
1	L2	34	5.0	0.670	38.7	LOS C	33.3	243.4	0.83	0.76	39.1
2	T1	1699	5.0	0.670	31.7	LOS C	33.3	243.4	0.82	0.74	37.9
3	R2	84	5.0	0.339	40.2	LOS C	3.3	24.3	0.94	0.76	36.6
Approach		1817	5.0	0.670	32.3	LOS C	33.3	243.4	0.83	0.74	37.9
East: Georges Avenue											
4	L2	322	5.0	0.402	31.9	LOS C	16.1	117.4	0.70	0.76	38.8
5	T1	434	5.0	1.409	415.8	LOS F	94.0	686.2	0.99	2.27	5.3
6	R2	52	5.0	1.409	439.9	LOS F	94.0	686.2	1.00	2.35	3.4
Approach		807	5.0	1.409	264.2	LOS F	94.0	686.2	0.87	1.68	9.0
North: Joseph Street											
7	L2	24	5.0	1.406	431.7	LOS F	213.7	1560.1	1.00	2.40	3.5
8	T1	2595	5.0	1.406	428.9	LOS F	213.7	1560.1	1.00	2.36	5.5
9	R2	257	5.0	1.029	118.1	LOS F	21.4	156.3	1.00	1.11	8.5
Approach		2876	5.0	1.406	401.2	LOS F	213.7	1560.1	1.00	2.25	5.6
West: Georges Avenue											
10	L2	87	5.0	0.273	45.8	LOS D	8.3	60.3	0.79	0.72	14.8
11	T1	192	5.0	0.539	54.7	LOS D	11.1	80.7	0.91	0.77	24.0
12	R2	37	5.0	0.539	66.1	LOS E	11.1	80.7	0.96	0.80	29.0
Approach		316	5.0	0.539	53.6	LOS D	11.1	80.7	0.88	0.76	22.2
All Vehicles		5816	5.0	1.409	248.0	LOS F	213.7	1560.1	0.92	1.62	8.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

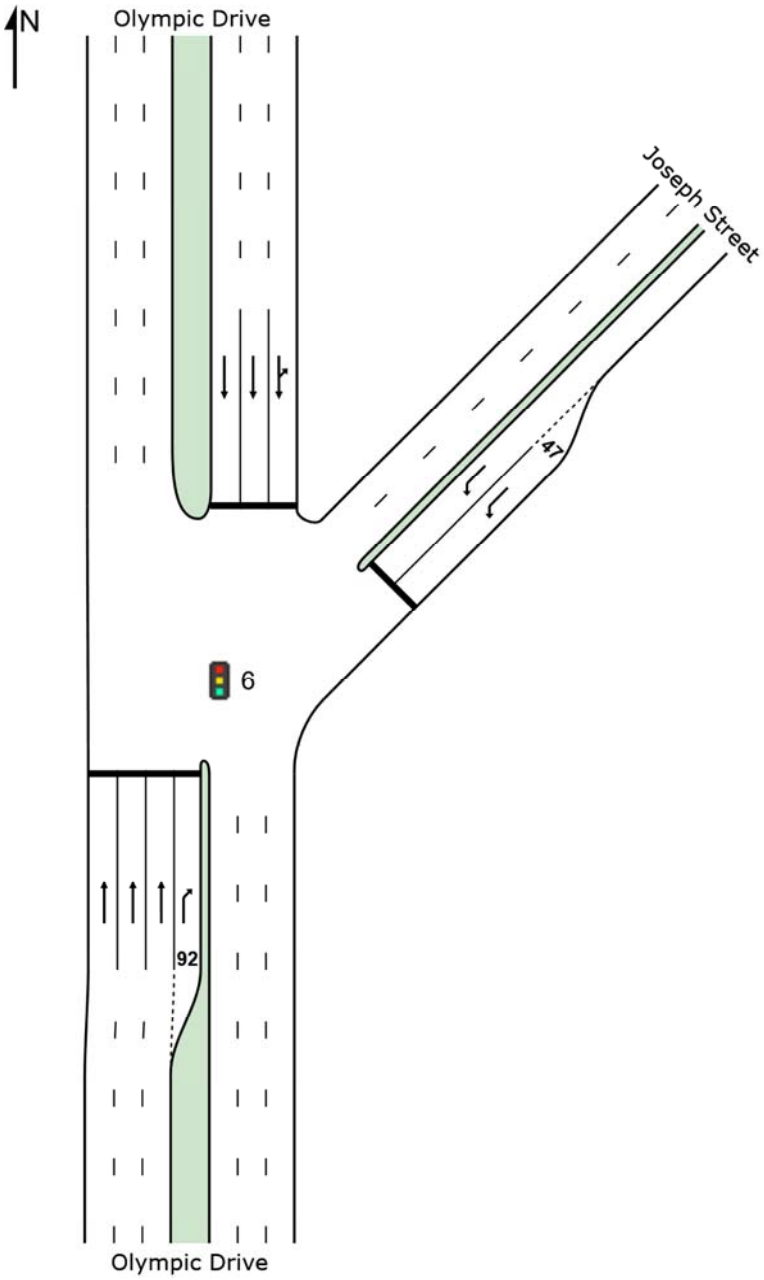
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	34.1	LOS D	0.2	0.2	0.67	0.67
P3	North Full Crossing	53	50.5	LOS E	0.2	0.2	0.82	0.82
All Pedestrians		105	42.3	LOS E			0.75	0.75

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 6 [PM EX Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Existing situation
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 6 [PM EX Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Existing situation
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

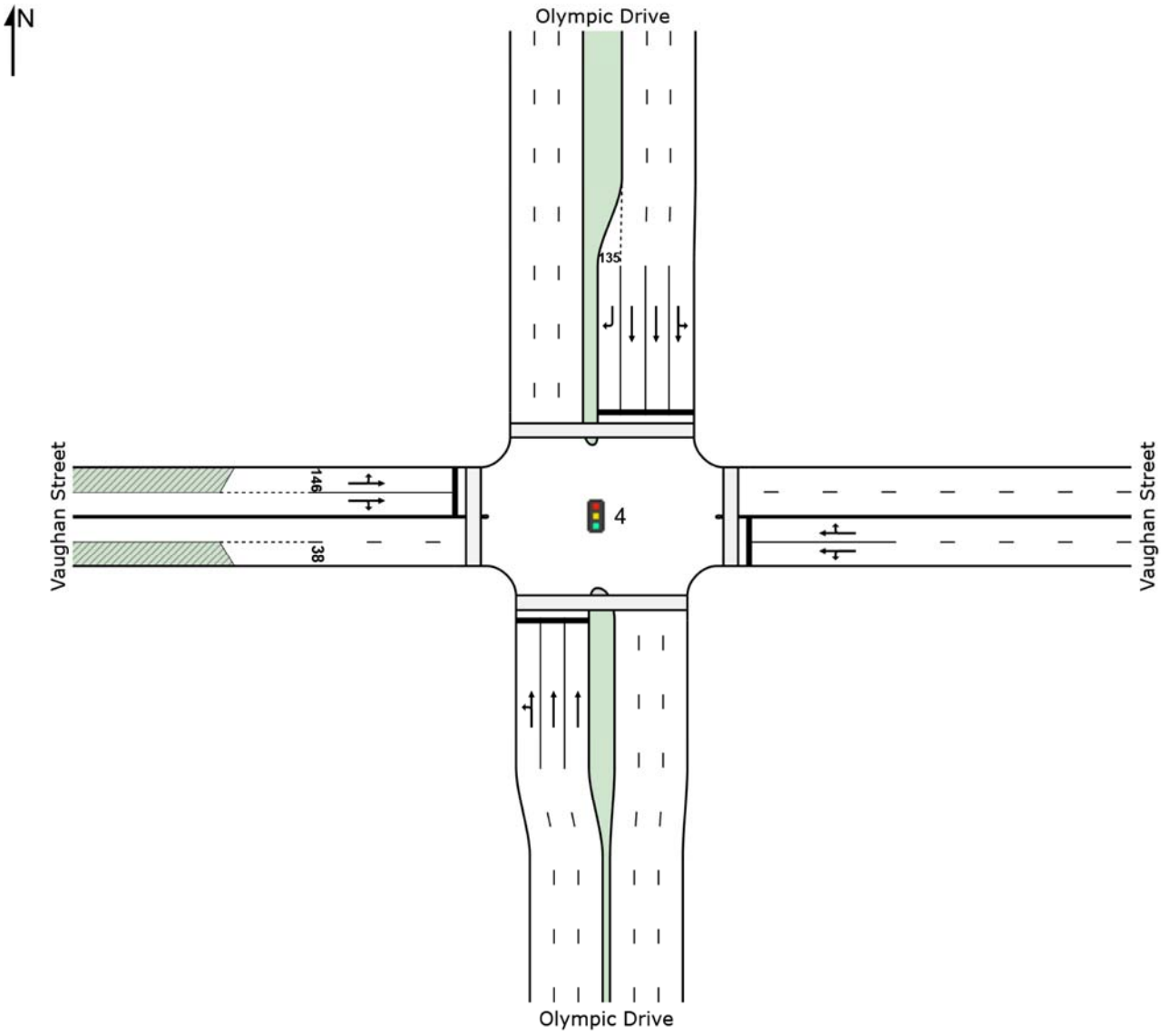
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Olympic Drive											
2	T1	1546	5.0	0.296	0.3	LOS A	2.1	15.1	0.12	0.07	68.8
3a	R1	372	5.0	0.569	46.6	LOS D	20.0	146.1	0.87	0.99	21.2
Approach		1918	5.0	0.569	9.3	LOS A	20.0	146.1	0.26	0.25	52.9
NorthEast: Joseph Street											
24a	L1	332	5.0	0.275	43.7	LOS D	8.9	65.2	0.79	0.74	20.9
Approach		332	5.0	0.275	43.7	LOS D	8.9	65.2	0.79	0.74	20.9
North: Olympic Drive											
7b	L3	66	5.0	0.733	30.0	LOS C	41.8	305.4	0.78	0.73	32.2
8	T1	2417	5.0	0.733	22.6	LOS B	42.7	311.8	0.78	0.72	41.2
Approach		2483	5.0	0.733	22.8	LOS B	42.7	311.8	0.78	0.72	41.0
All Vehicles		4733	5.0	0.733	18.8	LOS B	42.7	311.8	0.57	0.53	42.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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 LAYOUT

Site: 4 [PM EX Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Exisitng Situation
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 4 [PM EX Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Exisitng Situation
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1	L2	166	5.0	1.108	188.7	LOS F	62.8	458.3	1.00	1.45	9.6
2	T1	1347	5.0	1.108	183.8	LOS F	67.1	490.1	1.00	1.50	5.2
Approach		1514	5.0	1.108	184.3	LOS F	67.1	490.1	1.00	1.50	5.7
East: Vaughan Street											
4	L2	47	5.0	0.353	57.0	LOS E	8.9	65.1	0.89	0.75	14.4
5	T1	459	5.0	1.112	156.8	LOS F	63.3	462.3	0.98	1.37	11.0
6	R2	122	5.0	1.112	189.6	LOS F	63.3	462.3	1.00	1.54	5.3
Approach		628	5.0	1.112	155.6	LOS F	63.3	462.3	0.97	1.36	9.9
North: Olympic Drive											
7	L2	116	5.0	0.949	68.7	LOS E	74.8	545.8	1.00	1.06	13.3
8	T1	2349	5.0	0.949	62.2	LOS E	75.2	548.8	0.96	1.04	13.8
9	R2	404	5.0	1.102	186.3	LOS F	51.9	378.5	1.00	1.21	9.7
Approach		2869	5.0	1.102	79.9	LOS F	75.2	548.8	0.97	1.07	12.4
West: Vaughan Street											
10	L2	148	5.0	1.115	195.2	LOS F	41.5	303.0	1.00	1.48	9.3
11	T1	300	5.0	1.115	190.5	LOS F	41.5	303.0	1.00	1.47	9.3
12	R2	181	5.0	1.115	195.1	LOS F	40.6	296.0	1.00	1.46	9.2
Approach		629	5.0	1.115	192.9	LOS F	41.5	303.0	1.00	1.47	9.3
All Vehicles		5641	5.0	1.115	129.0	LOS F	75.2	548.8	0.98	1.26	9.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

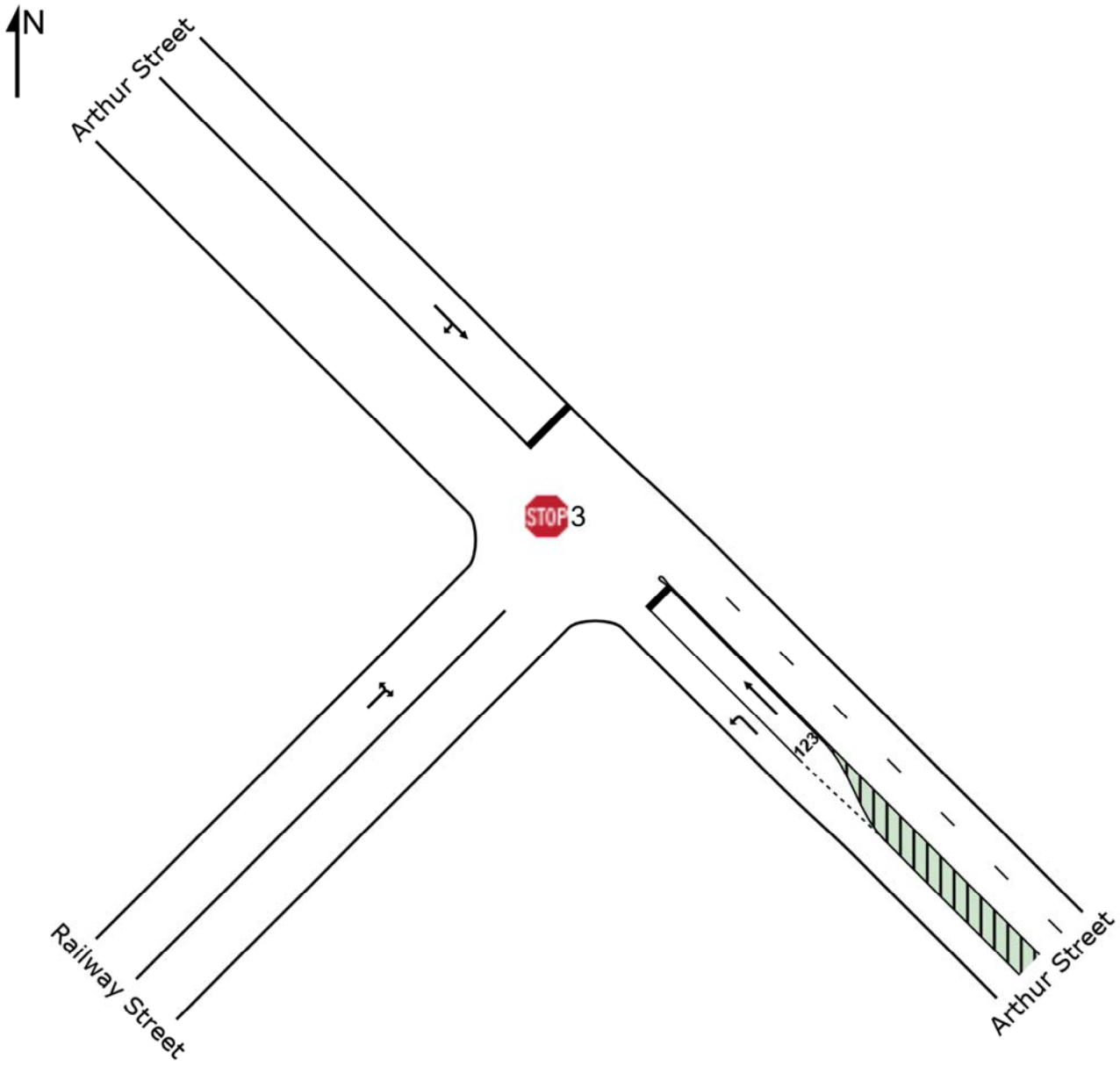
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	60.0	LOS E	0.2	0.2	0.90	0.90
P2	East Full Crossing	53	24.7	LOS C	0.1	0.1	0.57	0.57
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	50.5	LOS E	0.2	0.2	0.82	0.82
All Pedestrians		211	51.1	LOS E			0.81	0.81

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 3 [PM EX Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Existing Situation
PM peak period
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 3 [PM EX Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Existing Situation
PM peak period
Stop (Two-Way)

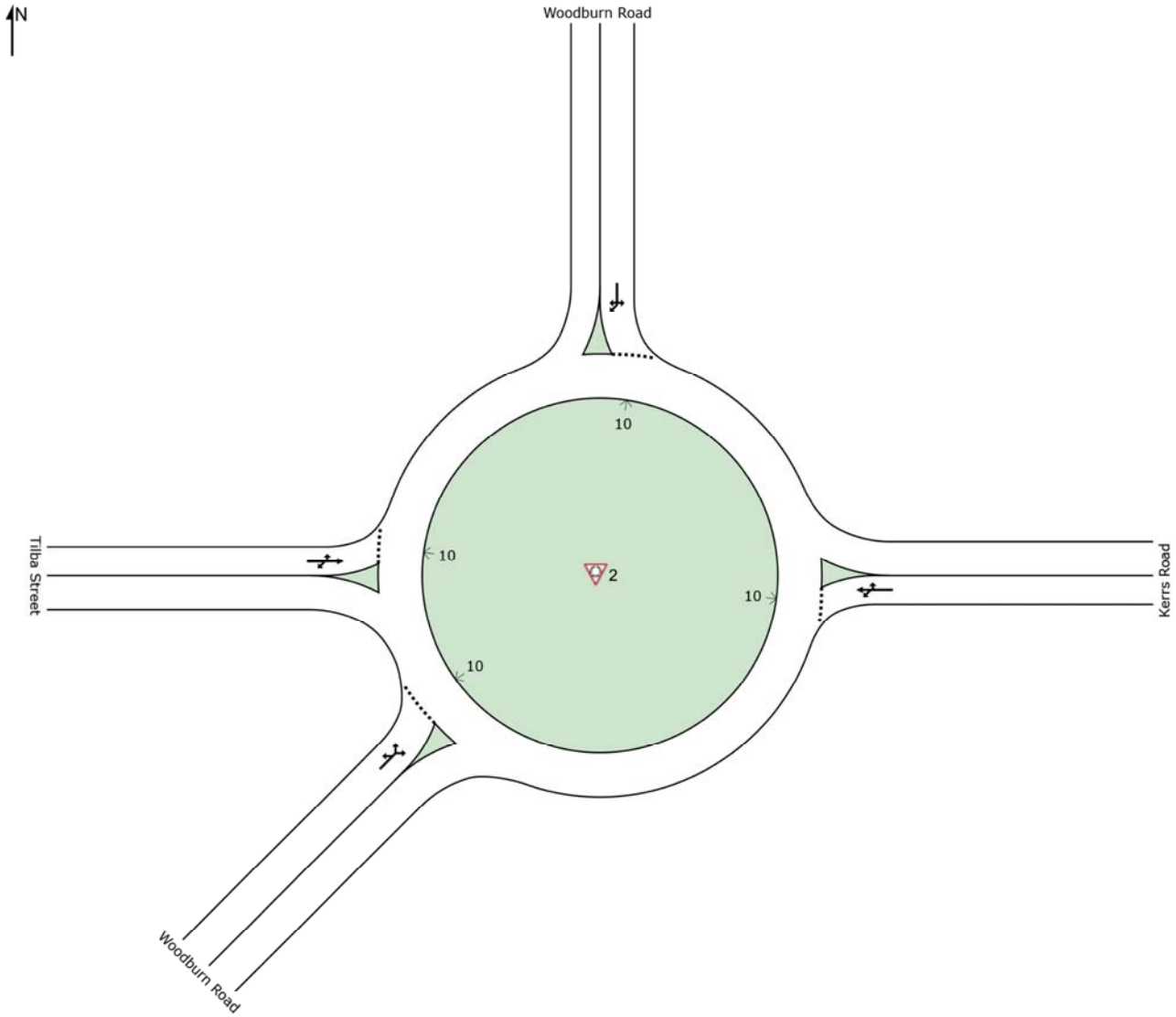
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Arthur Street											
21	L2	1416	5.0	0.785	5.8	LOS A	0.0	0.0	0.00	0.57	50.0
22	T1	13	5.0	0.047	19.9	LOS B	0.1	0.9	0.80	1.00	42.9
Approach		1428	5.0	0.785	5.9	LOS A	0.1	0.9	0.01	0.58	49.8
NorthWest: Arthur Street											
28	T1	13	5.0	0.151	11.1	LOS A	0.4	2.9	0.90	1.00	39.8
29	R2	13	5.0	0.151	42.4	LOS C	0.4	2.9	0.90	1.00	37.8
Approach		25	5.0	0.151	26.7	LOS B	0.4	2.9	0.90	1.00	38.8
SouthWest: Railway Street											
30	L2	7	5.0	0.524	5.6	LOS A	0.0	0.0	0.00	0.57	53.2
32	R2	1016	5.0	0.524	5.6	LOS A	0.0	0.0	0.00	0.57	50.9
Approach		1023	5.0	0.524	5.6	NA	0.0	0.0	0.00	0.57	50.9
All Vehicles		2477	5.0	0.785	6.0	NA	0.4	2.9	0.01	0.58	50.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 2 [PM EX Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Existing Situation
PM peak period
Roundabout



MOVEMENT SUMMARY

Site: 2 [PM EX Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Existing Situation
PM peak period
Roundabout

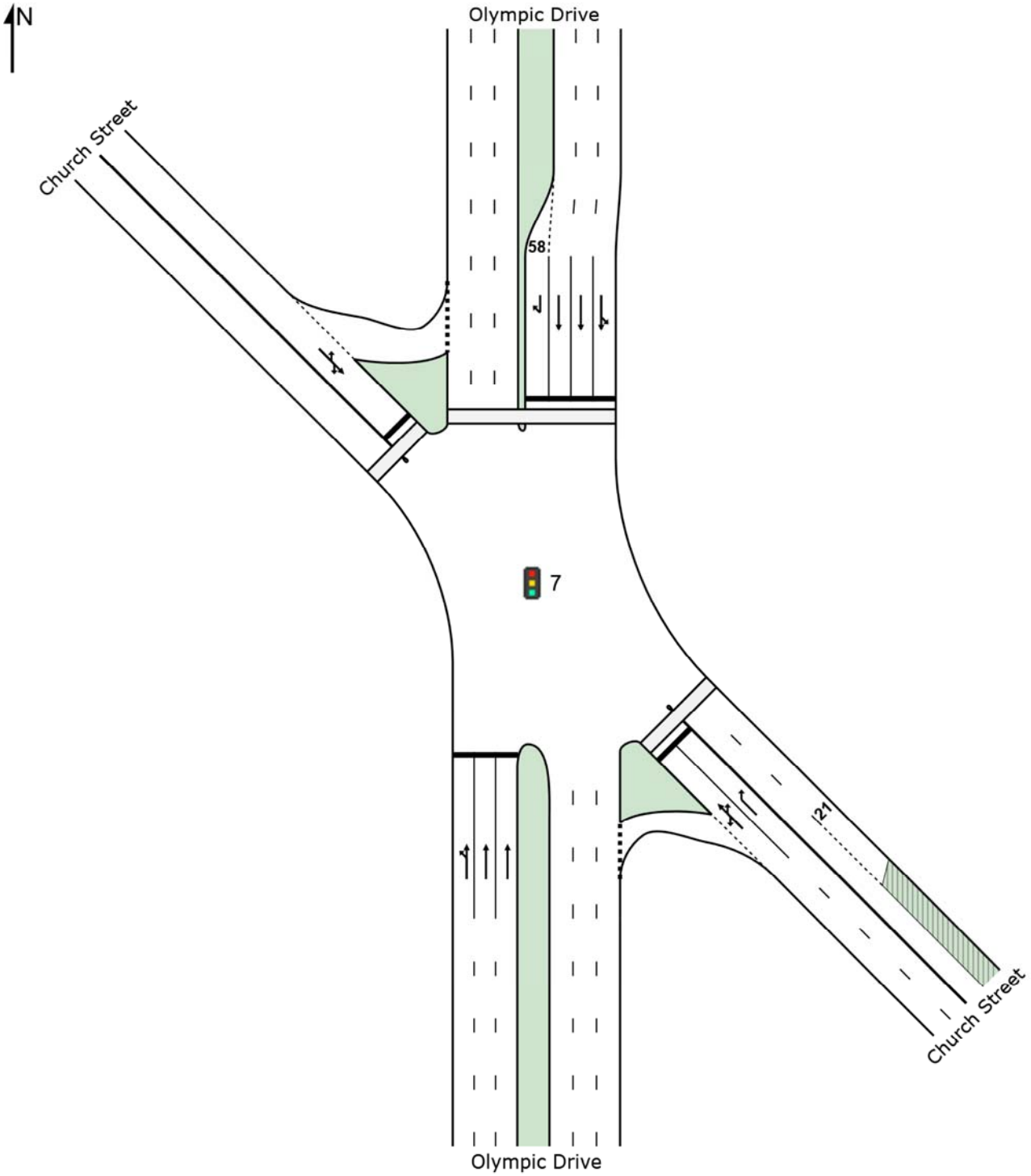
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Kerrs Road											
4a	L1	233	5.0	0.576	4.4	LOS A	3.7	27.3	0.47	0.59	46.7
5	T1	302	5.0	0.576	4.8	LOS A	3.7	27.3	0.47	0.59	46.4
6	R2	167	5.0	0.576	8.0	LOS A	3.7	27.3	0.47	0.59	46.3
Approach		702	5.0	0.576	5.4	LOS A	3.7	27.3	0.47	0.59	46.5
North: Woodburn Road											
7	L2	201	5.0	0.388	5.4	LOS A	1.7	12.3	0.44	0.69	45.4
9a	R1	153	5.0	0.388	7.7	LOS A	1.7	12.3	0.44	0.69	46.0
9	R2	25	5.0	0.388	8.5	LOS A	1.7	12.3	0.44	0.69	45.5
Approach		379	5.0	0.388	6.5	LOS A	1.7	12.3	0.44	0.69	45.7
West: Tilba Street											
10	L2	22	5.0	0.250	5.7	LOS A	1.1	8.1	0.48	0.65	44.8
11	T1	168	5.0	0.250	5.6	LOS A	1.1	8.1	0.48	0.65	46.3
12b	R3	34	5.0	0.250	9.6	LOS A	1.1	8.1	0.48	0.65	46.5
Approach		224	5.0	0.250	6.2	LOS A	1.1	8.1	0.48	0.65	46.2
SouthWest: Woodburn Road											
30b	L3	27	5.0	0.296	6.2	LOS A	1.4	9.9	0.51	0.71	45.1
30a	L1	97	5.0	0.296	5.1	LOS A	1.4	9.9	0.51	0.71	46.0
32a	R1	158	5.0	0.296	8.0	LOS A	1.4	9.9	0.51	0.71	46.2
Approach		282	5.0	0.296	6.8	LOS A	1.4	9.9	0.51	0.71	46.1
All Vehicles		1587	5.0	0.576	6.1	LOS A	3.7	27.3	0.47	0.64	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 7 [PM FU Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Future Scenario
PM peak period
Signals - Fixed Time Isolated


N
Olympic Drive
Church Street
58
7
21
Church Street
Olympic Drive

MOVEMENT SUMMARY

Site: 7 [PM FU Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Future Scenario
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1a	L1	101	5.0	0.867	61.3	LOS E	41.8	304.8	1.00	0.96	27.2
2	T1	1627	5.0	0.867	54.9	LOS D	42.6	311.3	1.00	0.97	36.4
Approach		1728	5.0	0.867	55.3	LOS D	42.6	311.3	1.00	0.96	35.8
SouthEast: Church Street											
21b	L3	495	5.0	0.812	53.0	LOS D	27.7	202.2	0.96	1.05	15.2
22	T1	9	5.0	0.812	47.4	LOS D	27.7	202.2	0.96	1.05	29.4
23a	R1	352	4.9	0.655	55.0	LOS D	22.4	163.5	0.93	0.84	36.5
Approach		856	5.0	0.812	53.7	LOS D	27.7	202.2	0.95	0.96	26.9
North: Olympic Drive											
7a	L1	228	4.3	1.080	155.9	LOS F	108.6	791.9	1.00	1.41	19.2
8	T1	2384	5.0	1.080	150.3	LOS F	111.0	810.2	1.00	1.46	17.0
9b	R3	19	5.0	0.156	72.2	LOS F	1.3	9.6	0.94	0.73	34.3
Approach		2632	4.9	1.080	150.2	LOS F	111.0	810.2	1.00	1.45	17.3
NorthWest: Church Street											
27b	L3	21	5.0	0.485	80.3	LOS F	9.3	68.2	0.97	0.85	33.1
28	T1	67	5.0	0.485	74.8	LOS F	9.3	68.2	0.97	0.85	23.1
29a	R1	54	5.0	0.485	78.1	LOS F	9.3	68.2	0.97	0.85	19.6
Approach		142	5.0	0.485	76.9	LOS F	9.3	68.2	0.97	0.85	23.8
All Vehicles		5358	5.0	1.080	102.2	LOS F	111.0	810.2	0.99	1.20	22.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	SouthEast Full Crossing	53	29.5	LOS C	0.1	0.1	0.63	0.63
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P7	NorthWest Full Crossing	53	35.4	LOS D	0.2	0.2	0.69	0.69
All Pedestrians		158	44.7	LOS E			0.76	0.76

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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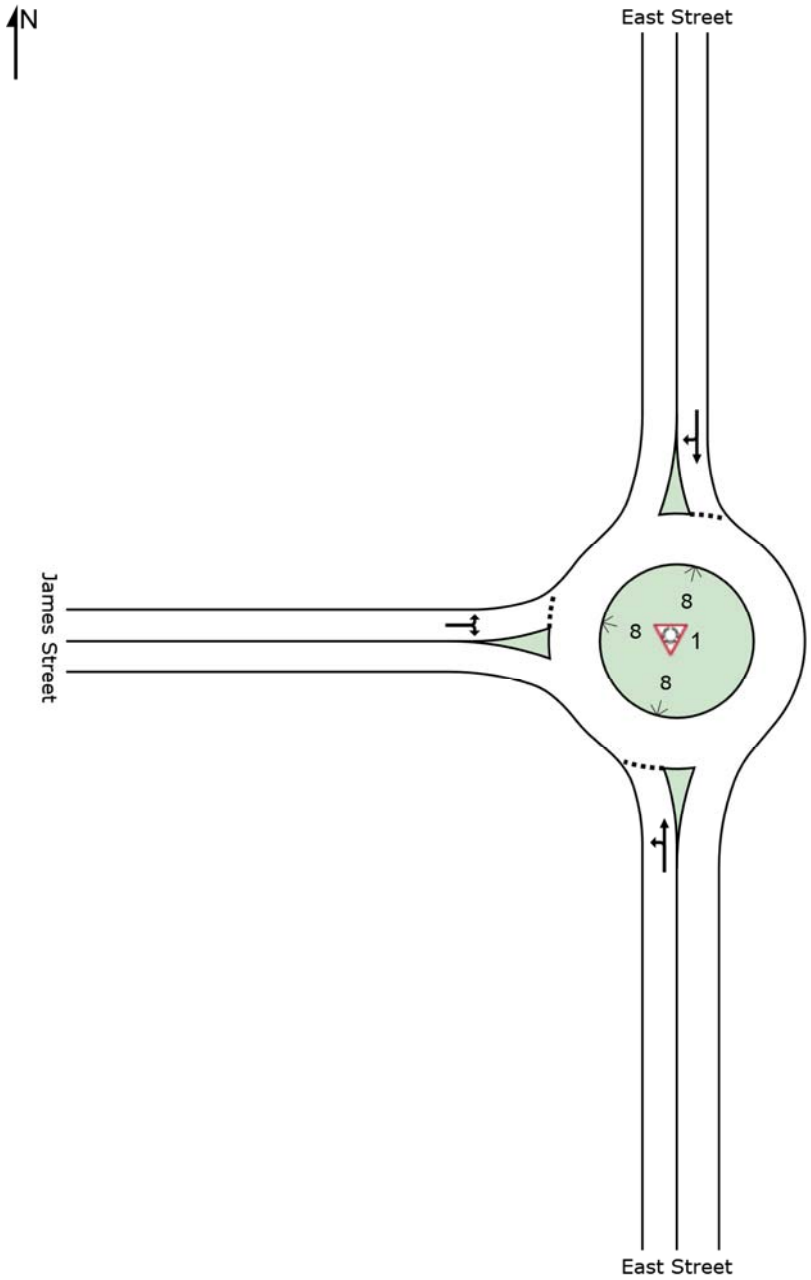
SITE LAYOUT

Site: 1 [PM FU James Street & East Street]

James Street and East Street intersection
Future Scenario
PM peak period
Roundabout



MOVEMENT SUMMARY

Site: 1 [PM FU James Street & East Street]

James Street and East Street intersection
Future Scenario
PM peak period
Roundabout

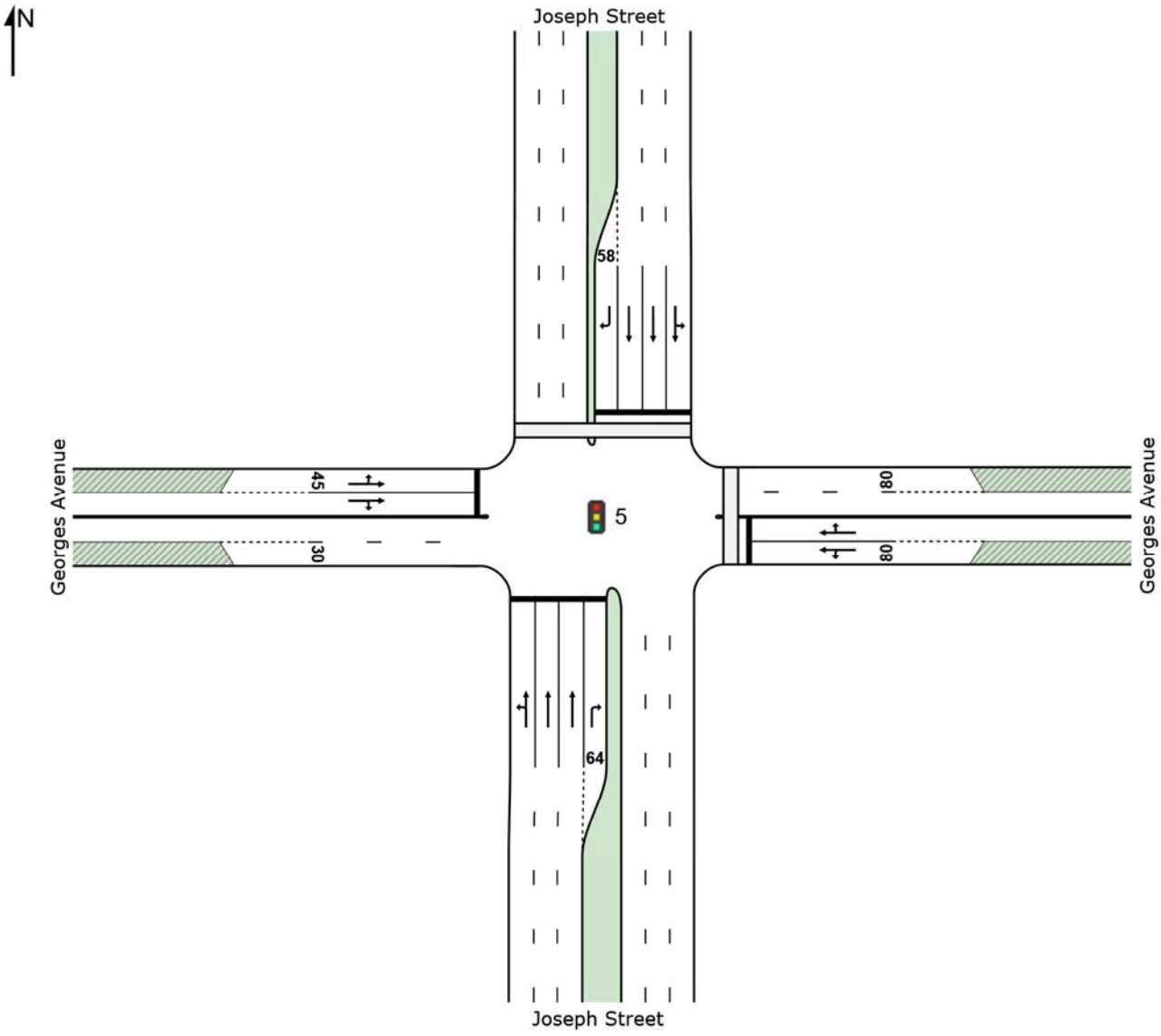
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: East Street											
1	L2	67	5.0	0.685	8.0	LOS A	7.4	54.0	0.76	0.71	41.8
2	T1	587	4.9	0.685	7.8	LOS A	7.4	54.0	0.76	0.71	44.1
Approach		655	4.9	0.685	7.8	LOS A	7.4	54.0	0.76	0.71	43.8
North: East Street											
8	T1	1076	5.0	1.090	93.6	LOS F	114.8	838.0	1.00	1.37	13.3
9	R2	216	5.0	1.090	96.5	LOS F	114.8	838.0	1.00	1.37	12.3
Approach		1292	5.0	1.090	94.1	LOS F	114.8	838.0	1.00	1.37	13.1
West: James Street											
10	L2	197	5.0	0.516	11.6	LOS A	4.0	28.9	0.85	1.00	35.0
12	R2	95	5.0	0.516	14.2	LOS A	4.0	28.9	0.85	1.00	36.9
Approach		292	5.0	0.516	12.5	LOS A	4.0	28.9	0.85	1.00	35.7
All Vehicles		2238	5.0	1.090	58.2	LOS E	114.8	838.0	0.91	1.13	18.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 5 [PM FU Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Future Scenario
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 5 [PM FU Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Future Scenario
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Joseph Street											
1	L2	34	5.0	0.673	38.8	LOS C	33.6	245.0	0.83	0.76	39.0
2	T1	1707	5.0	0.673	31.8	LOS C	33.6	245.0	0.82	0.74	37.9
3	R2	84	5.0	0.339	40.2	LOS C	3.3	24.3	0.94	0.76	36.6
Approach		1825	5.0	0.673	32.3	LOS C	33.6	245.0	0.83	0.74	37.8
East: Georges Avenue											
4	L2	322	5.0	0.402	31.9	LOS C	16.1	117.4	0.70	0.76	38.8
5	T1	434	5.0	1.409	415.8	LOS F	94.0	686.2	0.99	2.27	5.3
6	R2	52	5.0	1.409	439.9	LOS F	94.0	686.2	1.00	2.35	3.4
Approach		807	5.0	1.409	264.2	LOS F	94.0	686.2	0.87	1.68	9.0
North: Joseph Street											
7	L2	24	5.0	1.408	433.4	LOS F	214.4	1565.2	1.00	2.40	3.5
8	T1	2597	5.0	1.408	430.6	LOS F	214.4	1565.2	1.00	2.36	5.5
9	R2	257	5.0	1.031	119.6	LOS F	21.6	157.3	1.00	1.12	8.4
Approach		2878	5.0	1.408	402.8	LOS F	214.4	1565.2	1.00	2.25	5.6
West: Georges Avenue											
10	L2	87	5.0	0.273	45.8	LOS D	8.3	60.3	0.79	0.72	14.8
11	T1	192	5.0	0.539	54.7	LOS D	11.1	80.7	0.91	0.77	24.0
12	R2	37	5.0	0.539	66.1	LOS E	11.1	80.7	0.96	0.80	29.0
Approach		316	5.0	0.539	53.6	LOS D	11.1	80.7	0.88	0.76	22.2
All Vehicles		5826	5.0	1.409	248.6	LOS F	214.4	1565.2	0.92	1.62	8.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

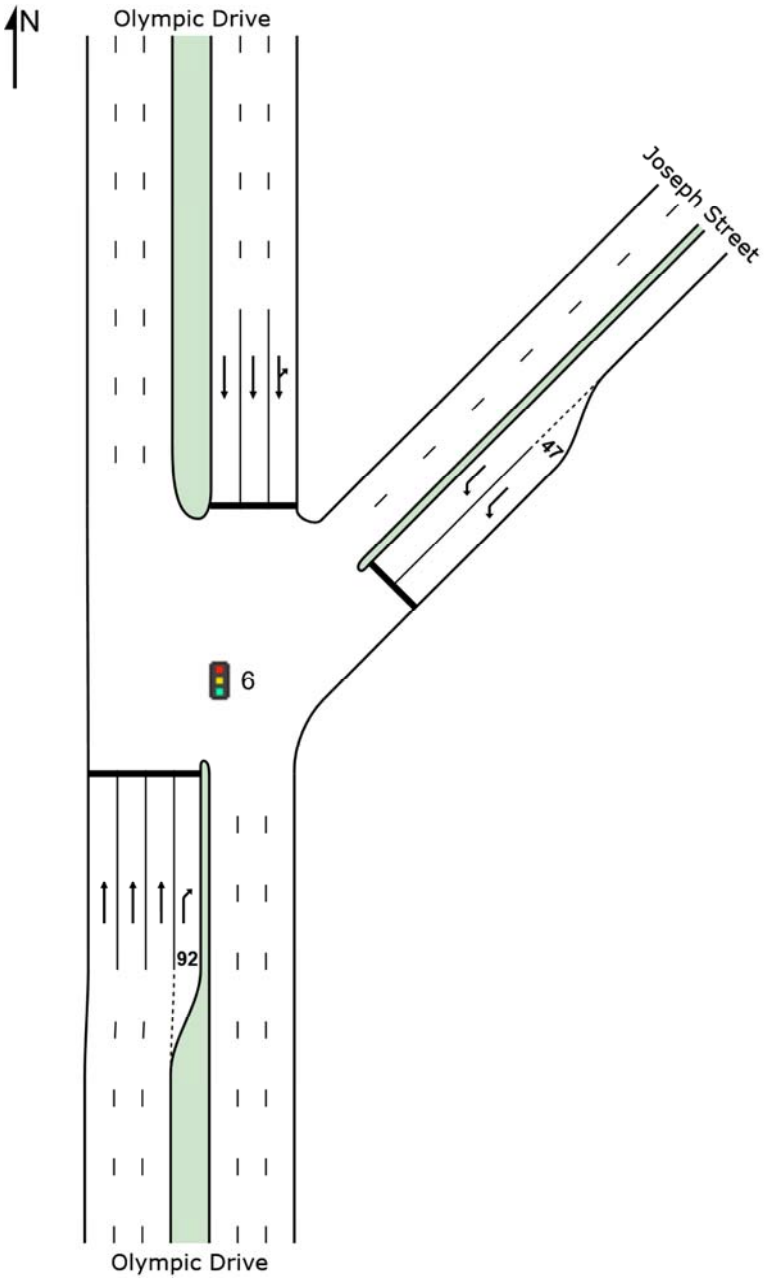
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	34.1	LOS D	0.2	0.2	0.67	0.67
P3	North Full Crossing	53	50.5	LOS E	0.2	0.2	0.82	0.82
All Pedestrians		105	42.3	LOS E			0.75	0.75

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 6 [PM FU Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Future Scenario
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 6 [PM FU Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Future Scenario
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

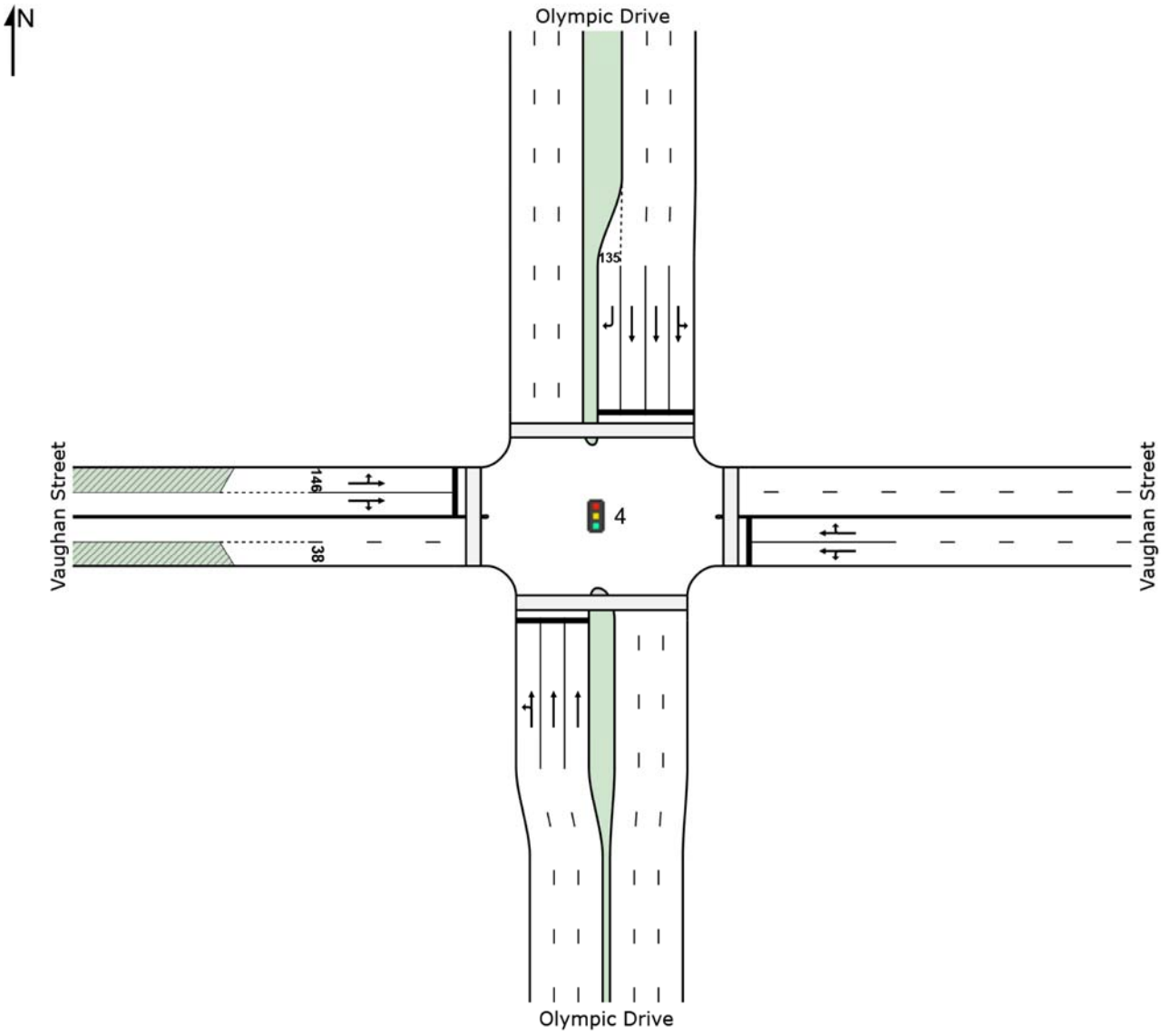
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Olympic Drive											
2	T1	1546	5.0	0.296	0.3	LOS A	2.1	15.1	0.12	0.07	68.8
3a	R1	380	4.9	0.582	46.9	LOS D	20.5	149.2	0.87	0.99	21.1
Approach		1926	5.0	0.582	9.5	LOS A	20.5	149.2	0.27	0.25	52.6
NorthEast: Joseph Street											
24a	L1	334	5.0	0.276	43.8	LOS D	9.0	65.6	0.79	0.74	20.9
Approach		334	5.0	0.276	43.8	LOS D	9.0	65.6	0.79	0.74	20.9
North: Olympic Drive											
7b	L3	66	5.0	0.733	30.0	LOS C	41.8	305.4	0.78	0.73	32.2
8	T1	2417	5.0	0.733	22.6	LOS B	42.7	311.8	0.78	0.72	41.2
Approach		2483	5.0	0.733	22.8	LOS B	42.7	311.8	0.78	0.72	41.0
All Vehicles		4743	5.0	0.733	18.9	LOS B	42.7	311.8	0.57	0.53	42.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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 LAYOUT

Site: 4 [PM FU Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Future Scenario
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 4 [PM FU Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Future Scenario
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand 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 per veh	Average Speed km/h
South: Olympic Drive											
1	L2	166	5.0	1.108	188.7	LOS F	62.8	458.3	1.00	1.45	9.6
2	T1	1347	5.0	1.108	183.8	LOS F	67.1	490.1	1.00	1.50	5.2
Approach		1514	5.0	1.108	184.3	LOS F	67.1	490.1	1.00	1.50	5.7
East: Vaughan Street											
4	L2	47	5.0	0.353	57.0	LOS E	8.9	65.1	0.89	0.75	14.4
5	T1	459	5.0	1.112	156.8	LOS F	63.3	462.3	0.98	1.37	11.0
6	R2	122	5.0	1.112	189.6	LOS F	63.3	462.3	1.00	1.54	5.3
Approach		628	5.0	1.112	155.6	LOS F	63.3	462.3	0.97	1.36	9.9
North: Olympic Drive											
7	L2	116	5.0	0.949	68.7	LOS E	74.8	545.8	1.00	1.06	13.3
8	T1	2349	5.0	0.949	62.2	LOS E	75.2	548.8	0.96	1.04	13.8
9	R2	404	5.0	1.102	186.3	LOS F	51.9	378.5	1.00	1.21	9.7
Approach		2869	5.0	1.102	79.9	LOS F	75.2	548.8	0.97	1.07	12.4
West: Vaughan Street											
10	L2	148	5.0	1.115	195.2	LOS F	41.5	303.0	1.00	1.48	9.3
11	T1	300	5.0	1.115	190.5	LOS F	41.5	303.0	1.00	1.47	9.3
12	R2	181	5.0	1.115	195.1	LOS F	40.6	296.0	1.00	1.46	9.2
Approach		629	5.0	1.115	192.9	LOS F	41.5	303.0	1.00	1.47	9.3
All Vehicles		5641	5.0	1.115	129.0	LOS F	75.2	548.8	0.98	1.26	9.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

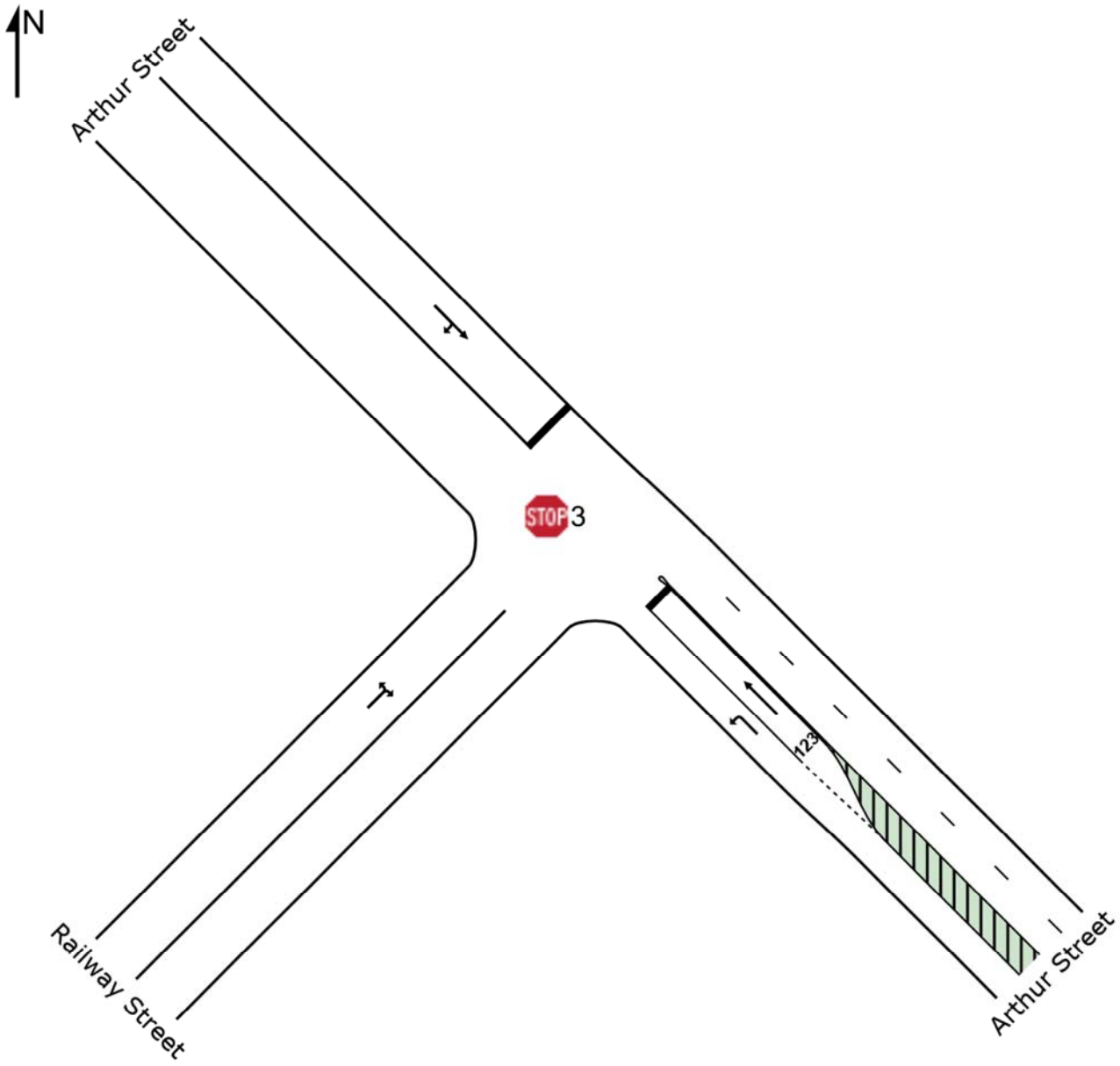
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	60.0	LOS E	0.2	0.2	0.90	0.90
P2	East Full Crossing	53	24.7	LOS C	0.1	0.1	0.57	0.57
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	50.5	LOS E	0.2	0.2	0.82	0.82
All Pedestrians		211	51.1	LOS E			0.81	0.81

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 3 [PM FU Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Future Scenario
PM peak period
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 3 [PM FU Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Future Scenario
PM peak period
Stop (Two-Way)

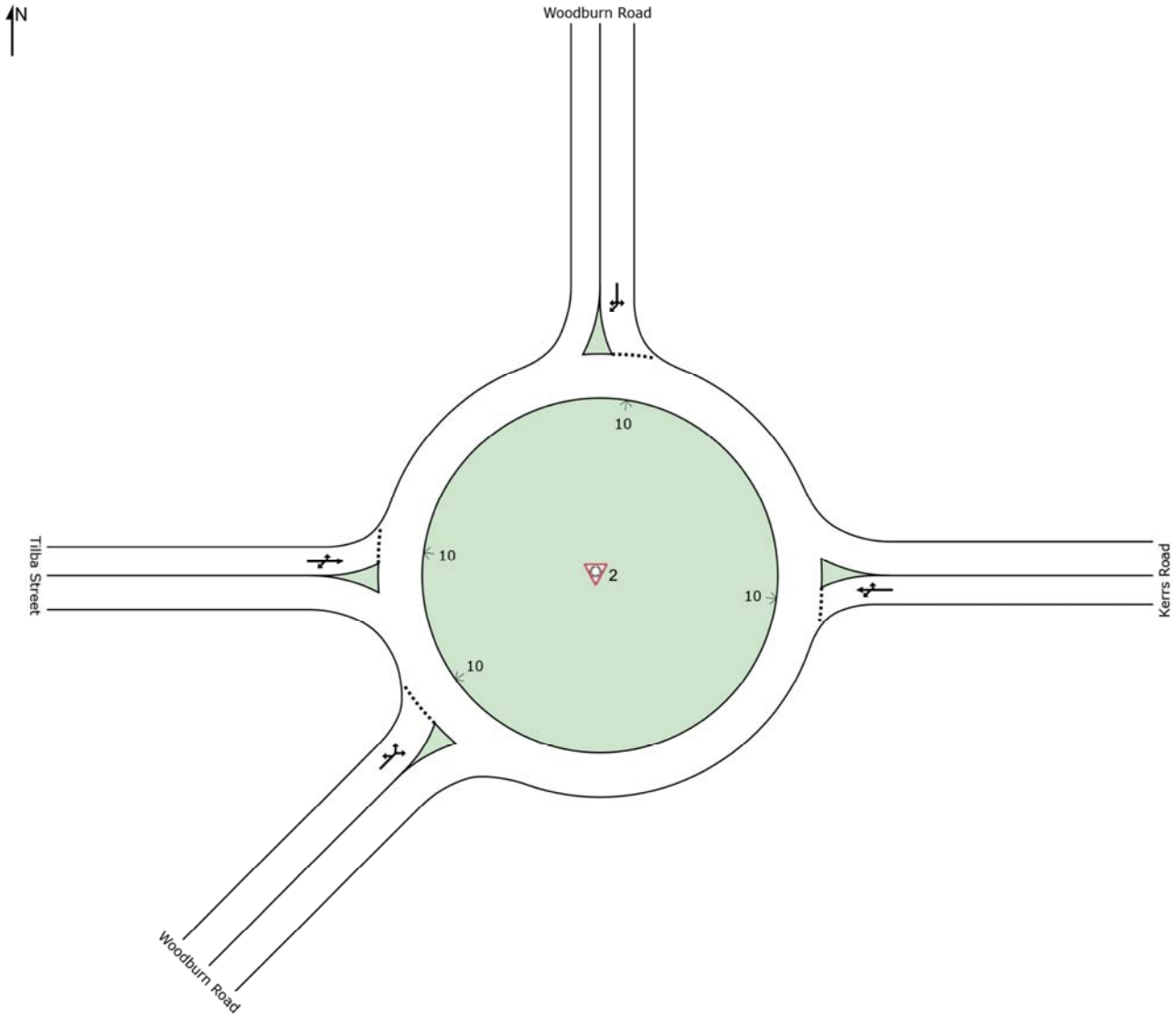
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Arthur Street											
21	L2	1424	5.0	0.790	5.8	LOS A	0.0	0.0	0.00	0.57	49.9
22	T1	13	5.0	0.048	20.0	LOS B	0.1	1.0	0.80	1.00	42.9
Approach		1437	5.0	0.790	5.9	LOS A	0.1	1.0	0.01	0.58	49.8
NorthWest: Arthur Street											
28	T1	13	5.0	0.155	11.1	LOS A	0.4	2.9	0.90	1.00	39.6
29	R2	13	5.0	0.155	43.3	LOS D	0.4	2.9	0.90	1.00	37.6
Approach		25	5.0	0.155	27.2	LOS B	0.4	2.9	0.90	1.00	38.7
SouthWest: Railway Street											
30	L2	7	5.0	0.525	5.6	LOS A	0.0	0.0	0.00	0.57	53.2
32	R2	1018	5.0	0.525	5.6	LOS A	0.0	0.0	0.00	0.57	50.9
Approach		1025	5.0	0.525	5.6	NA	0.0	0.0	0.00	0.57	50.9
All Vehicles		2487	5.0	0.790	6.0	NA	0.4	2.9	0.01	0.58	50.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 2 [PM FU Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Future Scenario
PM peak period
Roundabout



MOVEMENT SUMMARY

Site: 2 [PM FU Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Future Scenario
PM peak period
Roundabout

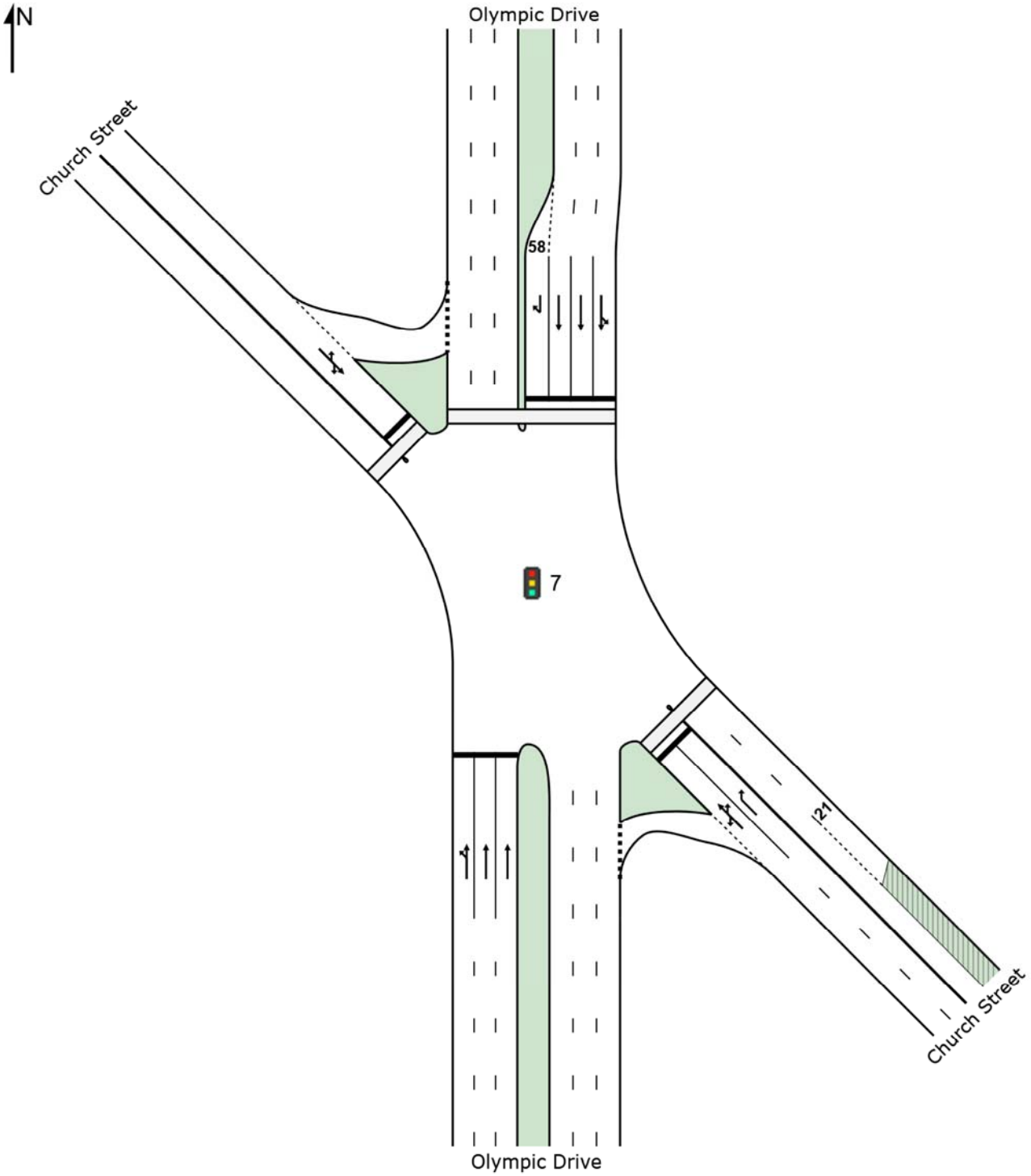
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Kerrs Road											
4a	L1	233	5.0	0.577	4.4	LOS A	3.7	27.3	0.48	0.59	46.7
5	T1	302	5.0	0.577	4.8	LOS A	3.7	27.3	0.48	0.59	46.4
6	R2	168	5.0	0.577	8.0	LOS A	3.7	27.3	0.48	0.59	46.3
Approach		703	5.0	0.577	5.4	LOS A	3.7	27.3	0.48	0.59	46.5
North: Woodburn Road											
7	L2	201	5.0	0.388	5.4	LOS A	1.7	12.3	0.44	0.69	45.4
9a	R1	153	5.0	0.388	7.7	LOS A	1.7	12.3	0.44	0.69	46.0
9	R2	25	5.0	0.388	8.5	LOS A	1.7	12.3	0.44	0.69	45.5
Approach		379	5.0	0.388	6.5	LOS A	1.7	12.3	0.44	0.69	45.7
West: Tilba Street											
10	L2	22	5.0	0.250	5.7	LOS A	1.1	8.1	0.48	0.65	44.8
11	T1	168	5.0	0.250	5.6	LOS A	1.1	8.1	0.48	0.65	46.3
12b	R3	34	5.0	0.250	9.6	LOS A	1.1	8.1	0.48	0.65	46.5
Approach		224	5.0	0.250	6.2	LOS A	1.1	8.1	0.48	0.65	46.2
SouthWest: Woodburn Road											
30b	L3	27	5.0	0.297	6.2	LOS A	1.4	9.9	0.51	0.71	45.1
30a	L1	97	5.0	0.297	5.1	LOS A	1.4	9.9	0.51	0.71	46.0
32a	R1	158	5.0	0.297	8.0	LOS A	1.4	9.9	0.51	0.71	46.2
Approach		282	5.0	0.297	6.8	LOS A	1.4	9.9	0.51	0.71	46.1
All Vehicles		1588	5.0	0.577	6.1	LOS A	3.7	27.3	0.47	0.64	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 7 [AM EX Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Existing situation
AM peak period
Signals - Fixed Time Isolated


N
Olympic Drive
Church Street
58
7
21
Church Street
Olympic Drive

MOVEMENT SUMMARY

Site: 7 [AM EX Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Existing situation
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1a	L1	127	5.0	1.031	117.1	LOS F	102.2	746.2	1.00	1.28	18.3
2	T1	2661	5.0	1.031	110.9	LOS F	103.7	756.9	1.00	1.30	24.3
Approach		2788	5.0	1.031	111.2	LOS F	103.7	756.9	1.00	1.30	24.0
SouthEast: Church Street											
21b	L3	241	5.0	0.500	31.1	LOS C	10.7	78.1	0.87	0.83	22.3
22	T1	14	5.0	0.500	25.6	LOS B	10.7	78.1	0.87	0.83	36.4
23a	R1	161	5.0	0.500	65.0	LOS E	10.7	78.1	0.95	0.80	33.6
Approach		416	5.0	0.500	44.1	LOS D	10.7	78.1	0.90	0.82	29.9
North: Olympic Drive											
7a	L1	233	5.0	0.574	28.6	LOS C	27.7	202.3	0.71	0.71	46.3
8	T1	1567	5.0	0.574	22.2	LOS B	27.9	204.0	0.70	0.65	48.0
9b	R3	9	5.0	0.082	77.9	LOS F	0.7	4.9	0.97	0.65	33.2
Approach		1809	5.0	0.574	23.3	LOS B	27.9	204.0	0.70	0.66	47.5
NorthWest: Church Street											
27b	L3	1	5.0	0.296	90.0	LOS F	7.0	50.9	0.93	0.76	31.6
28	T1	76	5.0	0.296	84.5	LOS F	7.0	50.9	0.93	0.76	21.9
29a	R1	12	5.0	0.296	87.8	LOS F	7.0	50.9	0.93	0.76	18.4
Approach		88	5.0	0.296	85.0	LOS F	7.0	50.9	0.93	0.76	21.6
All Vehicles		5102	5.0	1.031	74.1	LOS F	103.7	756.9	0.88	1.02	29.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	SouthEast Full Crossing	53	18.8	LOS B	0.1	0.1	0.50	0.50
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P7	NorthWest Full Crossing	53	23.6	LOS C	0.1	0.1	0.56	0.56
All Pedestrians		158	37.2	LOS D			0.67	0.67

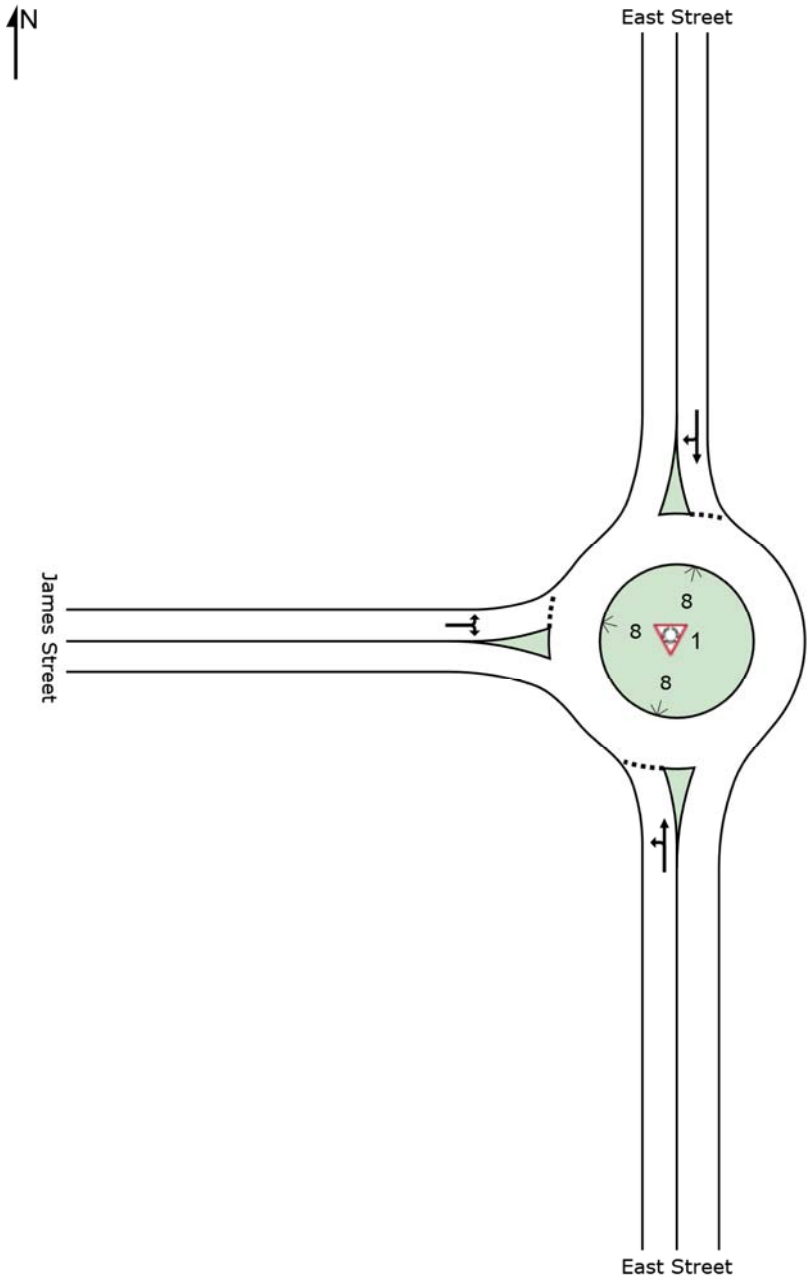
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Project: \\192.168.3.1\tdata\Synergy\Projects\17\17.392\Modelling\17.392m01v01 SIDRA Model.sip7

SITE LAYOUT

Site: 1 [AM EX James Street & East Street]

James Street and East Street intersection
Existing Situation
AM peak period
Roundabout



MOVEMENT SUMMARY

Site: 1 [AM EX James Street & East Street]

James Street and East Street intersection
Existing Situation
AM peak period
Roundabout

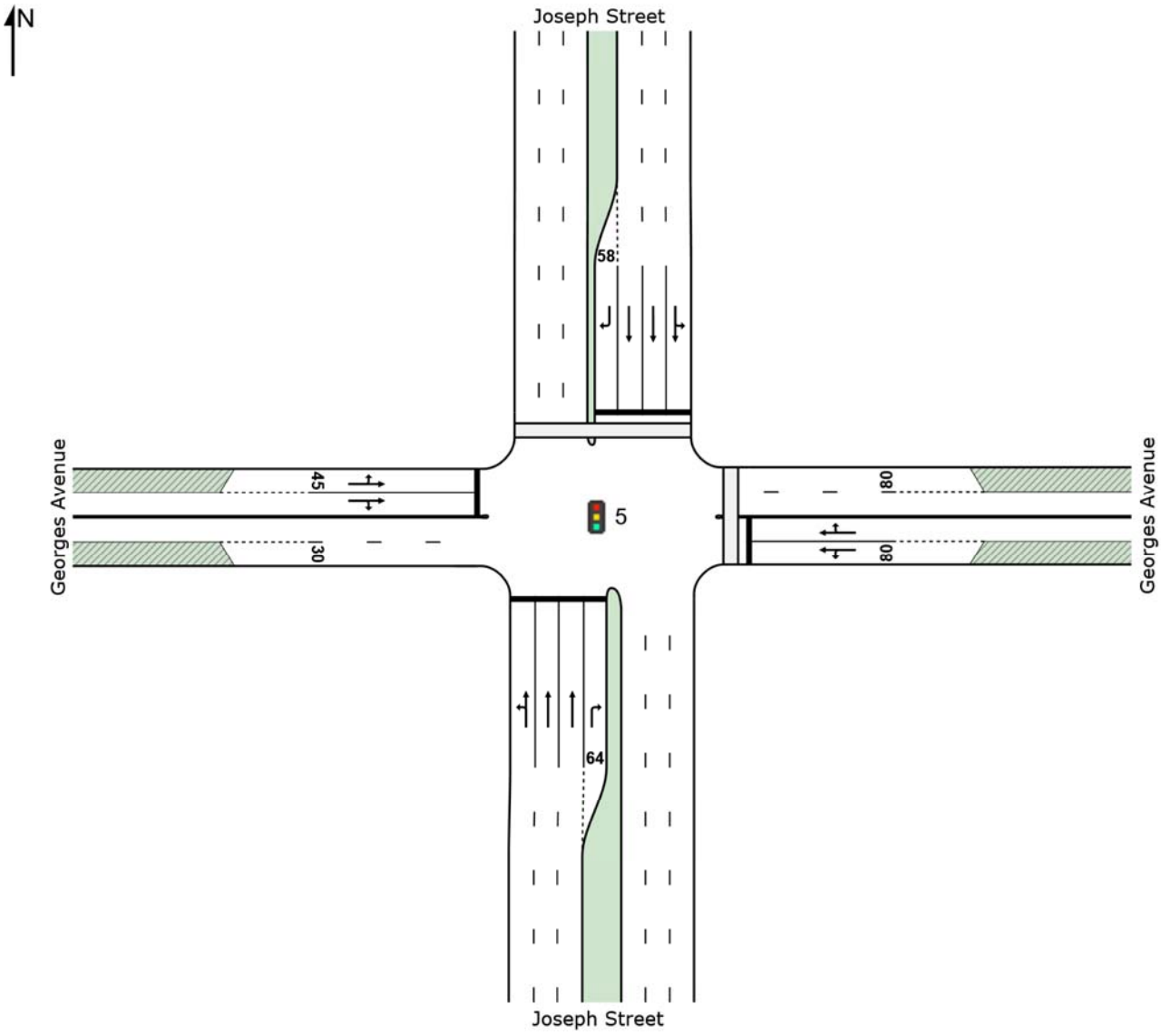
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: East Street											
1	L2	58	5.0	0.880	14.9	LOS B	17.4	127.3	1.00	0.98	36.1
2	T1	794	5.0	0.880	14.8	LOS B	17.4	127.3	1.00	0.98	37.7
Approach		852	5.0	0.880	14.8	LOS B	17.4	127.3	1.00	0.98	37.6
North: East Street											
8	T1	545	5.0	0.572	5.1	LOS A	6.8	49.3	0.28	0.51	45.7
9	R2	237	5.0	0.572	8.0	LOS A	6.8	49.3	0.28	0.51	43.1
Approach		782	5.0	0.572	6.0	LOS A	6.8	49.3	0.28	0.51	44.9
West: James Street											
10	L2	217	5.0	0.623	18.6	LOS B	5.4	39.4	0.98	1.13	30.3
12	R2	26	5.0	0.623	21.2	LOS B	5.4	39.4	0.98	1.13	32.2
Approach		243	5.0	0.623	18.9	LOS B	5.4	39.4	0.98	1.13	30.5
All Vehicles		1877	5.0	0.880	11.6	LOS A	17.4	127.3	0.70	0.80	39.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 5 [AM EX Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Existing situation
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 5 [AM EX Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Existing situation
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Joseph Street											
1	L2	35	5.0	1.063	137.8	LOS F	122.3	892.9	1.00	1.40	18.5
2	T1	2788	5.0	1.063	133.4	LOS F	122.3	892.9	1.00	1.41	15.2
3	R2	301	5.0	0.909	73.7	LOS F	20.0	146.3	1.00	1.02	27.5
Approach		3124	5.0	1.063	127.7	LOS F	122.3	892.9	1.00	1.37	16.2
East: Georges Avenue											
4	L2	398	5.0	0.372	20.8	LOS B	14.6	106.9	0.55	0.73	43.7
5	T1	203	5.0	0.426	48.0	LOS D	12.7	92.5	0.87	0.74	25.9
6	R2	8	5.0	0.426	52.6	LOS D	12.7	92.5	0.87	0.74	20.2
Approach		609	5.0	0.426	30.3	LOS C	14.6	106.9	0.66	0.73	36.8
North: Joseph Street											
7	L2	84	5.0	0.853	62.0	LOS E	36.9	269.4	1.00	0.95	18.3
8	T1	1403	5.0	0.853	56.8	LOS E	37.5	273.7	0.99	0.95	27.8
9	R2	99	5.0	0.805	52.5	LOS D	5.3	38.4	1.00	0.84	18.5
Approach		1586	5.0	0.853	56.9	LOS E	37.5	273.7	0.99	0.94	26.8
West: Georges Avenue											
10	L2	199	5.0	0.528	42.5	LOS C	13.0	94.5	0.79	0.76	15.0
11	T1	321	5.0	1.045	128.4	LOS F	43.1	314.3	0.97	1.30	14.1
12	R2	89	5.0	1.045	146.8	LOS F	43.1	314.3	1.00	1.38	17.3
Approach		609	5.0	1.045	103.1	LOS F	43.1	314.3	0.92	1.14	14.9
All Vehicles		5929	5.0	1.063	96.2	LOS F	122.3	892.9	0.95	1.17	19.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

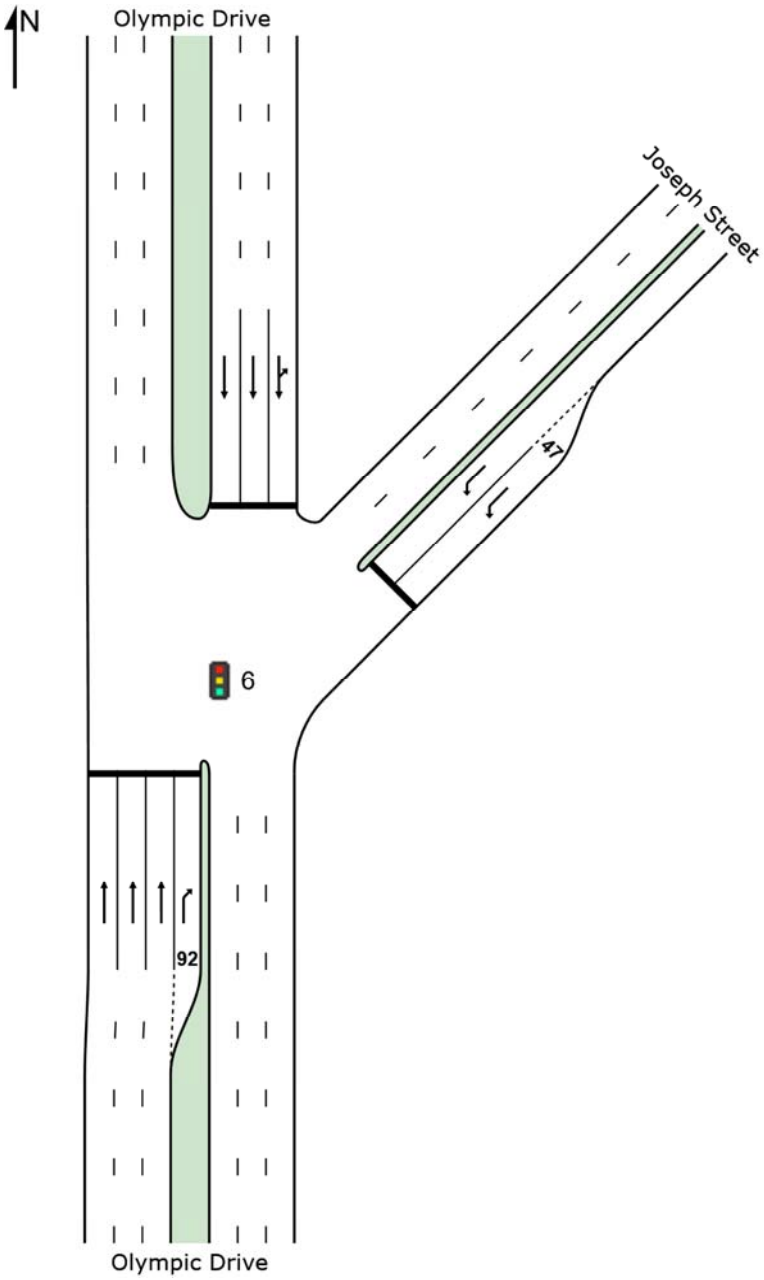
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	41.9	LOS E	0.2	0.2	0.75	0.75
P3	North Full Crossing	53	47.3	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		105	44.6	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 6 [AM EX Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Existing situation
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 6 [AM EX Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Existing situation
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Phase Times)

Movement Performance - Vehicles

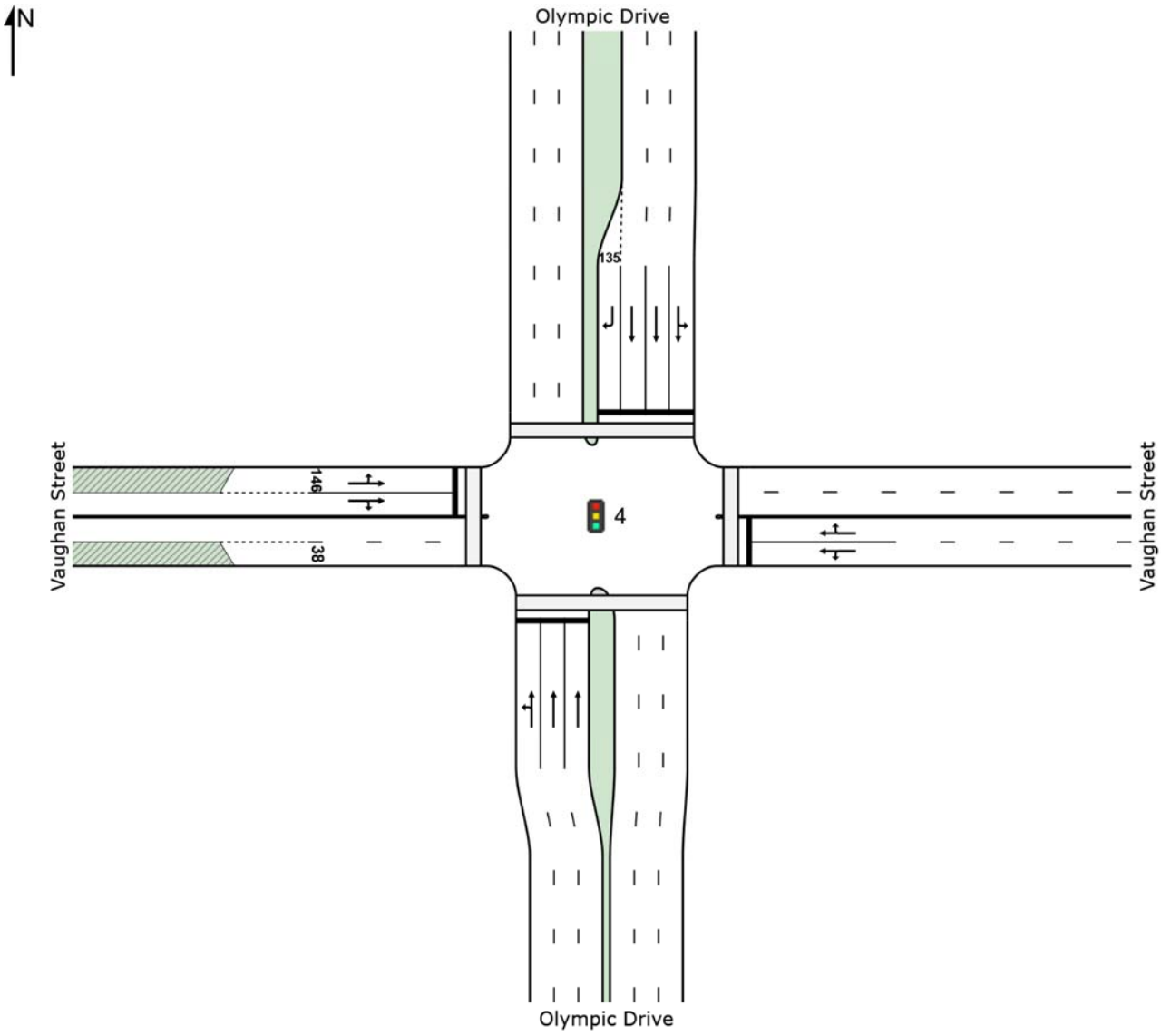
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Olympic Drive											
2	T1	2379	5.0	0.456	0.4	LOS A	4.0	29.0	0.15	0.09	68.5
3a	R1	700	5.0	0.670	29.2	LOS C	29.0	212.0	0.75	0.93	28.3
Approach		3079	5.0	0.670	7.0	LOS A	29.0	212.0	0.29	0.28	55.9
NorthEast: Joseph Street											
24a	L1	197	5.0	0.099	21.9	LOS B	3.5	25.5	0.53	0.63	30.6
Approach		197	5.0	0.099	21.9	LOS B	3.5	25.5	0.53	0.63	30.6
North: Olympic Drive											
7b	L3	177	5.0	0.735	48.8	LOS D	31.6	230.5	0.92	0.84	22.4
8	T1	1428	5.0	0.735	41.3	LOS C	33.9	247.2	0.92	0.83	30.6
Approach		1605	5.0	0.735	42.1	LOS C	33.9	247.2	0.92	0.83	29.8
All Vehicles		4881	5.0	0.735	19.1	LOS B	33.9	247.2	0.50	0.48	42.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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 LAYOUT

Site: 4 [AM EX Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Exisitng Situation
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 4 [AM EX Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Exisitng Situation
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1	L2	142	5.0	1.087	163.2	LOS F	104.9	765.7	1.00	1.43	10.9
2	T1	2382	5.0	1.087	158.6	LOS F	107.3	783.1	1.00	1.47	5.9
Approach		2524	5.0	1.087	158.9	LOS F	107.3	783.1	1.00	1.46	6.3
East: Vaughan Street											
4	L2	34	5.0	0.341	61.9	LOS E	7.4	54.1	0.91	0.75	13.6
5	T1	362	5.0	1.076	136.8	LOS F	46.6	339.8	0.98	1.28	12.3
6	R2	107	5.0	1.076	164.7	LOS F	46.6	339.8	1.00	1.44	6.0
Approach		503	5.0	1.076	137.7	LOS F	46.6	339.8	0.98	1.28	10.9
North: Olympic Drive											
7	L2	100	5.0	0.561	32.1	LOS C	26.6	194.5	0.73	0.69	23.6
8	T1	1563	5.0	0.561	25.3	LOS B	27.0	197.1	0.73	0.66	26.2
9	R2	139	5.0	1.068	164.1	LOS F	15.9	116.4	1.00	1.15	10.8
Approach		1802	5.0	1.068	36.4	LOS C	27.0	197.1	0.75	0.70	21.5
West: Vaughan Street											
10	L2	117	5.0	1.077	167.4	LOS F	38.4	280.0	1.00	1.42	10.7
11	T1	372	5.0	1.077	162.6	LOS F	38.4	280.0	1.00	1.41	10.7
12	R2	146	5.0	1.077	167.1	LOS F	37.9	276.6	1.00	1.40	10.5
Approach		635	5.0	1.077	164.5	LOS F	38.4	280.0	1.00	1.41	10.7
All Vehicles		5464	5.0	1.087	117.2	LOS F	107.3	783.1	0.92	1.19	9.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

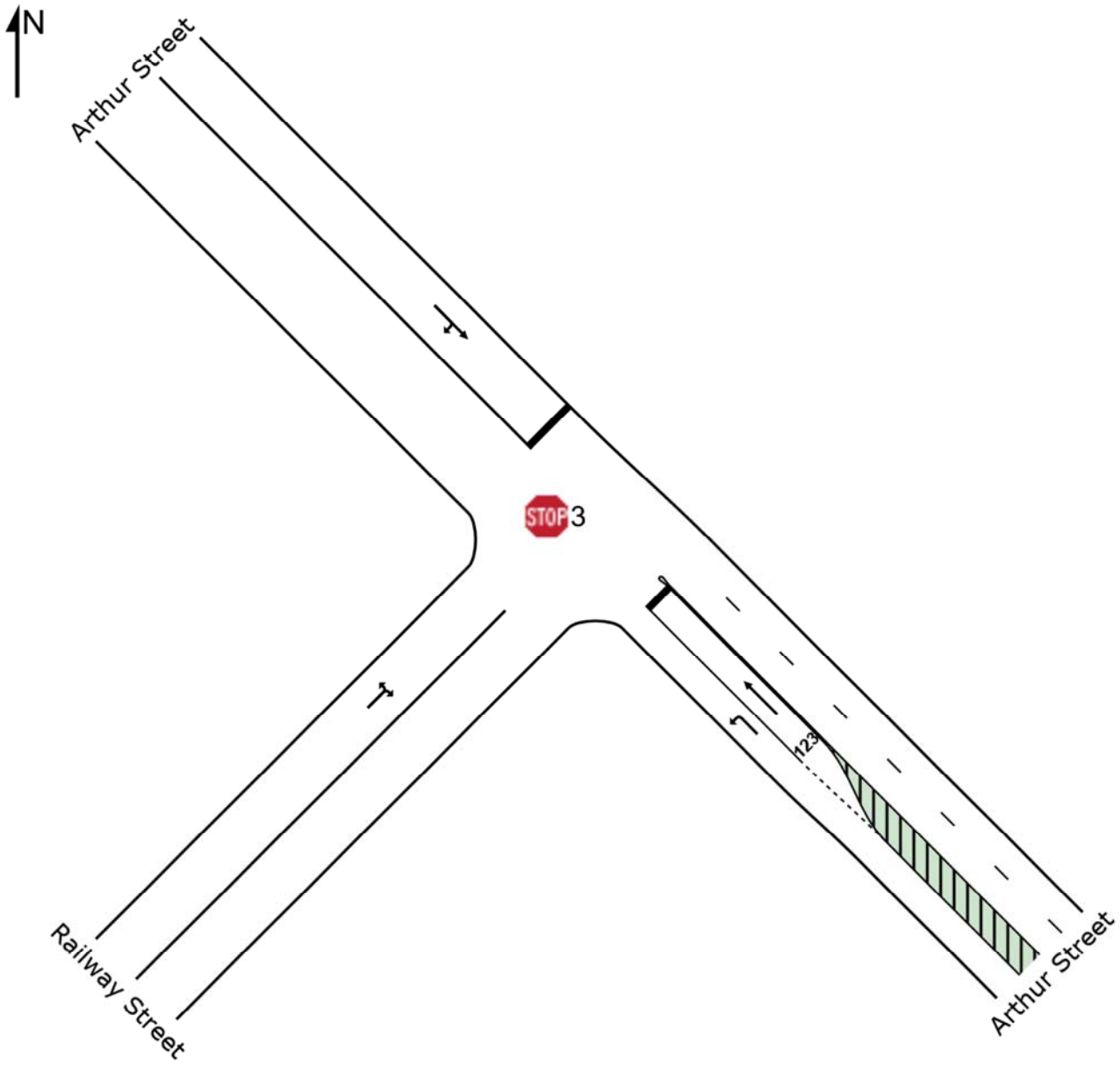
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	65.5	LOS F	0.2	0.2	0.94	0.94
P2	East Full Crossing	53	21.9	LOS C	0.1	0.1	0.54	0.54
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	32.1	LOS D	0.1	0.1	0.65	0.65
All Pedestrians		211	47.2	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 3 [AM EX Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Existing Situation
AM peak period
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 3 [AM EX Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Existing Situation
AM peak period
Stop (Two-Way)

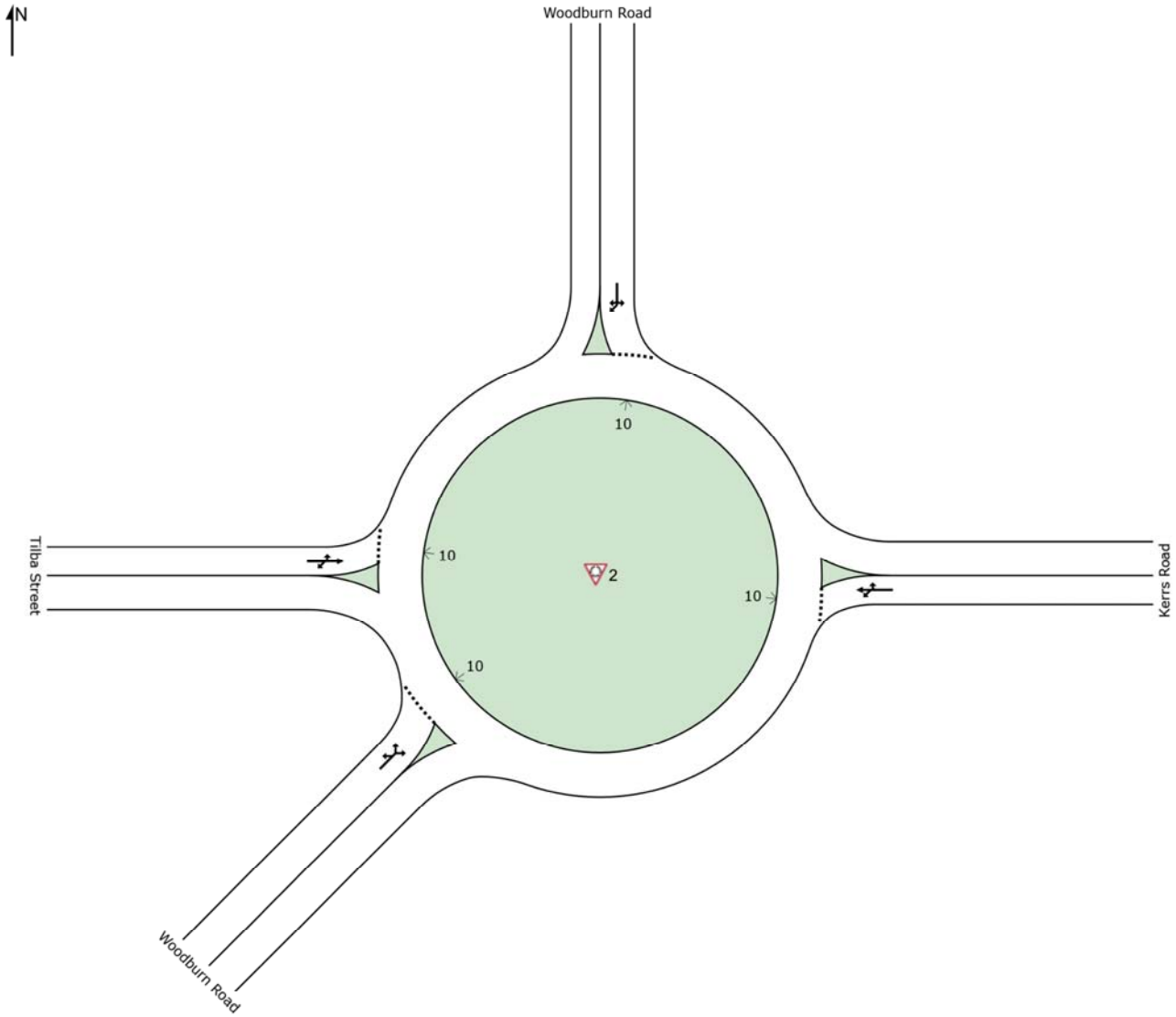
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Arthur Street											
21	L2	977	5.0	0.542	5.7	LOS A	0.0	0.0	0.00	0.57	50.2
22	T1	18	5.0	0.186	43.6	LOS D	0.5	3.4	0.94	1.01	35.3
Approach		995	5.0	0.542	6.4	LOS A	0.5	3.4	0.02	0.58	49.6
NorthWest: Arthur Street											
28	T1	6	5.0	0.038	14.6	LOS B	0.1	0.8	0.88	1.00	42.1
29	R2	3	5.0	0.038	33.3	LOS C	0.1	0.8	0.88	1.00	40.2
Approach		9	5.0	0.038	20.9	LOS B	0.1	0.8	0.88	1.00	41.5
SouthWest: Railway Street											
30	L2	9	5.0	0.680	5.7	LOS A	0.0	0.0	0.00	0.57	53.1
32	R2	1318	5.0	0.680	5.7	LOS A	0.0	0.0	0.00	0.57	50.8
Approach		1327	5.0	0.680	5.7	NA	0.0	0.0	0.00	0.57	50.8
All Vehicles		2332	5.0	0.680	6.0	NA	0.5	3.4	0.01	0.58	50.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 2 [AM EX Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Existing Situation
AM peak period
Roundabout



MOVEMENT SUMMARY

Site: 2 [AM EX Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Existing Situation
AM peak period
Roundabout

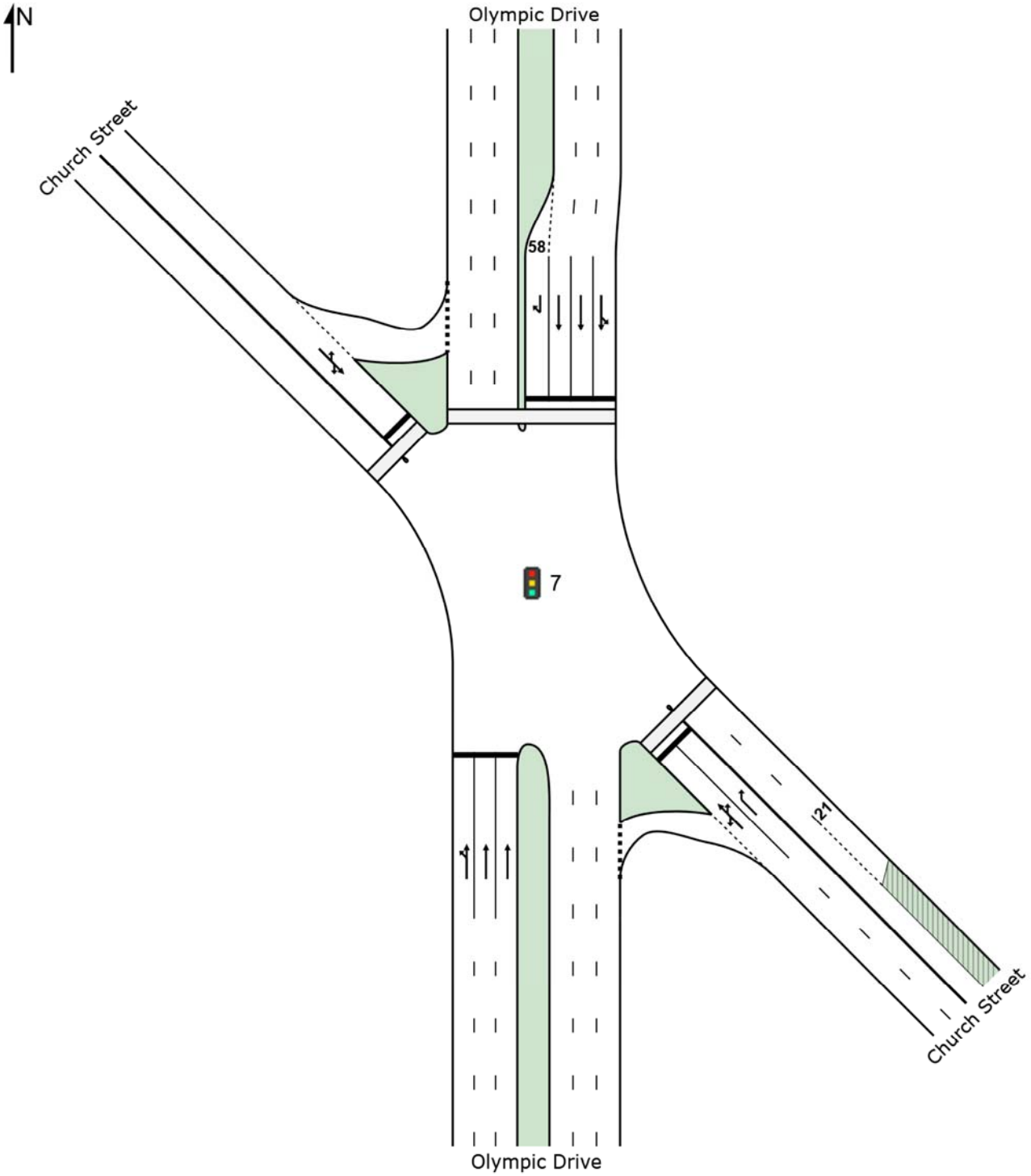
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Kerrs Road											
4a	L1	177	5.0	0.476	3.9	LOS A	2.7	20.0	0.34	0.54	46.9
5	T1	227	5.0	0.476	4.2	LOS A	2.7	20.0	0.34	0.54	46.6
6	R2	215	5.0	0.476	7.5	LOS A	2.7	20.0	0.34	0.54	46.4
Approach		619	5.0	0.476	5.3	LOS A	2.7	20.0	0.34	0.54	46.6
North: Woodburn Road											
7	L2	234	5.0	0.367	5.7	LOS A	1.6	12.0	0.49	0.71	45.5
9a	R1	89	5.0	0.367	8.0	LOS A	1.6	12.0	0.49	0.71	46.1
9	R2	16	5.0	0.367	8.8	LOS A	1.6	12.0	0.49	0.71	45.6
Approach		339	5.0	0.367	6.5	LOS A	1.6	12.0	0.49	0.71	45.6
West: Tilba Street											
10	L2	28	5.0	0.370	6.2	LOS A	1.8	13.1	0.54	0.69	44.7
11	T1	267	5.0	0.370	6.0	LOS A	1.8	13.1	0.54	0.69	46.2
12b	R3	31	5.0	0.370	10.1	LOS A	1.8	13.1	0.54	0.69	46.4
Approach		326	5.0	0.370	6.4	LOS A	1.8	13.1	0.54	0.69	46.1
SouthWest: Woodburn Road											
30b	L3	29	5.0	0.273	6.0	LOS A	1.2	8.5	0.46	0.68	45.3
30a	L1	106	5.0	0.273	4.9	LOS A	1.2	8.5	0.46	0.68	46.2
32a	R1	135	5.0	0.273	7.8	LOS A	1.2	8.5	0.46	0.68	46.4
Approach		271	5.0	0.273	6.5	LOS A	1.2	8.5	0.46	0.68	46.2
All Vehicles		1555	5.0	0.476	6.0	LOS A	2.7	20.0	0.43	0.63	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 7 [AM FU Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Future Scenario
AM peak period
Signals - Fixed Time Isolated


N
Olympic Drive
Church Street
58
7
21
Church Street
Olympic Drive

MOVEMENT SUMMARY

Site: 7 [AM FU Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Future Scenario
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1a	L1	127	5.0	1.046	127.6	LOS F	106.0	774.1	1.00	1.33	17.2
2	T1	2661	5.0	1.046	121.5	LOS F	107.6	785.5	1.00	1.35	22.8
Approach		2788	5.0	1.046	121.7	LOS F	107.6	785.5	1.00	1.35	22.6
SouthEast: Church Street											
21b	L3	241	5.0	0.526	37.2	LOS C	11.3	82.7	0.96	0.87	19.7
22	T1	14	5.0	0.526	31.7	LOS C	11.3	82.7	0.96	0.87	34.2
23a	R1	196	4.1	0.526	62.0	LOS E	11.3	82.7	0.96	0.82	34.4
Approach		451	4.6	0.526	47.8	LOS D	11.3	82.7	0.96	0.85	29.6
North: Olympic Drive											
7a	L1	243	4.8	0.584	29.4	LOS C	28.4	206.9	0.72	0.72	45.9
8	T1	1567	5.0	0.584	23.0	LOS B	28.6	209.1	0.71	0.66	47.5
9b	R3	9	5.0	0.082	77.9	LOS F	0.7	4.9	0.97	0.65	33.2
Approach		1820	5.0	0.584	24.1	LOS B	28.6	209.1	0.71	0.67	47.1
NorthWest: Church Street											
27b	L3	1	5.0	0.296	90.5	LOS F	7.1	51.5	0.93	0.76	31.5
28	T1	76	5.0	0.296	85.0	LOS F	7.1	51.5	0.93	0.76	21.8
29a	R1	12	5.0	0.296	88.3	LOS F	7.1	51.5	0.93	0.76	18.3
Approach		88	5.0	0.296	85.5	LOS F	7.1	51.5	0.93	0.76	21.5
All Vehicles		5147	5.0	1.046	80.1	LOS F	107.6	785.5	0.89	1.05	27.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	SouthEast Full Crossing	53	19.3	LOS B	0.1	0.1	0.51	0.51
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P7	NorthWest Full Crossing	53	24.1	LOS C	0.1	0.1	0.57	0.57
All Pedestrians		158	37.6	LOS D			0.68	0.68

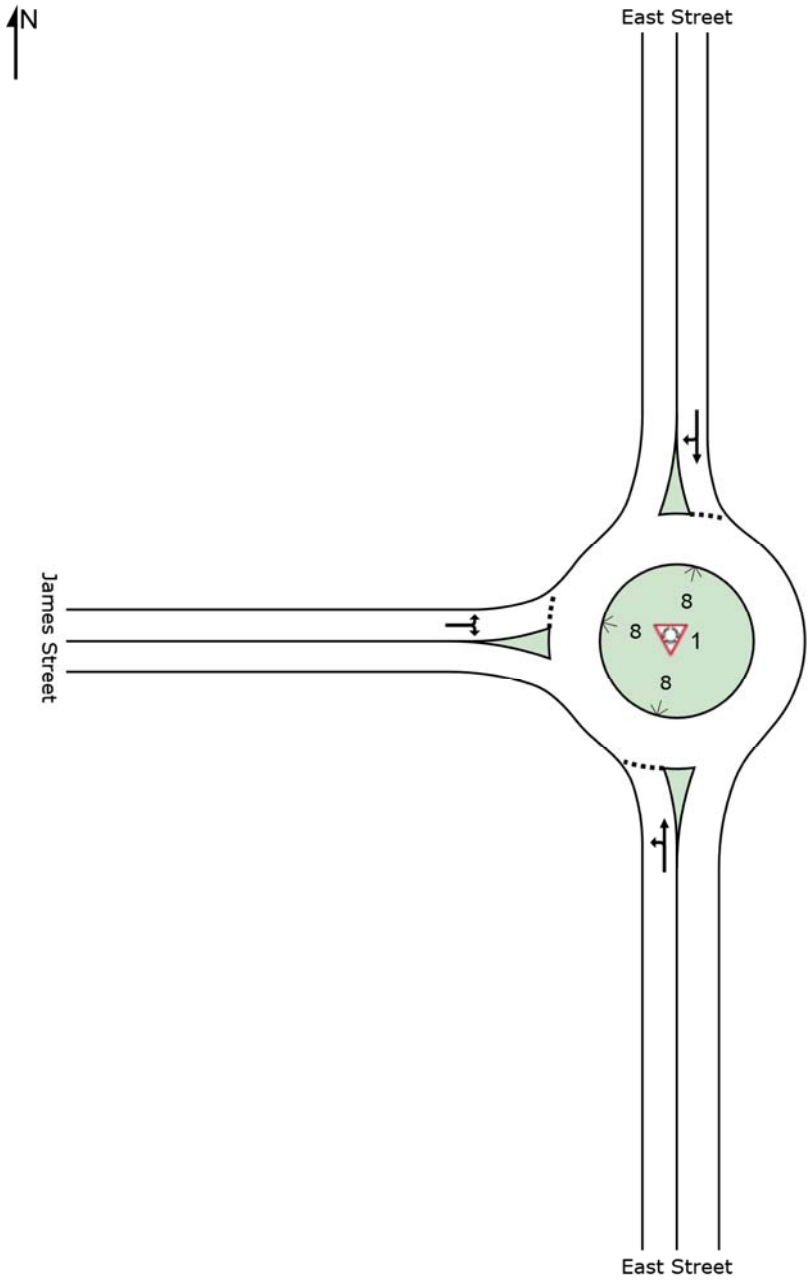
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Project: \\192.168.3.1\tdata\Synergy\Projects\17\17.392\Modelling\17.392m01v01 SIDRA Model.sip7

SITE LAYOUT

Site: 1 [AM FU James Street & East Street]

James Street and East Street intersection
Future Scenario
AM peak period
Roundabout



MOVEMENT SUMMARY

Site: 1 [AM FU James Street & East Street]

James Street and East Street intersection
Future Scenario
AM peak period
Roundabout

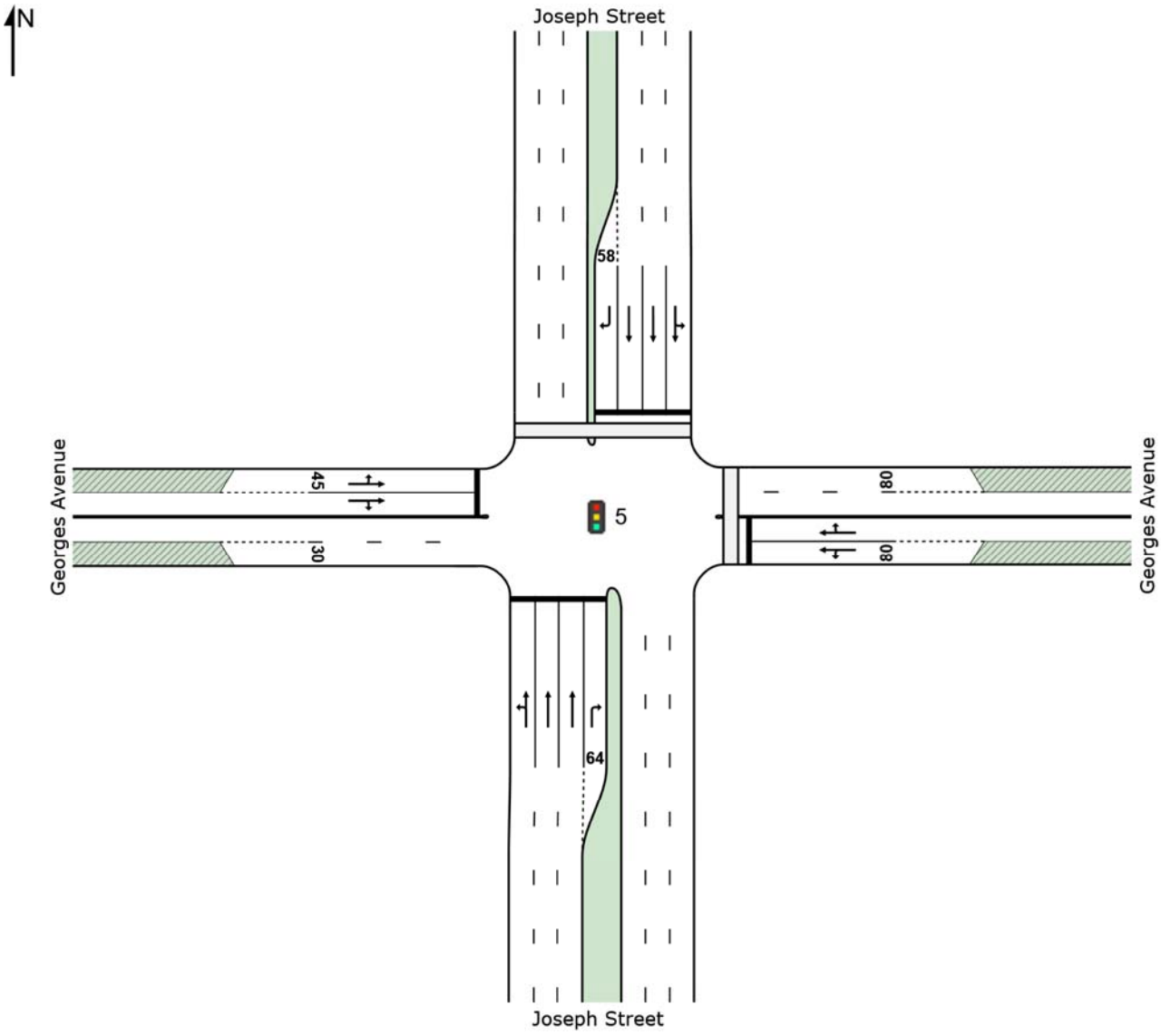
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: East Street											
1	L2	58	5.0	0.883	15.1	LOS B	17.8	129.7	1.00	0.98	36.0
2	T1	797	5.0	0.883	15.0	LOS B	17.8	129.7	1.00	0.98	37.5
Approach		855	5.0	0.883	15.0	LOS B	17.8	129.7	1.00	0.98	37.4
North: East Street											
8	T1	557	4.9	0.580	5.1	LOS A	6.9	50.7	0.28	0.51	45.7
9	R2	237	5.0	0.580	8.0	LOS A	6.9	50.7	0.28	0.51	43.1
Approach		794	4.9	0.580	6.0	LOS A	6.9	50.7	0.28	0.51	45.0
West: James Street											
10	L2	217	5.0	0.626	18.8	LOS B	5.4	39.8	0.98	1.13	30.2
12	R2	26	5.0	0.626	21.4	LOS B	5.4	39.8	0.98	1.13	32.1
Approach		243	5.0	0.626	19.1	LOS B	5.4	39.8	0.98	1.13	30.4
All Vehicles		1892	5.0	0.883	11.7	LOS A	17.8	129.7	0.70	0.80	39.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 5 [AM FU Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Future Scenario
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 5 [AM FU Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Future Scenario
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Joseph Street											
1	L2	35	5.0	1.064	138.6	LOS F	122.8	896.1	1.00	1.41	18.4
2	T1	2792	5.0	1.064	134.2	LOS F	122.8	896.1	1.00	1.42	15.1
3	R2	301	5.0	0.909	73.7	LOS F	20.0	146.3	1.00	1.02	27.5
Approach		3127	5.0	1.064	128.4	LOS F	122.8	896.1	1.00	1.38	16.1
East: Georges Avenue											
4	L2	398	5.0	0.372	20.8	LOS B	14.6	106.9	0.55	0.73	43.7
5	T1	203	5.0	0.426	48.0	LOS D	12.7	92.5	0.87	0.74	25.9
6	R2	8	5.0	0.426	52.6	LOS D	12.7	92.5	0.87	0.74	20.2
Approach		609	5.0	0.426	30.3	LOS C	14.6	106.9	0.66	0.73	36.8
North: Joseph Street											
7	L2	84	5.0	0.859	62.8	LOS E	37.5	274.0	1.00	0.96	18.1
8	T1	1415	5.0	0.859	57.7	LOS E	38.1	278.3	0.99	0.95	27.6
9	R2	99	5.0	0.805	52.5	LOS D	5.3	38.4	1.00	0.84	18.5
Approach		1598	5.0	0.859	57.6	LOS E	38.1	278.3	0.99	0.95	26.6
West: Georges Avenue											
10	L2	199	5.0	0.528	42.5	LOS C	13.0	94.5	0.79	0.76	15.0
11	T1	321	5.0	1.045	128.4	LOS F	43.1	314.3	0.97	1.30	14.1
12	R2	89	5.0	1.045	146.8	LOS F	43.1	314.3	1.00	1.38	17.3
Approach		609	5.0	1.045	103.1	LOS F	43.1	314.3	0.92	1.14	14.9
All Vehicles		5944	5.0	1.064	96.7	LOS F	122.8	896.1	0.95	1.17	19.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

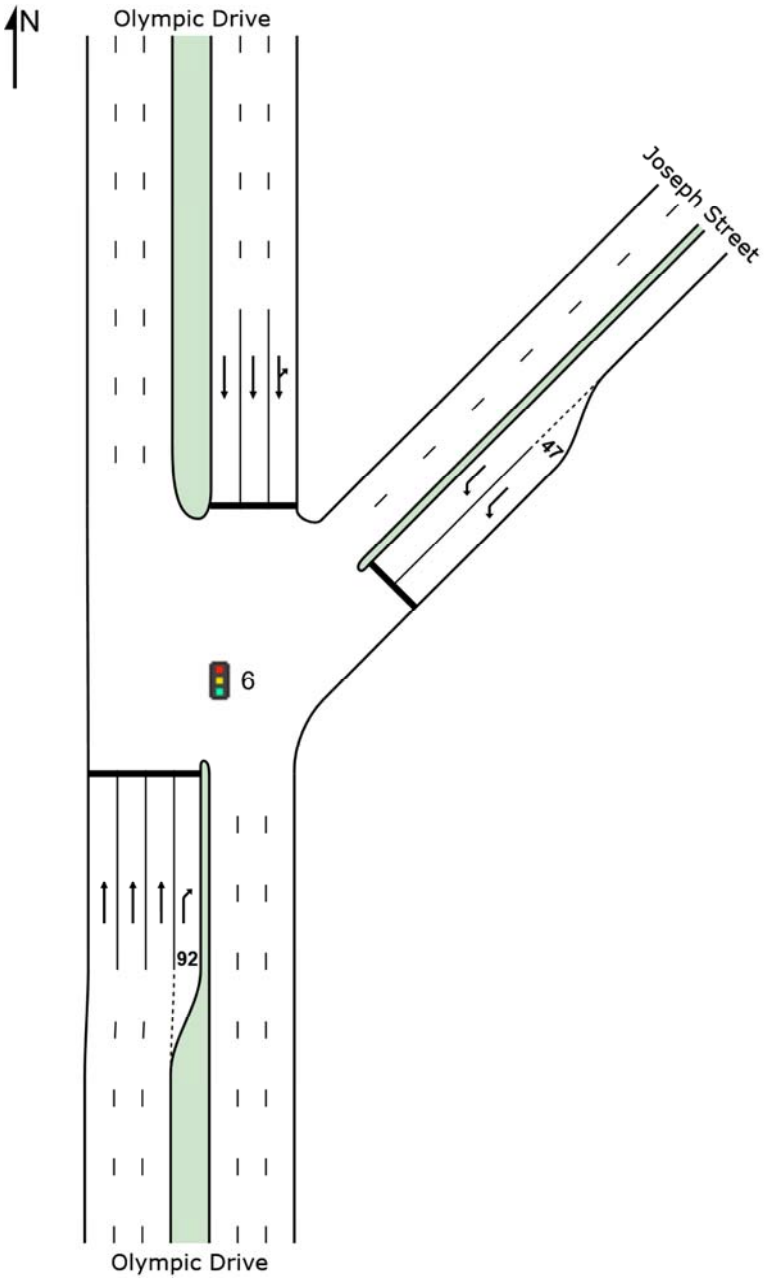
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	41.9	LOS E	0.2	0.2	0.75	0.75
P3	North Full Crossing	53	47.3	LOS E	0.2	0.2	0.80	0.80
All Pedestrians		105	44.6	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 6 [AM FU Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Future Scenario
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 6 [AM FU Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Future Scenario
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

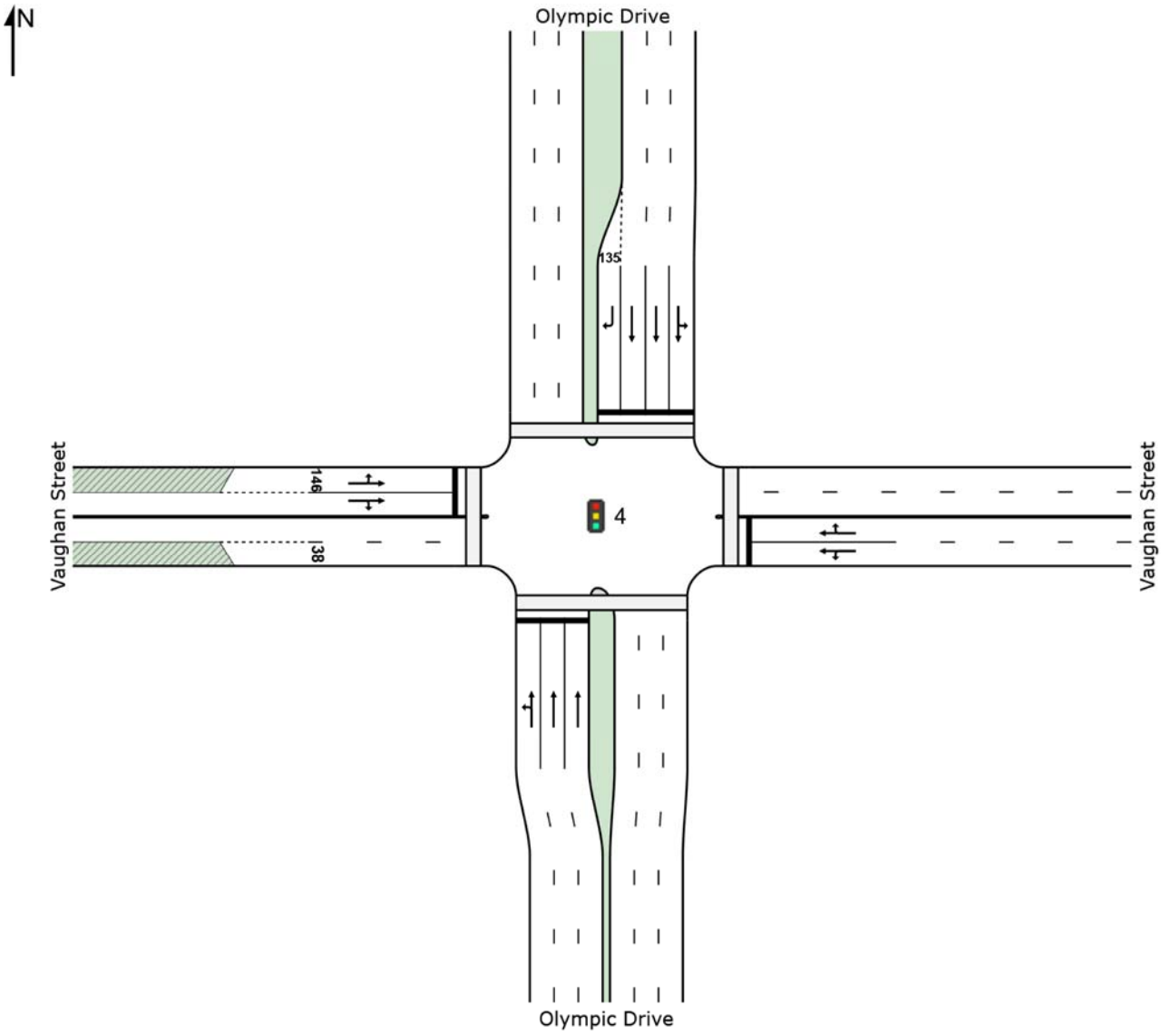
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Olympic Drive											
2	T1	2379	5.0	0.456	0.4	LOS A	4.0	29.0	0.15	0.09	68.5
3a	R1	703	5.0	0.673	29.3	LOS C	29.3	213.8	0.75	0.93	28.3
Approach		3082	5.0	0.673	7.0	LOS A	29.3	213.8	0.29	0.28	55.8
NorthEast: Joseph Street											
24a	L1	208	4.7	0.105	22.0	LOS B	3.7	27.1	0.53	0.63	30.6
Approach		208	4.7	0.105	22.0	LOS B	3.7	27.1	0.53	0.63	30.6
North: Olympic Drive											
7b	L3	177	5.0	0.735	48.8	LOS D	31.6	230.5	0.92	0.84	22.4
8	T1	1428	5.0	0.735	41.3	LOS C	33.9	247.2	0.92	0.83	30.6
Approach		1605	5.0	0.735	42.1	LOS C	33.9	247.2	0.92	0.83	29.8
All Vehicles		4896	5.0	0.735	19.2	LOS B	33.9	247.2	0.50	0.48	42.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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 LAYOUT

Site: 4 [AM FU Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Future Scenario
AM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 4 [AM FU Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Future Scenario
AM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1	L2	142	5.0	1.087	163.2	LOS F	104.9	765.7	1.00	1.43	10.9
2	T1	2382	5.0	1.087	158.6	LOS F	107.3	783.1	1.00	1.47	5.9
Approach		2524	5.0	1.087	158.9	LOS F	107.3	783.1	1.00	1.46	6.3
East: Vaughan Street											
4	L2	34	5.0	0.341	61.9	LOS E	7.4	54.1	0.91	0.75	13.6
5	T1	362	5.0	1.076	136.8	LOS F	46.6	339.8	0.98	1.28	12.3
6	R2	107	5.0	1.076	164.7	LOS F	46.6	339.8	1.00	1.44	6.0
Approach		503	5.0	1.076	137.7	LOS F	46.6	339.8	0.98	1.28	10.9
North: Olympic Drive											
7	L2	100	5.0	0.561	32.1	LOS C	26.6	194.5	0.73	0.69	23.6
8	T1	1563	5.0	0.561	25.3	LOS B	27.0	197.1	0.73	0.66	26.2
9	R2	139	5.0	1.068	164.1	LOS F	15.9	116.4	1.00	1.15	10.8
Approach		1802	5.0	1.068	36.4	LOS C	27.0	197.1	0.75	0.70	21.5
West: Vaughan Street											
10	L2	117	5.0	1.077	167.4	LOS F	38.4	280.0	1.00	1.42	10.7
11	T1	372	5.0	1.077	162.6	LOS F	38.4	280.0	1.00	1.41	10.7
12	R2	146	5.0	1.077	167.1	LOS F	37.9	276.6	1.00	1.40	10.5
Approach		635	5.0	1.077	164.5	LOS F	38.4	280.0	1.00	1.41	10.7
All Vehicles		5464	5.0	1.087	117.2	LOS F	107.3	783.1	0.92	1.19	9.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

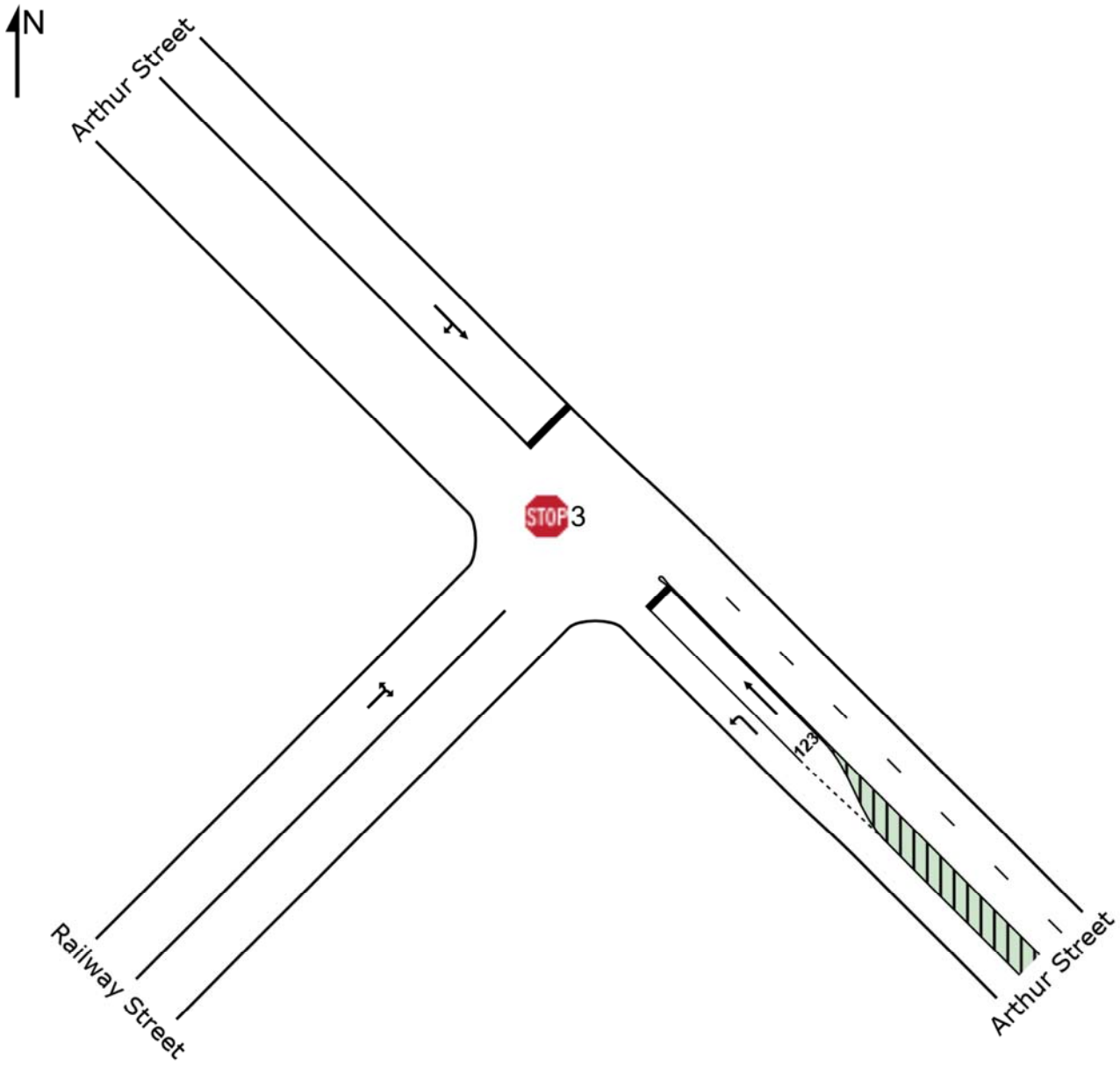
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	65.5	LOS F	0.2	0.2	0.94	0.94
P2	East Full Crossing	53	21.9	LOS C	0.1	0.1	0.54	0.54
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	32.1	LOS D	0.1	0.1	0.65	0.65
All Pedestrians		211	47.2	LOS E			0.77	0.77

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 3 [AM FU Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Future Scenario
AM peak period
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 3 [AM FU Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Future Scenario
AM peak period
Stop (Two-Way)

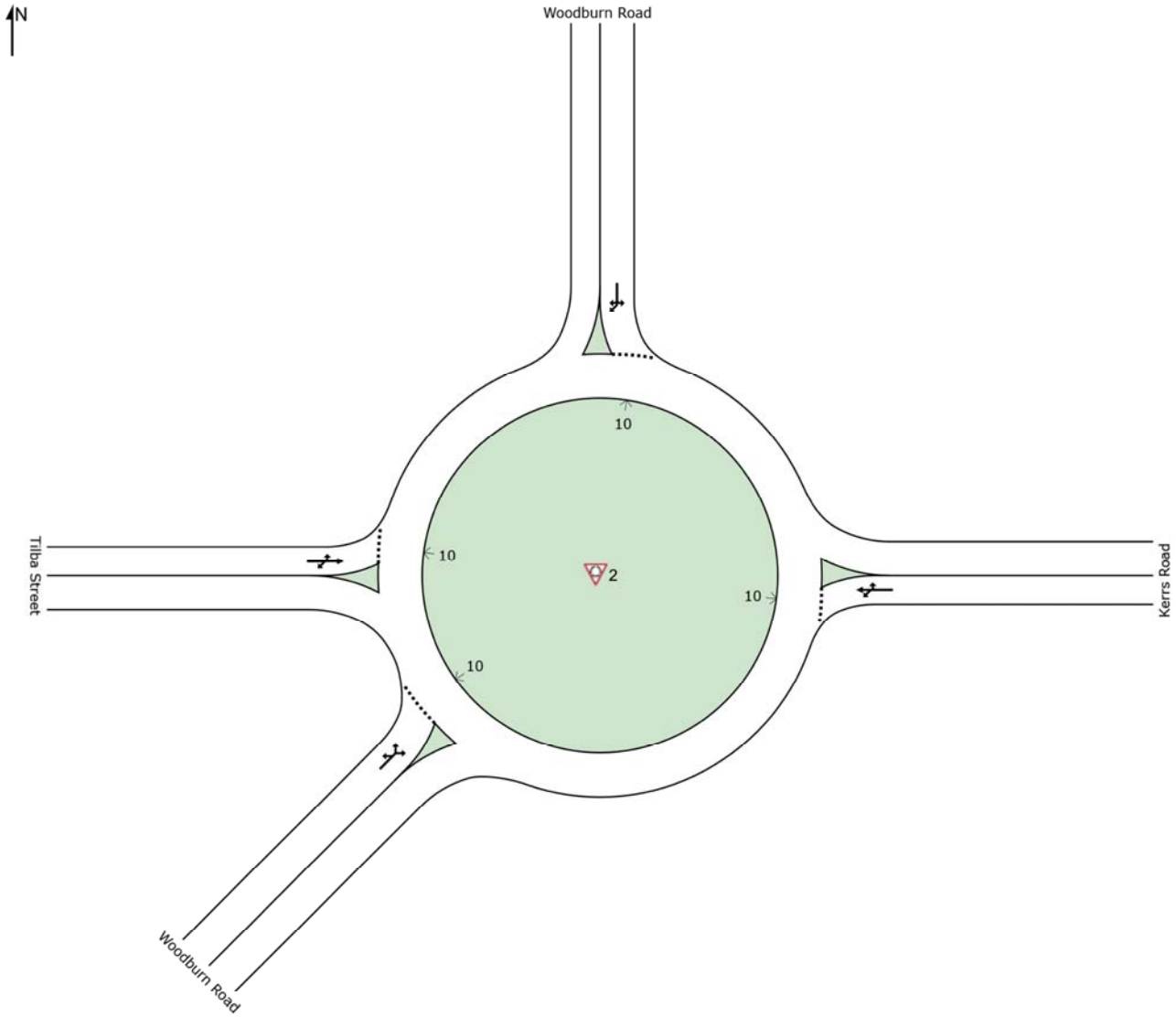
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Arthur Street											
21	L2	980	5.0	0.544	5.7	LOS A	0.0	0.0	0.00	0.57	50.2
22	T1	18	5.0	0.195	45.6	LOS D	0.5	3.6	0.94	1.01	34.7
Approach		998	5.0	0.544	6.4	LOS A	0.5	3.6	0.02	0.58	49.5
NorthWest: Arthur Street											
28	T1	6	5.0	0.039	14.9	LOS B	0.1	0.8	0.89	1.00	41.9
29	R2	3	5.0	0.039	34.2	LOS C	0.1	0.8	0.89	1.00	40.0
Approach		9	5.0	0.039	21.3	LOS B	0.1	0.8	0.89	1.00	41.3
SouthWest: Railway Street											
30	L2	9	5.0	0.686	5.7	LOS A	0.0	0.0	0.00	0.57	53.1
32	R2	1329	5.0	0.686	5.7	LOS A	0.0	0.0	0.00	0.57	50.8
Approach		1339	5.0	0.686	5.7	NA	0.0	0.0	0.00	0.57	50.8
All Vehicles		2346	5.0	0.686	6.0	NA	0.5	3.6	0.01	0.58	50.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 2 [AM FU Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Future Scenario
AM peak period
Roundabout



MOVEMENT SUMMARY

Site: 2 [AM FU Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Future Scenario
AM peak period
Roundabout

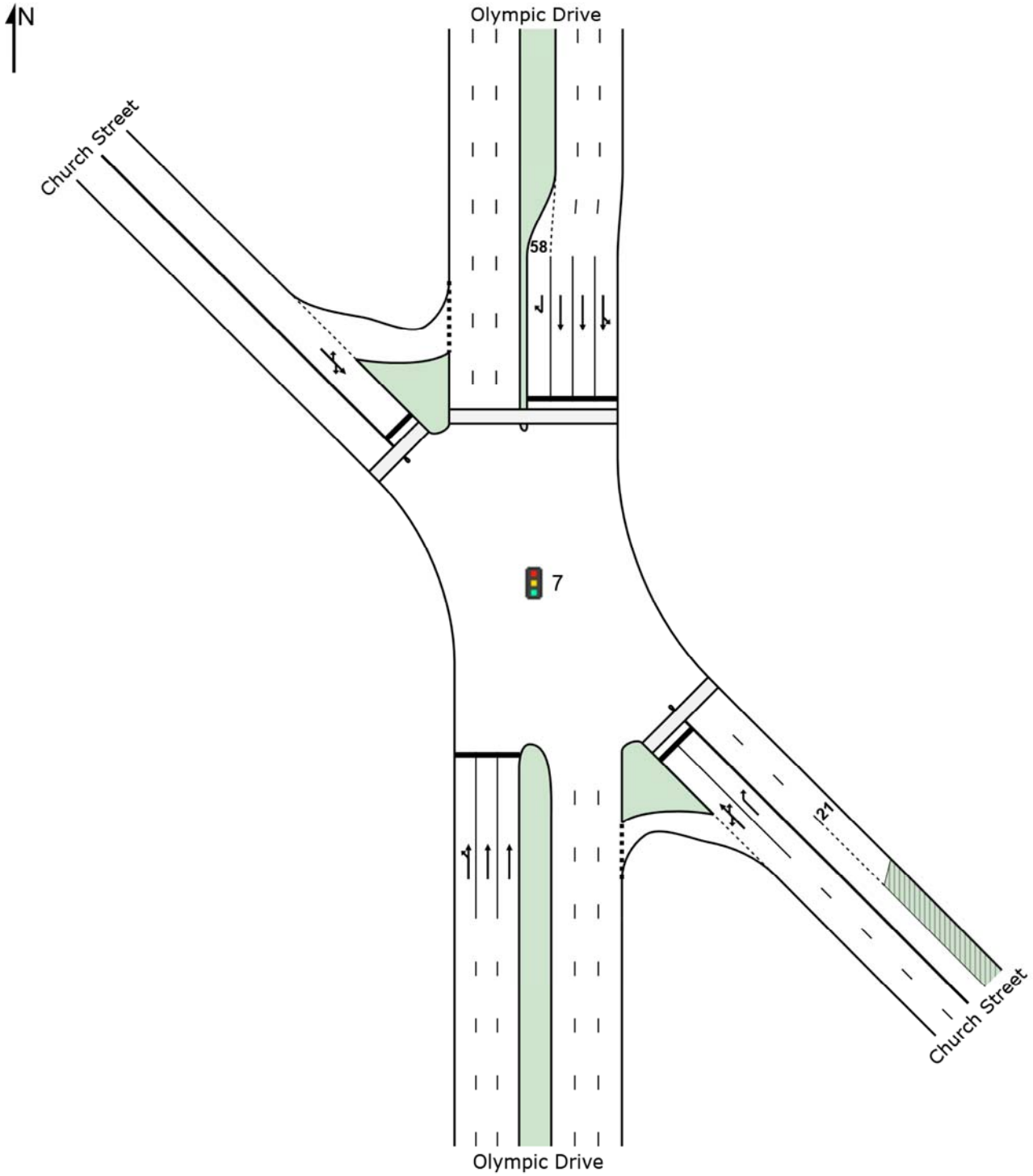
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Kerrs Road											
4a	L1	177	5.0	0.481	3.9	LOS A	2.8	20.3	0.34	0.54	46.9
5	T1	227	5.0	0.481	4.2	LOS A	2.8	20.3	0.34	0.54	46.6
6	R2	221	4.9	0.481	7.5	LOS A	2.8	20.3	0.34	0.54	46.4
Approach		625	4.9	0.481	5.3	LOS A	2.8	20.3	0.34	0.54	46.6
North: Woodburn Road											
7	L2	234	5.0	0.367	5.7	LOS A	1.6	12.0	0.49	0.71	45.5
9a	R1	89	5.0	0.367	8.0	LOS A	1.6	12.0	0.49	0.71	46.1
9	R2	16	5.0	0.367	8.8	LOS A	1.6	12.0	0.49	0.71	45.6
Approach		339	5.0	0.367	6.5	LOS A	1.6	12.0	0.49	0.71	45.6
West: Tilba Street											
10	L2	28	5.0	0.371	6.2	LOS A	1.8	13.1	0.55	0.69	44.7
11	T1	267	5.0	0.371	6.0	LOS A	1.8	13.1	0.55	0.69	46.2
12b	R3	31	5.0	0.371	10.1	LOS A	1.8	13.1	0.55	0.69	46.4
Approach		326	5.0	0.371	6.4	LOS A	1.8	13.1	0.55	0.69	46.1
SouthWest: Woodburn Road											
30b	L3	29	5.0	0.274	6.0	LOS A	1.2	8.5	0.46	0.68	45.3
30a	L1	106	5.0	0.274	5.0	LOS A	1.2	8.5	0.46	0.68	46.2
32a	R1	135	5.0	0.274	7.8	LOS A	1.2	8.5	0.46	0.68	46.4
Approach		271	5.0	0.274	6.5	LOS A	1.2	8.5	0.46	0.68	46.2
All Vehicles		1561	5.0	0.481	6.0	LOS A	2.8	20.3	0.44	0.63	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 7 [PM EX Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Existing situation
PM peak period
Signals - Fixed Time Isolated


N
Olympic Drive
Church Street
58
7
21
Church Street
Olympic Drive

MOVEMENT SUMMARY

Site: 7 [PM EX Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Existing situation
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1a	L1	101	5.0	0.867	61.3	LOS E	41.8	304.8	1.00	0.96	27.2
2	T1	1627	5.0	0.867	54.9	LOS D	42.6	311.3	1.00	0.97	36.4
Approach		1728	5.0	0.867	55.3	LOS D	42.6	311.3	1.00	0.96	35.8
SouthEast: Church Street											
21b	L3	495	5.0	0.807	52.0	LOS D	27.4	200.2	0.95	1.04	15.4
22	T1	9	5.0	0.807	46.5	LOS D	27.4	200.2	0.95	1.04	29.6
23a	R1	345	5.0	0.644	54.8	LOS D	21.9	160.0	0.93	0.84	36.5
Approach		849	5.0	0.807	53.1	LOS D	27.4	200.2	0.94	0.96	27.0
North: Olympic Drive											
7a	L1	196	5.0	1.066	145.3	LOS F	103.9	758.7	1.00	1.38	20.3
8	T1	2384	5.0	1.066	139.7	LOS F	106.0	773.5	1.00	1.42	18.0
9b	R3	19	5.0	0.156	72.2	LOS F	1.3	9.6	0.94	0.73	34.3
Approach		2599	5.0	1.066	139.6	LOS F	106.0	773.5	1.00	1.41	18.3
NorthWest: Church Street											
27b	L3	21	5.0	0.464	78.9	LOS F	9.2	67.5	0.96	0.84	33.4
28	T1	67	5.0	0.464	73.4	LOS F	9.2	67.5	0.96	0.84	23.4
29a	R1	54	5.0	0.464	76.7	LOS F	9.2	67.5	0.96	0.84	19.8
Approach		142	5.0	0.464	75.5	LOS F	9.2	67.5	0.96	0.84	24.0
All Vehicles		5319	5.0	1.066	96.7	LOS F	106.0	773.5	0.99	1.18	23.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

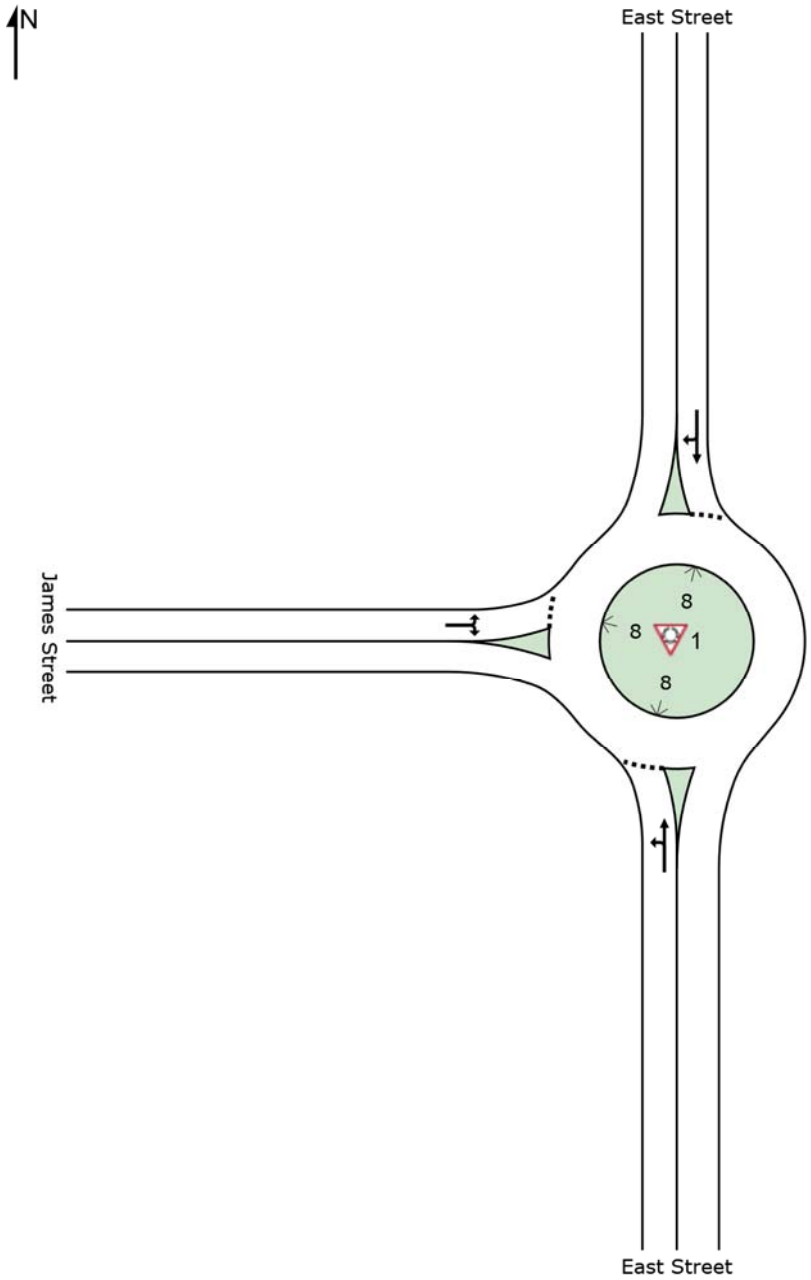
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	SouthEast Full Crossing	53	29.5	LOS C	0.1	0.1	0.63	0.63
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P7	NorthWest Full Crossing	53	35.4	LOS D	0.2	0.2	0.69	0.69
All Pedestrians		158	44.7	LOS E			0.76	0.76

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 1 [PM EX James Street & East Street]

James Street and East Street intersection
Existing Situation
PM peak period
Roundabout



MOVEMENT SUMMARY

Site: 1 [PM EX James Street & East Street]

James Street and East Street intersection
Existing Situation
PM peak period
Roundabout

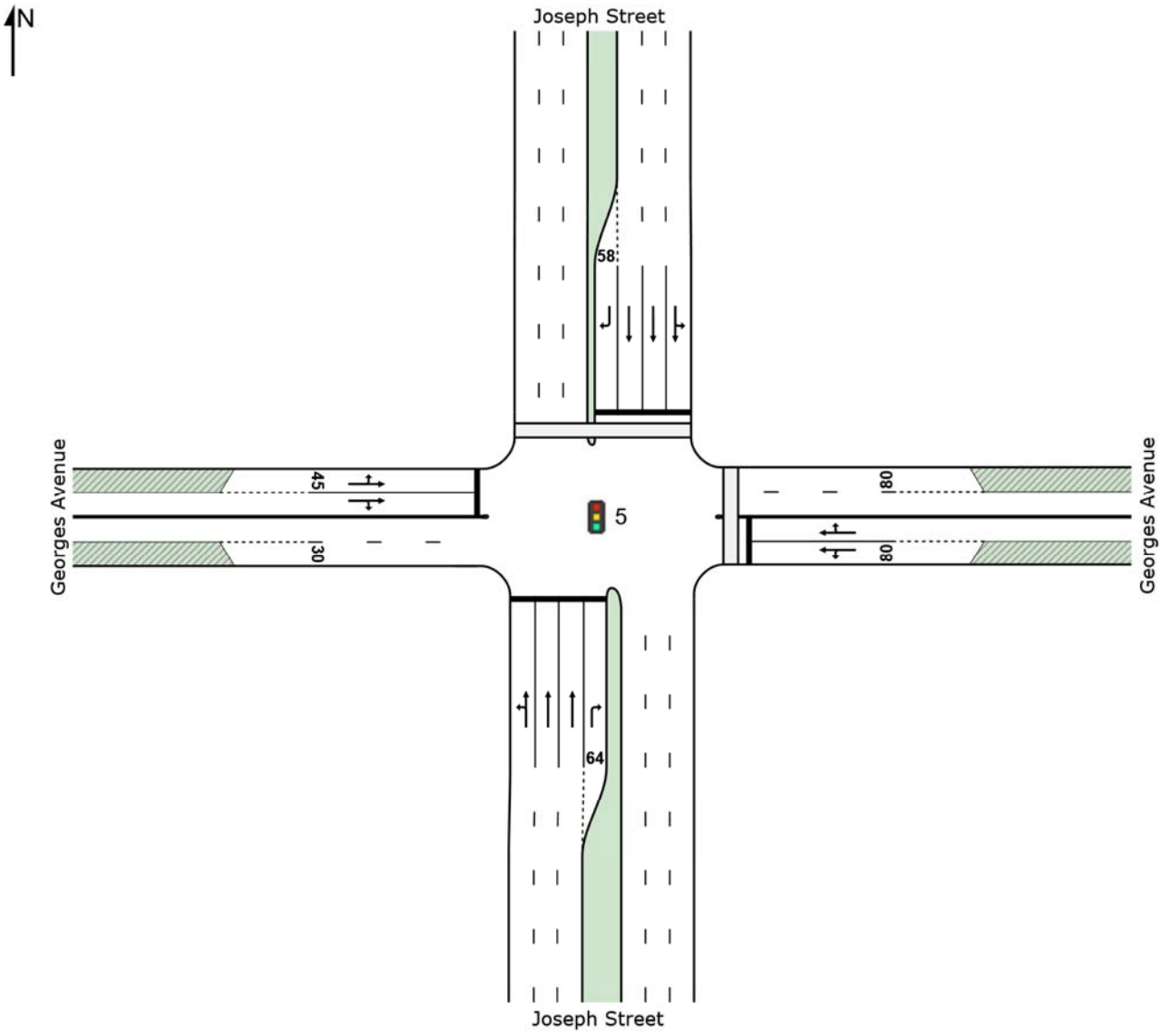
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: East Street											
1	L2	67	5.0	0.677	7.9	LOS A	7.2	52.4	0.75	0.70	41.9
2	T1	579	5.0	0.677	7.7	LOS A	7.2	52.4	0.75	0.70	44.1
Approach		646	5.0	0.677	7.7	LOS A	7.2	52.4	0.75	0.70	43.9
North: East Street											
8	T1	1074	5.0	1.089	92.0	LOS F	113.5	828.2	1.00	1.35	13.5
9	R2	216	5.0	1.089	94.9	LOS F	113.5	828.2	1.00	1.35	12.4
Approach		1289	5.0	1.089	92.5	LOS F	113.5	828.2	1.00	1.35	13.3
West: James Street											
10	L2	197	5.0	0.510	11.4	LOS A	3.9	28.3	0.84	0.99	35.2
12	R2	95	5.0	0.510	14.0	LOS A	3.9	28.3	0.84	0.99	37.1
Approach		292	5.0	0.510	12.2	LOS A	3.9	28.3	0.84	0.99	35.8
All Vehicles		2227	5.0	1.089	57.4	LOS E	113.5	828.2	0.91	1.12	18.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 5 [PM EX Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Existing situation
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 5 [PM EX Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Existing situation
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Joseph Street											
1	L2	34	5.0	0.670	38.7	LOS C	33.3	243.4	0.83	0.76	39.1
2	T1	1699	5.0	0.670	31.7	LOS C	33.3	243.4	0.82	0.74	37.9
3	R2	84	5.0	0.339	40.2	LOS C	3.3	24.3	0.94	0.76	36.6
Approach		1817	5.0	0.670	32.3	LOS C	33.3	243.4	0.83	0.74	37.9
East: Georges Avenue											
4	L2	322	5.0	0.402	31.9	LOS C	16.1	117.4	0.70	0.76	38.8
5	T1	434	5.0	1.409	415.8	LOS F	94.0	686.2	0.99	2.27	5.3
6	R2	52	5.0	1.409	439.9	LOS F	94.0	686.2	1.00	2.35	3.4
Approach		807	5.0	1.409	264.2	LOS F	94.0	686.2	0.87	1.68	9.0
North: Joseph Street											
7	L2	24	5.0	1.406	431.7	LOS F	213.7	1560.1	1.00	2.40	3.5
8	T1	2595	5.0	1.406	428.9	LOS F	213.7	1560.1	1.00	2.36	5.5
9	R2	257	5.0	1.029	118.1	LOS F	21.4	156.3	1.00	1.11	8.5
Approach		2876	5.0	1.406	401.2	LOS F	213.7	1560.1	1.00	2.25	5.6
West: Georges Avenue											
10	L2	87	5.0	0.273	45.8	LOS D	8.3	60.3	0.79	0.72	14.8
11	T1	192	5.0	0.539	54.7	LOS D	11.1	80.7	0.91	0.77	24.0
12	R2	37	5.0	0.539	66.1	LOS E	11.1	80.7	0.96	0.80	29.0
Approach		316	5.0	0.539	53.6	LOS D	11.1	80.7	0.88	0.76	22.2
All Vehicles		5816	5.0	1.409	248.0	LOS F	213.7	1560.1	0.92	1.62	8.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

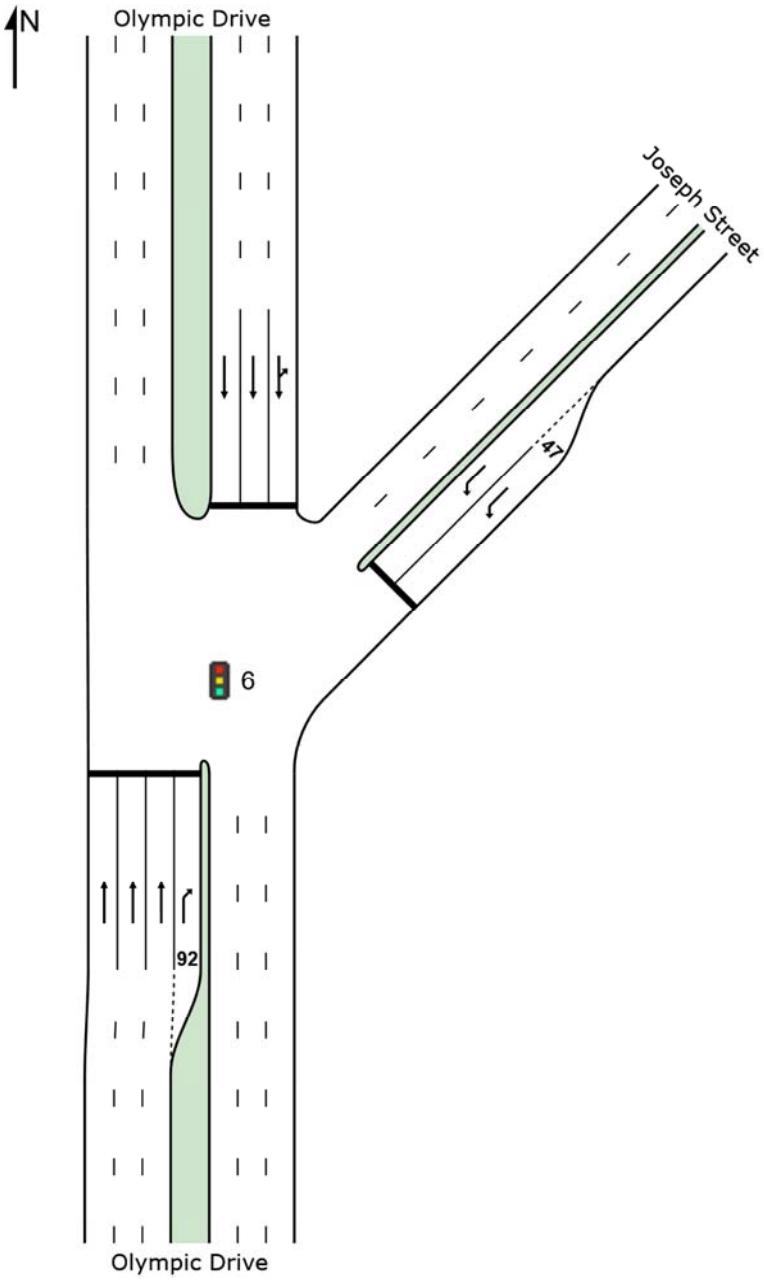
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	34.1	LOS D	0.2	0.2	0.67	0.67
P3	North Full Crossing	53	50.5	LOS E	0.2	0.2	0.82	0.82
All Pedestrians		105	42.3	LOS E			0.75	0.75

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 6 [PM EX Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Existing situation
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 6 [PM EX Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Existing situation
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

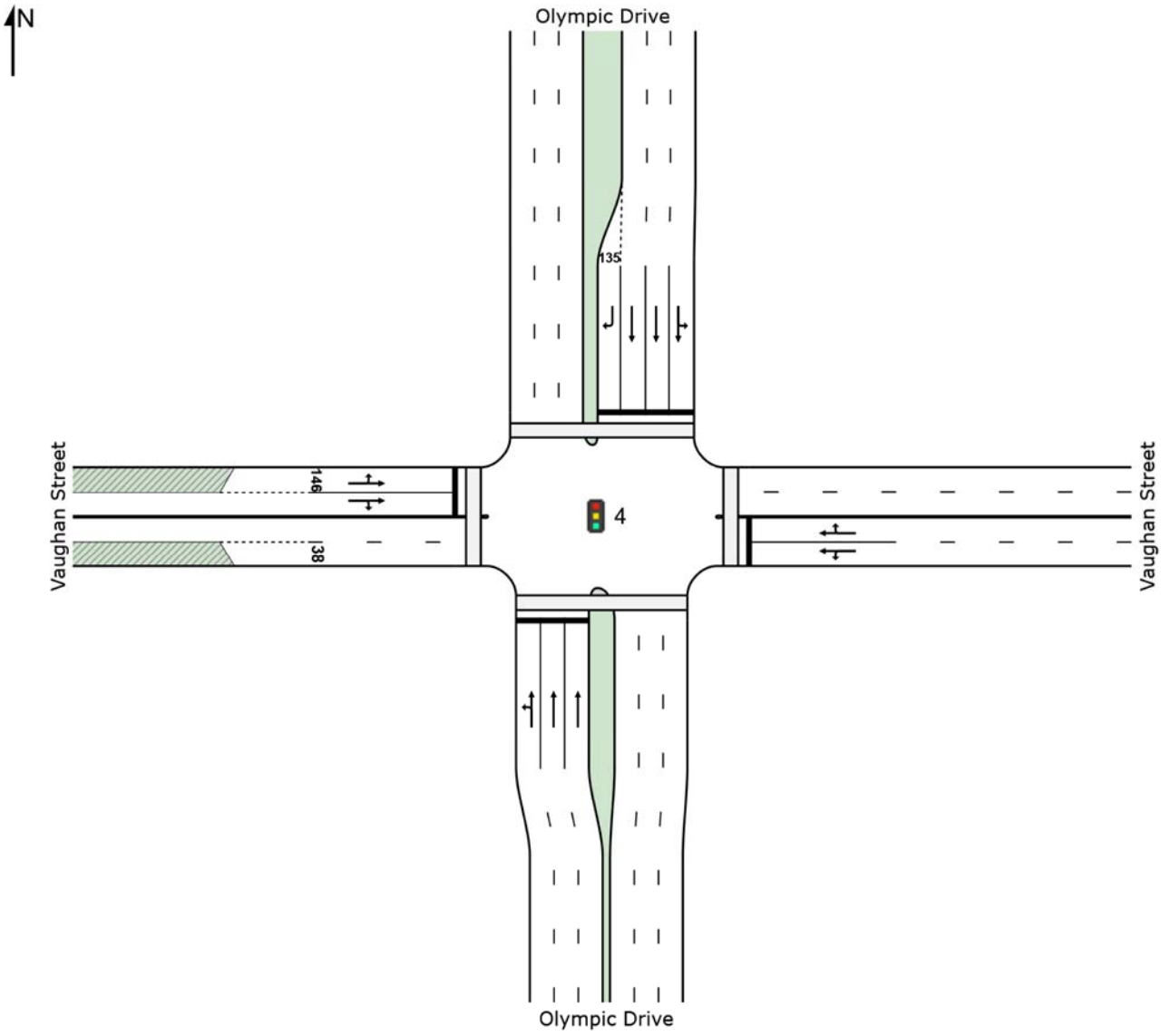
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Olympic Drive											
2	T1	1546	5.0	0.296	0.3	LOS A	2.1	15.1	0.12	0.07	68.8
3a	R1	372	5.0	0.569	46.6	LOS D	20.0	146.1	0.87	0.99	21.2
Approach		1918	5.0	0.569	9.3	LOS A	20.0	146.1	0.26	0.25	52.9
NorthEast: Joseph Street											
24a	L1	332	5.0	0.275	43.7	LOS D	8.9	65.2	0.79	0.74	20.9
Approach		332	5.0	0.275	43.7	LOS D	8.9	65.2	0.79	0.74	20.9
North: Olympic Drive											
7b	L3	66	5.0	0.733	30.0	LOS C	41.8	305.4	0.78	0.73	32.2
8	T1	2417	5.0	0.733	22.6	LOS B	42.7	311.8	0.78	0.72	41.2
Approach		2483	5.0	0.733	22.8	LOS B	42.7	311.8	0.78	0.72	41.0
All Vehicles		4733	5.0	0.733	18.8	LOS B	42.7	311.8	0.57	0.53	42.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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 LAYOUT

Site: 4 [PM EX Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Exisitng Situation
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 4 [PM EX Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Exisitng Situation
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1	L2	166	5.0	1.108	188.7	LOS F	62.8	458.3	1.00	1.45	9.6
2	T1	1347	5.0	1.108	183.8	LOS F	67.1	490.1	1.00	1.50	5.2
Approach		1514	5.0	1.108	184.3	LOS F	67.1	490.1	1.00	1.50	5.7
East: Vaughan Street											
4	L2	47	5.0	0.353	57.0	LOS E	8.9	65.1	0.89	0.75	14.4
5	T1	459	5.0	1.112	156.8	LOS F	63.3	462.3	0.98	1.37	11.0
6	R2	122	5.0	1.112	189.6	LOS F	63.3	462.3	1.00	1.54	5.3
Approach		628	5.0	1.112	155.6	LOS F	63.3	462.3	0.97	1.36	9.9
North: Olympic Drive											
7	L2	116	5.0	0.949	68.7	LOS E	74.8	545.8	1.00	1.06	13.3
8	T1	2349	5.0	0.949	62.2	LOS E	75.2	548.8	0.96	1.04	13.8
9	R2	404	5.0	1.102	186.3	LOS F	51.9	378.5	1.00	1.21	9.7
Approach		2869	5.0	1.102	79.9	LOS F	75.2	548.8	0.97	1.07	12.4
West: Vaughan Street											
10	L2	148	5.0	1.115	195.2	LOS F	41.5	303.0	1.00	1.48	9.3
11	T1	300	5.0	1.115	190.5	LOS F	41.5	303.0	1.00	1.47	9.3
12	R2	181	5.0	1.115	195.1	LOS F	40.6	296.0	1.00	1.46	9.2
Approach		629	5.0	1.115	192.9	LOS F	41.5	303.0	1.00	1.47	9.3
All Vehicles		5641	5.0	1.115	129.0	LOS F	75.2	548.8	0.98	1.26	9.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

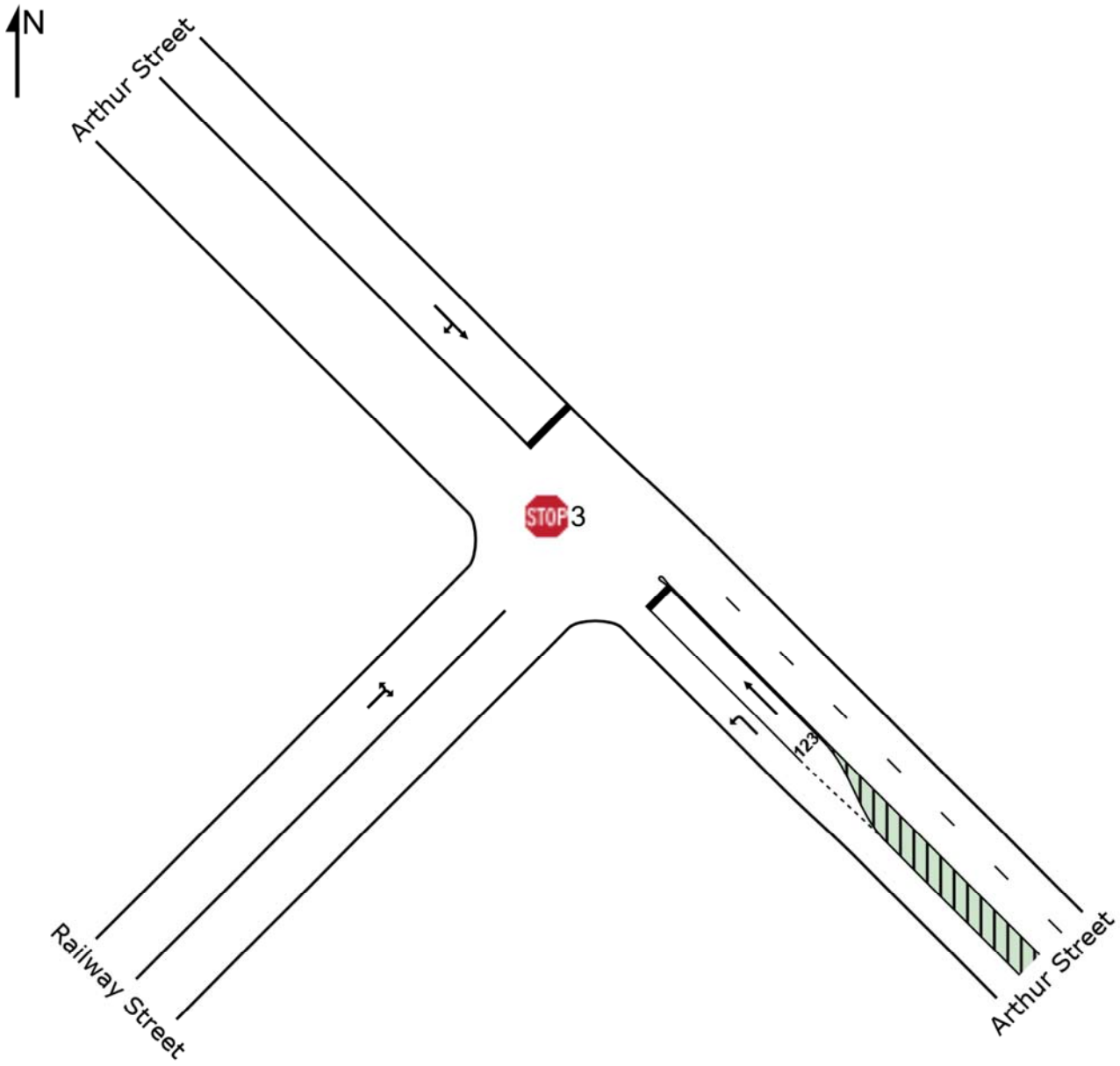
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	60.0	LOS E	0.2	0.2	0.90	0.90
P2	East Full Crossing	53	24.7	LOS C	0.1	0.1	0.57	0.57
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	50.5	LOS E	0.2	0.2	0.82	0.82
All Pedestrians		211	51.1	LOS E			0.81	0.81

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 3 [PM EX Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Existing Situation
PM peak period
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 3 [PM EX Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Existing Situation
PM peak period
Stop (Two-Way)

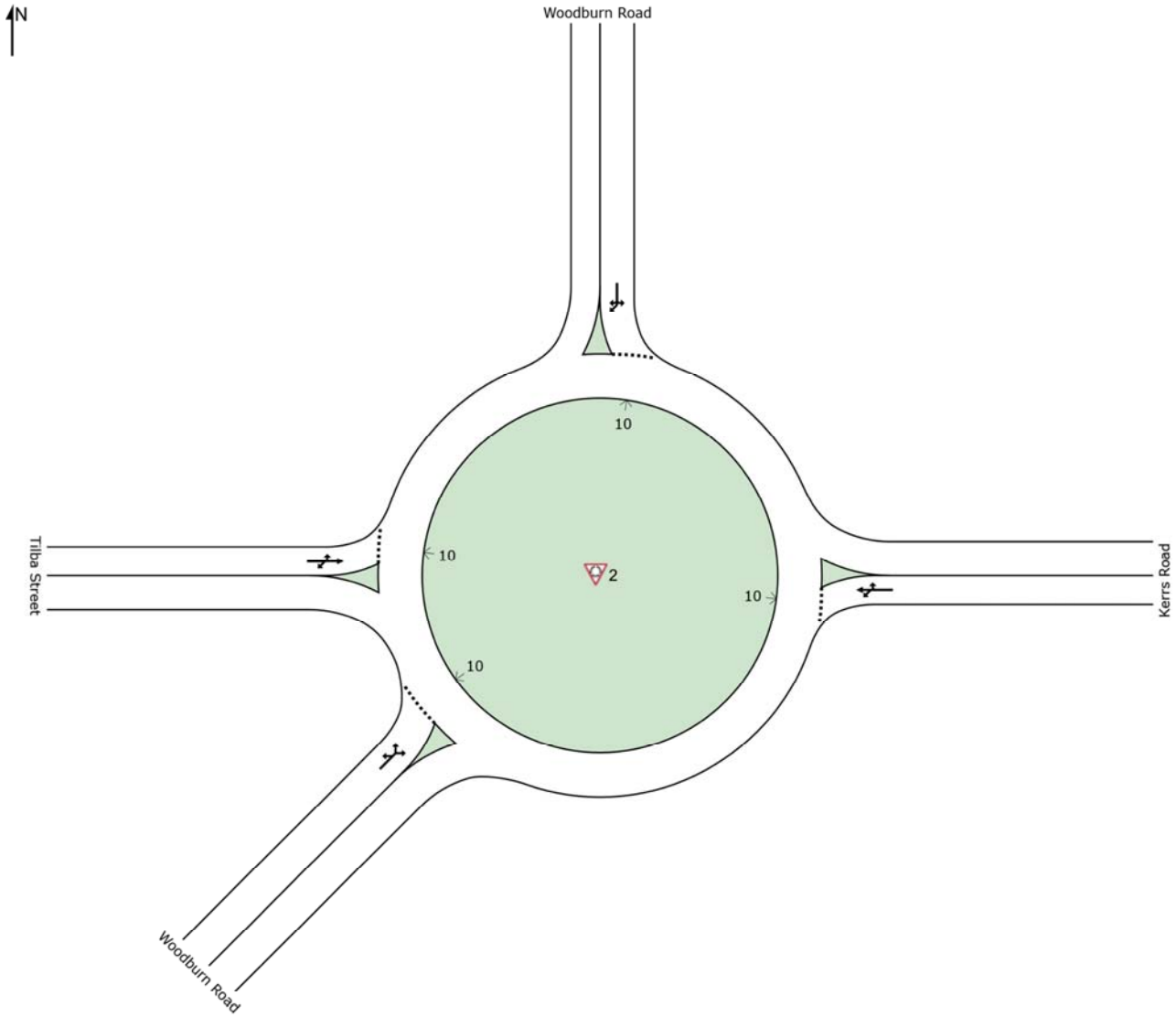
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Arthur Street											
21	L2	1416	5.0	0.785	5.8	LOS A	0.0	0.0	0.00	0.57	50.0
22	T1	13	5.0	0.047	19.9	LOS B	0.1	0.9	0.80	1.00	42.9
Approach		1428	5.0	0.785	5.9	LOS A	0.1	0.9	0.01	0.58	49.8
NorthWest: Arthur Street											
28	T1	13	5.0	0.151	11.1	LOS A	0.4	2.9	0.90	1.00	39.8
29	R2	13	5.0	0.151	42.4	LOS C	0.4	2.9	0.90	1.00	37.8
Approach		25	5.0	0.151	26.7	LOS B	0.4	2.9	0.90	1.00	38.8
SouthWest: Railway Street											
30	L2	7	5.0	0.524	5.6	LOS A	0.0	0.0	0.00	0.57	53.2
32	R2	1016	5.0	0.524	5.6	LOS A	0.0	0.0	0.00	0.57	50.9
Approach		1023	5.0	0.524	5.6	NA	0.0	0.0	0.00	0.57	50.9
All Vehicles		2477	5.0	0.785	6.0	NA	0.4	2.9	0.01	0.58	50.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 2 [PM EX Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Existing Situation
PM peak period
Roundabout



MOVEMENT SUMMARY

Site: 2 [PM EX Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Existing Situation
PM peak period
Roundabout

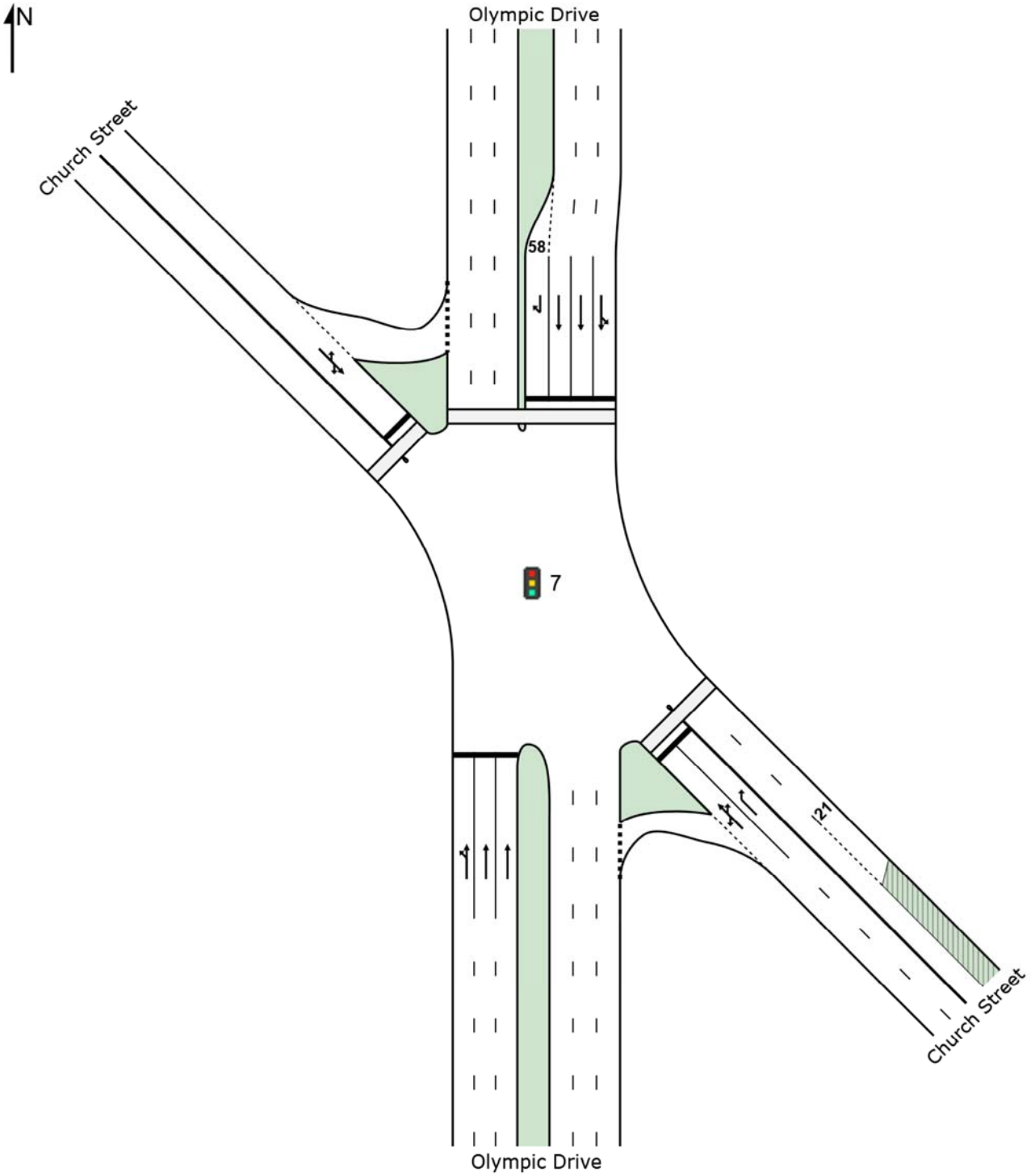
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Kerrs Road											
4a	L1	233	5.0	0.576	4.4	LOS A	3.7	27.3	0.47	0.59	46.7
5	T1	302	5.0	0.576	4.8	LOS A	3.7	27.3	0.47	0.59	46.4
6	R2	167	5.0	0.576	8.0	LOS A	3.7	27.3	0.47	0.59	46.3
Approach		702	5.0	0.576	5.4	LOS A	3.7	27.3	0.47	0.59	46.5
North: Woodburn Road											
7	L2	201	5.0	0.388	5.4	LOS A	1.7	12.3	0.44	0.69	45.4
9a	R1	153	5.0	0.388	7.7	LOS A	1.7	12.3	0.44	0.69	46.0
9	R2	25	5.0	0.388	8.5	LOS A	1.7	12.3	0.44	0.69	45.5
Approach		379	5.0	0.388	6.5	LOS A	1.7	12.3	0.44	0.69	45.7
West: Tilba Street											
10	L2	22	5.0	0.250	5.7	LOS A	1.1	8.1	0.48	0.65	44.8
11	T1	168	5.0	0.250	5.6	LOS A	1.1	8.1	0.48	0.65	46.3
12b	R3	34	5.0	0.250	9.6	LOS A	1.1	8.1	0.48	0.65	46.5
Approach		224	5.0	0.250	6.2	LOS A	1.1	8.1	0.48	0.65	46.2
SouthWest: Woodburn Road											
30b	L3	27	5.0	0.296	6.2	LOS A	1.4	9.9	0.51	0.71	45.1
30a	L1	97	5.0	0.296	5.1	LOS A	1.4	9.9	0.51	0.71	46.0
32a	R1	158	5.0	0.296	8.0	LOS A	1.4	9.9	0.51	0.71	46.2
Approach		282	5.0	0.296	6.8	LOS A	1.4	9.9	0.51	0.71	46.1
All Vehicles		1587	5.0	0.576	6.1	LOS A	3.7	27.3	0.47	0.64	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 7 [PM FU Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Future Scenario
PM peak period
Signals - Fixed Time Isolated


N
Olympic Drive
Church Street
58
7
21
Church Street
Olympic Drive

MOVEMENT SUMMARY

Site: 7 [PM FU Chruch Street & Olympic Drive]

Signalised intersection of Church Street and Olympic Drive
Future Scenario
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Olympic Drive											
1a	L1	101	5.0	0.867	61.3	LOS E	41.8	304.8	1.00	0.96	27.2
2	T1	1627	5.0	0.867	54.9	LOS D	42.6	311.3	1.00	0.97	36.4
Approach		1728	5.0	0.867	55.3	LOS D	42.6	311.3	1.00	0.96	35.8
SouthEast: Church Street											
21b	L3	495	5.0	0.812	53.0	LOS D	27.7	202.2	0.96	1.05	15.2
22	T1	9	5.0	0.812	47.4	LOS D	27.7	202.2	0.96	1.05	29.4
23a	R1	352	4.9	0.655	55.0	LOS D	22.4	163.5	0.93	0.84	36.5
Approach		856	5.0	0.812	53.7	LOS D	27.7	202.2	0.95	0.96	26.9
North: Olympic Drive											
7a	L1	228	4.3	1.080	155.9	LOS F	108.6	791.9	1.00	1.41	19.2
8	T1	2384	5.0	1.080	150.3	LOS F	111.0	810.2	1.00	1.46	17.0
9b	R3	19	5.0	0.156	72.2	LOS F	1.3	9.6	0.94	0.73	34.3
Approach		2632	4.9	1.080	150.2	LOS F	111.0	810.2	1.00	1.45	17.3
NorthWest: Church Street											
27b	L3	21	5.0	0.485	80.3	LOS F	9.3	68.2	0.97	0.85	33.1
28	T1	67	5.0	0.485	74.8	LOS F	9.3	68.2	0.97	0.85	23.1
29a	R1	54	5.0	0.485	78.1	LOS F	9.3	68.2	0.97	0.85	19.6
Approach		142	5.0	0.485	76.9	LOS F	9.3	68.2	0.97	0.85	23.8
All Vehicles		5358	5.0	1.080	102.2	LOS F	111.0	810.2	0.99	1.20	22.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	SouthEast Full Crossing	53	29.5	LOS C	0.1	0.1	0.63	0.63
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P7	NorthWest Full Crossing	53	35.4	LOS D	0.2	0.2	0.69	0.69
All Pedestrians		158	44.7	LOS E			0.76	0.76

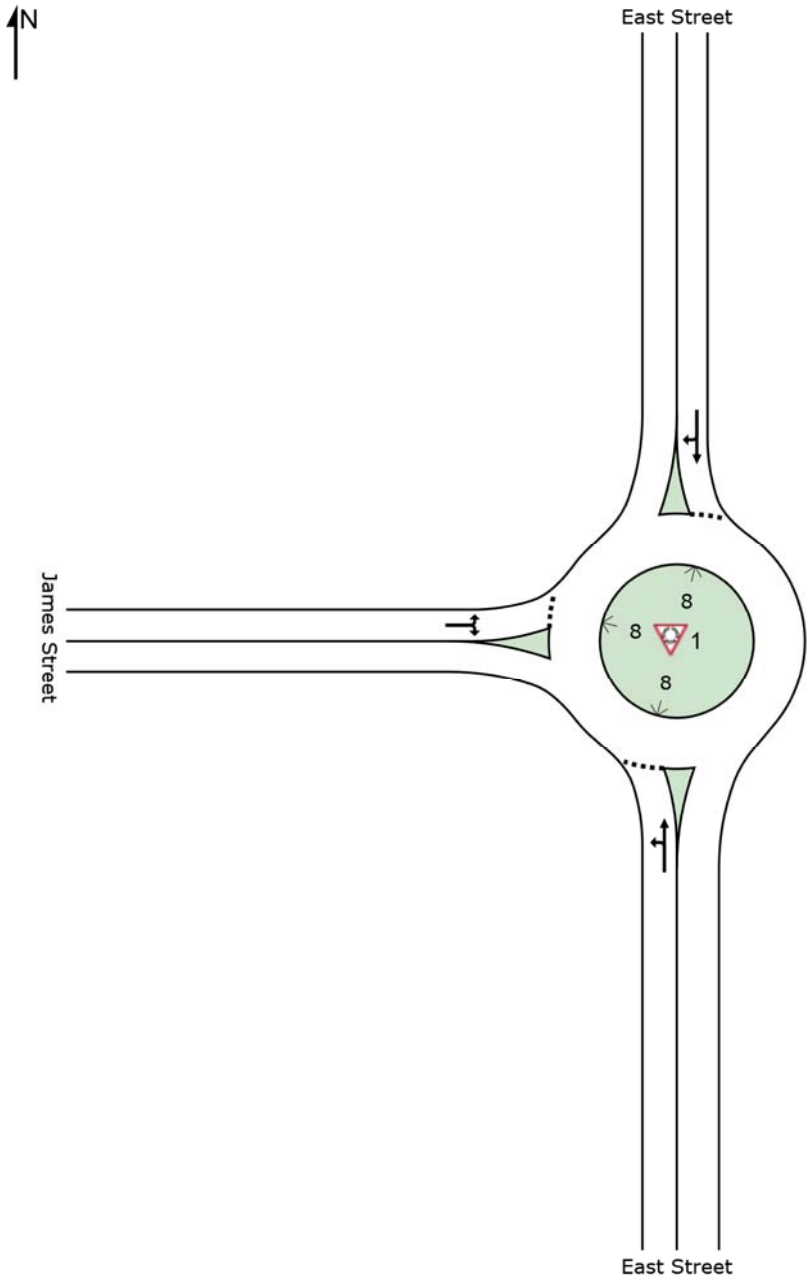
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Project: \\192.168.3.1\tdata\Synergy\Projects\17\17.392\Modelling\17.392m01v01 SIDRA Model.sip7

SITE LAYOUT

Site: 1 [PM FU James Street & East Street]

James Street and East Street intersection
Future Scenario
PM peak period
Roundabout



MOVEMENT SUMMARY

Site: 1 [PM FU James Street & East Street]

James Street and East Street intersection
Future Scenario
PM peak period
Roundabout

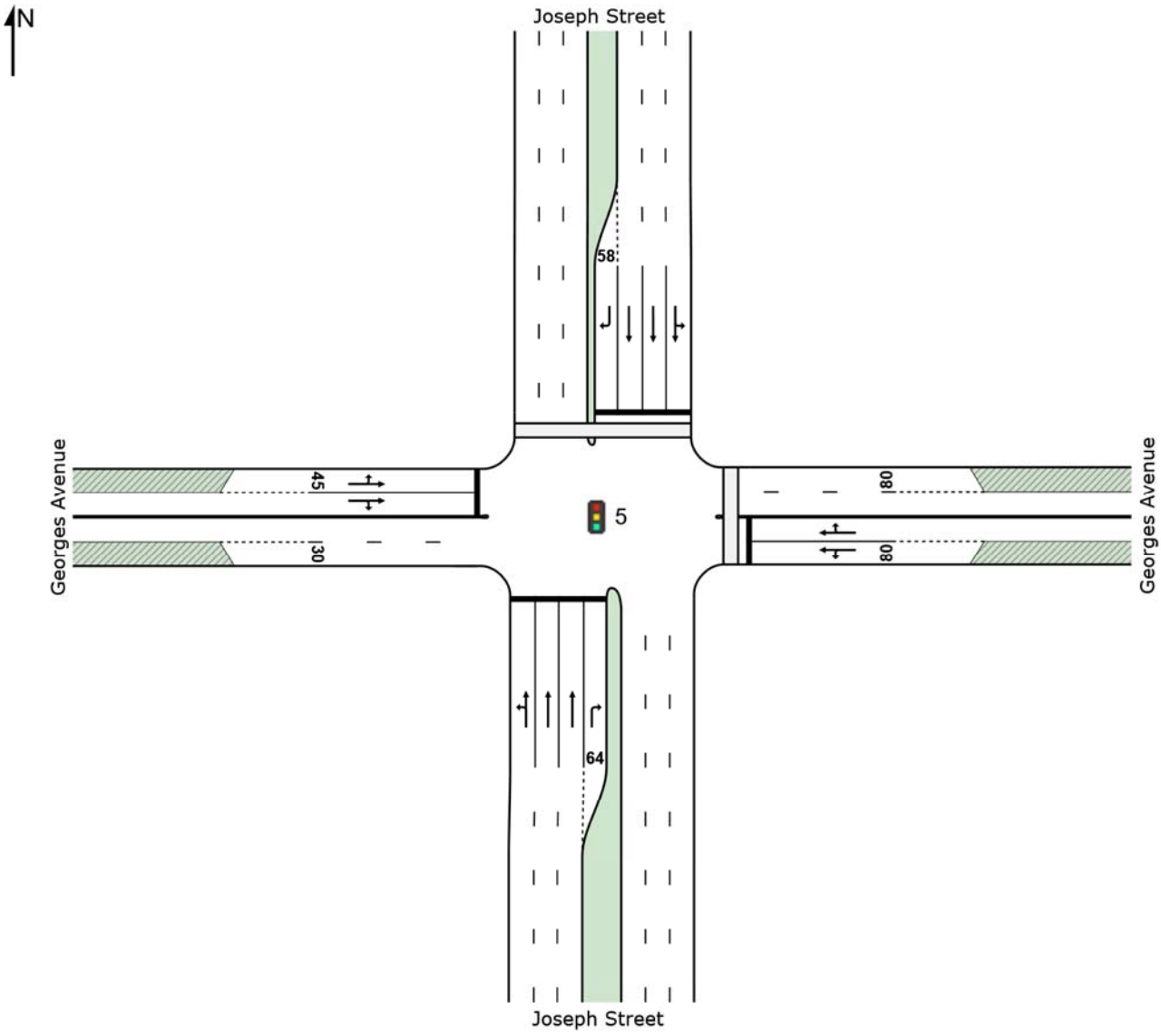
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: East Street											
1	L2	67	5.0	0.685	8.0	LOS A	7.4	54.0	0.76	0.71	41.8
2	T1	587	4.9	0.685	7.8	LOS A	7.4	54.0	0.76	0.71	44.1
Approach		655	4.9	0.685	7.8	LOS A	7.4	54.0	0.76	0.71	43.8
North: East Street											
8	T1	1076	5.0	1.090	93.6	LOS F	114.8	838.0	1.00	1.37	13.3
9	R2	216	5.0	1.090	96.5	LOS F	114.8	838.0	1.00	1.37	12.3
Approach		1292	5.0	1.090	94.1	LOS F	114.8	838.0	1.00	1.37	13.1
West: James Street											
10	L2	197	5.0	0.516	11.6	LOS A	4.0	28.9	0.85	1.00	35.0
12	R2	95	5.0	0.516	14.2	LOS A	4.0	28.9	0.85	1.00	36.9
Approach		292	5.0	0.516	12.5	LOS A	4.0	28.9	0.85	1.00	35.7
All Vehicles		2238	5.0	1.090	58.2	LOS E	114.8	838.0	0.91	1.13	18.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 5 [PM FU Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Future Scenario
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 5 [PM FU Joseph Street & Georges Avenue]

Signalised intersection of Joseph Street and Georges Avenue
Future Scenario
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	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 per veh	Average Speed km/h
South: Joseph Street											
1	L2	34	5.0	0.673	38.8	LOS C	33.6	245.0	0.83	0.76	39.0
2	T1	1707	5.0	0.673	31.8	LOS C	33.6	245.0	0.82	0.74	37.9
3	R2	84	5.0	0.339	40.2	LOS C	3.3	24.3	0.94	0.76	36.6
Approach		1825	5.0	0.673	32.3	LOS C	33.6	245.0	0.83	0.74	37.8
East: Georges Avenue											
4	L2	322	5.0	0.402	31.9	LOS C	16.1	117.4	0.70	0.76	38.8
5	T1	434	5.0	1.409	415.8	LOS F	94.0	686.2	0.99	2.27	5.3
6	R2	52	5.0	1.409	439.9	LOS F	94.0	686.2	1.00	2.35	3.4
Approach		807	5.0	1.409	264.2	LOS F	94.0	686.2	0.87	1.68	9.0
North: Joseph Street											
7	L2	24	5.0	1.408	433.4	LOS F	214.4	1565.2	1.00	2.40	3.5
8	T1	2597	5.0	1.408	430.6	LOS F	214.4	1565.2	1.00	2.36	5.5
9	R2	257	5.0	1.031	119.6	LOS F	21.6	157.3	1.00	1.12	8.4
Approach		2878	5.0	1.408	402.8	LOS F	214.4	1565.2	1.00	2.25	5.6
West: Georges Avenue											
10	L2	87	5.0	0.273	45.8	LOS D	8.3	60.3	0.79	0.72	14.8
11	T1	192	5.0	0.539	54.7	LOS D	11.1	80.7	0.91	0.77	24.0
12	R2	37	5.0	0.539	66.1	LOS E	11.1	80.7	0.96	0.80	29.0
Approach		316	5.0	0.539	53.6	LOS D	11.1	80.7	0.88	0.76	22.2
All Vehicles		5826	5.0	1.409	248.6	LOS F	214.4	1565.2	0.92	1.62	8.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

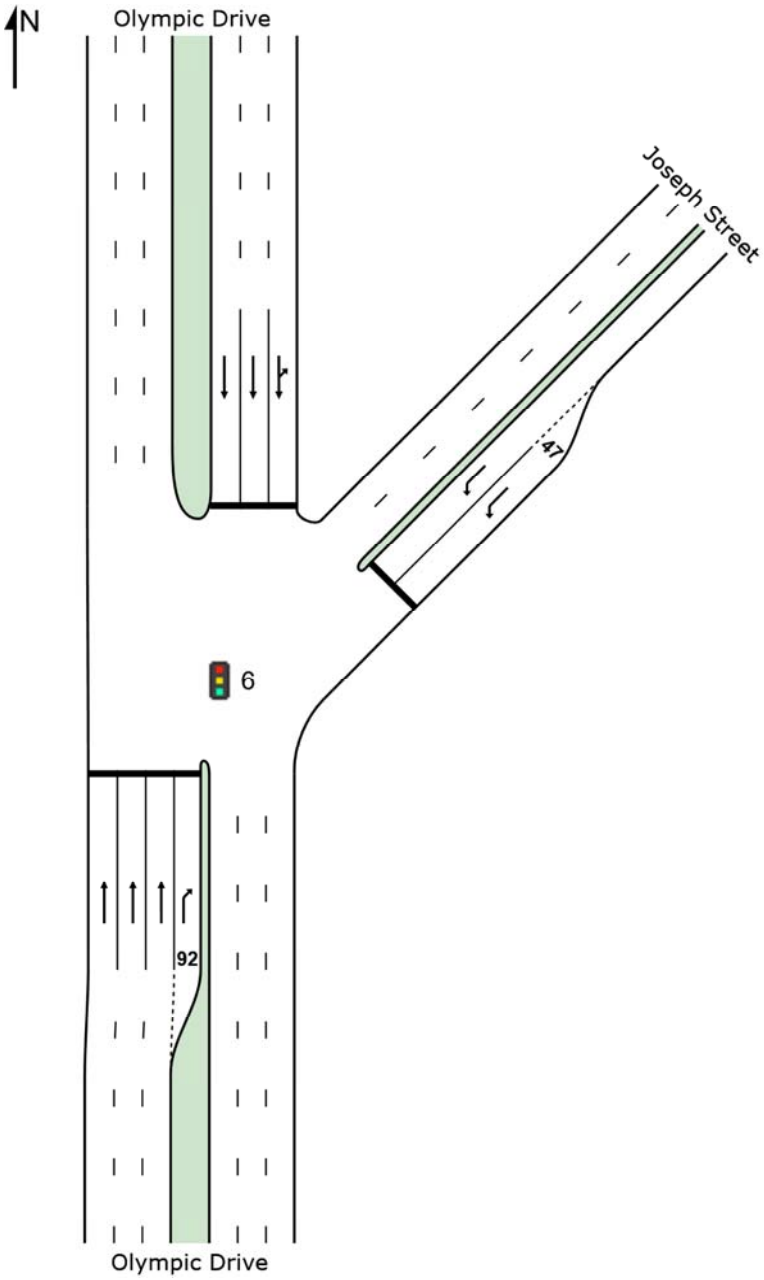
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	34.1	LOS D	0.2	0.2	0.67	0.67
P3	North Full Crossing	53	50.5	LOS E	0.2	0.2	0.82	0.82
All Pedestrians		105	42.3	LOS E			0.75	0.75

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 6 [PM FU Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Future Scenario
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 6 [PM FU Olympic Drive & Joseph Street]

Signalised intersection of Olympic Drive and Joseph Street
Future Scenario
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

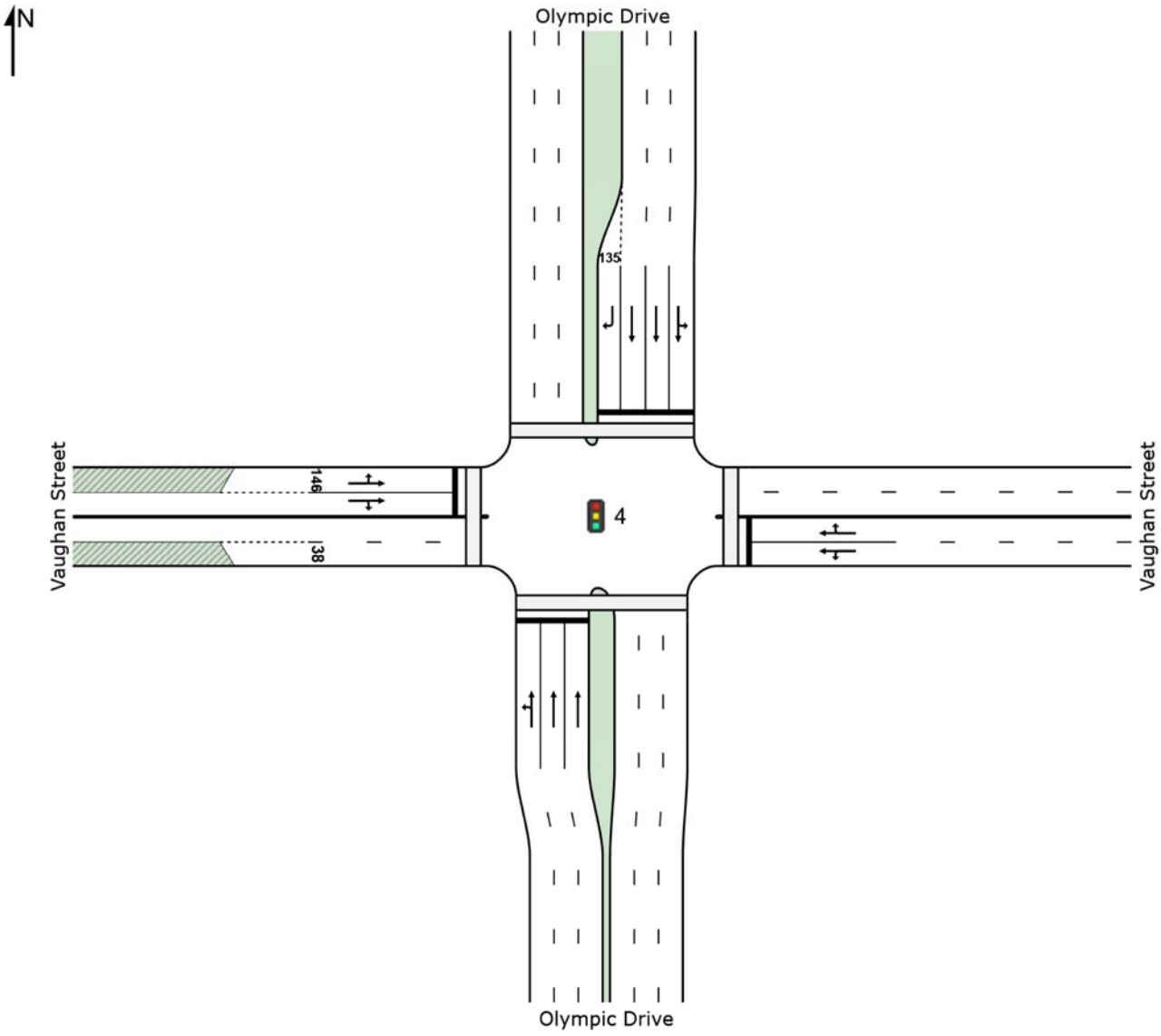
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Olympic Drive											
2	T1	1546	5.0	0.296	0.3	LOS A	2.1	15.1	0.12	0.07	68.8
3a	R1	380	4.9	0.582	46.9	LOS D	20.5	149.2	0.87	0.99	21.1
Approach		1926	5.0	0.582	9.5	LOS A	20.5	149.2	0.27	0.25	52.6
NorthEast: Joseph Street											
24a	L1	334	5.0	0.276	43.8	LOS D	9.0	65.6	0.79	0.74	20.9
Approach		334	5.0	0.276	43.8	LOS D	9.0	65.6	0.79	0.74	20.9
North: Olympic Drive											
7b	L3	66	5.0	0.733	30.0	LOS C	41.8	305.4	0.78	0.73	32.2
8	T1	2417	5.0	0.733	22.6	LOS B	42.7	311.8	0.78	0.72	41.2
Approach		2483	5.0	0.733	22.8	LOS B	42.7	311.8	0.78	0.72	41.0
All Vehicles		4743	5.0	0.733	18.9	LOS B	42.7	311.8	0.57	0.53	42.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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 LAYOUT

Site: 4 [PM FU Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Future Scenario
PM peak period
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 4 [PM FU Olympic Drive & Vaughan Street]

Signalised Intersection Olympic Drive / Vaughan Street
Future Scenario
PM peak period
Signals - Fixed Time Isolated Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand 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 per veh	Average Speed km/h
South: Olympic Drive											
1	L2	166	5.0	1.108	188.7	LOS F	62.8	458.3	1.00	1.45	9.6
2	T1	1347	5.0	1.108	183.8	LOS F	67.1	490.1	1.00	1.50	5.2
Approach		1514	5.0	1.108	184.3	LOS F	67.1	490.1	1.00	1.50	5.7
East: Vaughan Street											
4	L2	47	5.0	0.353	57.0	LOS E	8.9	65.1	0.89	0.75	14.4
5	T1	459	5.0	1.112	156.8	LOS F	63.3	462.3	0.98	1.37	11.0
6	R2	122	5.0	1.112	189.6	LOS F	63.3	462.3	1.00	1.54	5.3
Approach		628	5.0	1.112	155.6	LOS F	63.3	462.3	0.97	1.36	9.9
North: Olympic Drive											
7	L2	116	5.0	0.949	68.7	LOS E	74.8	545.8	1.00	1.06	13.3
8	T1	2349	5.0	0.949	62.2	LOS E	75.2	548.8	0.96	1.04	13.8
9	R2	404	5.0	1.102	186.3	LOS F	51.9	378.5	1.00	1.21	9.7
Approach		2869	5.0	1.102	79.9	LOS F	75.2	548.8	0.97	1.07	12.4
West: Vaughan Street											
10	L2	148	5.0	1.115	195.2	LOS F	41.5	303.0	1.00	1.48	9.3
11	T1	300	5.0	1.115	190.5	LOS F	41.5	303.0	1.00	1.47	9.3
12	R2	181	5.0	1.115	195.1	LOS F	40.6	296.0	1.00	1.46	9.2
Approach		629	5.0	1.115	192.9	LOS F	41.5	303.0	1.00	1.47	9.3
All Vehicles		5641	5.0	1.115	129.0	LOS F	75.2	548.8	0.98	1.26	9.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.
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.

Movement Performance - Pedestrians

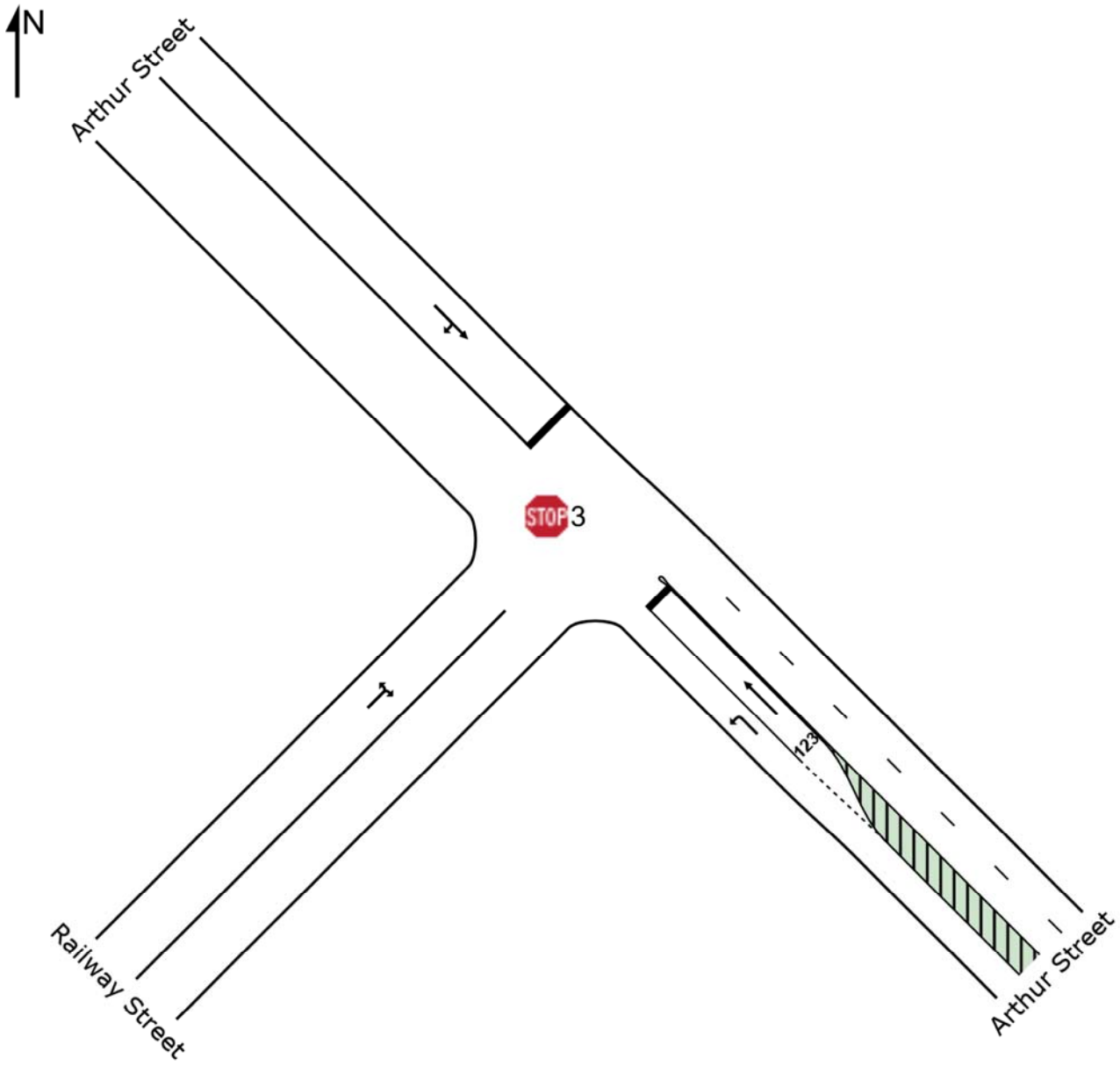
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	60.0	LOS E	0.2	0.2	0.90	0.90
P2	East Full Crossing	53	24.7	LOS C	0.1	0.1	0.57	0.57
P3	North Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	50.5	LOS E	0.2	0.2	0.82	0.82
All Pedestrians		211	51.1	LOS E			0.81	0.81

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 3 [PM FU Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Future Scenario
PM peak period
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 3 [PM FU Railway Street & Arthur Street]

Railway Street and Arthur Street Intersection
Future Scenario
PM peak period
Stop (Two-Way)

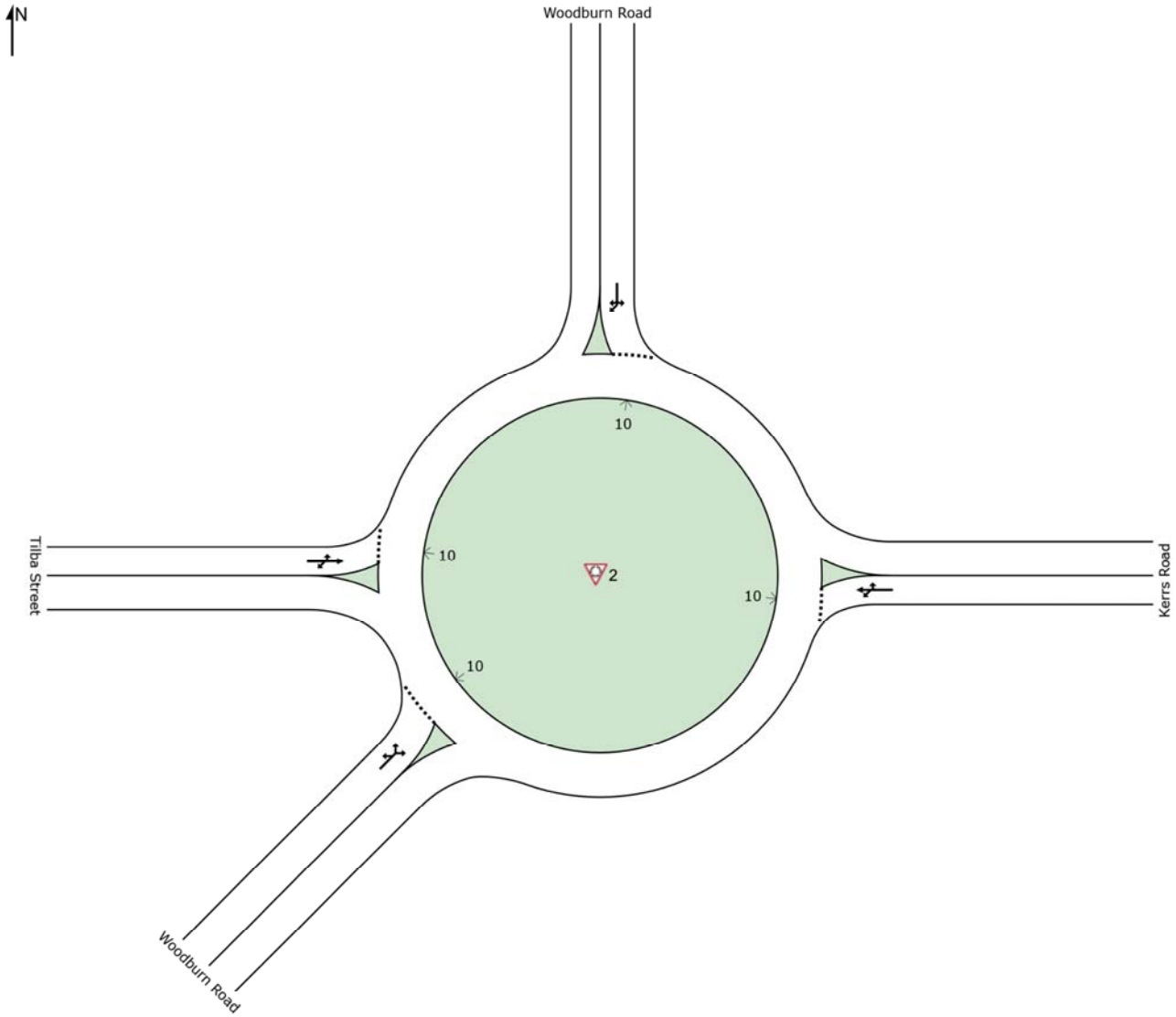
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Arthur Street											
21	L2	1424	5.0	0.790	5.8	LOS A	0.0	0.0	0.00	0.57	49.9
22	T1	13	5.0	0.048	20.0	LOS B	0.1	1.0	0.80	1.00	42.9
Approach		1437	5.0	0.790	5.9	LOS A	0.1	1.0	0.01	0.58	49.8
NorthWest: Arthur Street											
28	T1	13	5.0	0.155	11.1	LOS A	0.4	2.9	0.90	1.00	39.6
29	R2	13	5.0	0.155	43.3	LOS D	0.4	2.9	0.90	1.00	37.6
Approach		25	5.0	0.155	27.2	LOS B	0.4	2.9	0.90	1.00	38.7
SouthWest: Railway Street											
30	L2	7	5.0	0.525	5.6	LOS A	0.0	0.0	0.00	0.57	53.2
32	R2	1018	5.0	0.525	5.6	LOS A	0.0	0.0	0.00	0.57	50.9
Approach		1025	5.0	0.525	5.6	NA	0.0	0.0	0.00	0.57	50.9
All Vehicles		2487	5.0	0.790	6.0	NA	0.4	2.9	0.01	0.58	50.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 LAYOUT

Site: 2 [PM FU Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Future Scenario
PM peak period
Roundabout



MOVEMENT SUMMARY

Site: 2 [PM FU Tilba Street & Woodburn Road & Kerrs Street]

Roundabout Tilba Street, Woodburn Road and Kerr Street intersection
Future Scenario
PM peak period
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand 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 per veh	Average Speed km/h
East: Kerrs Road											
4a	L1	233	5.0	0.577	4.4	LOS A	3.7	27.3	0.48	0.59	46.7
5	T1	302	5.0	0.577	4.8	LOS A	3.7	27.3	0.48	0.59	46.4
6	R2	168	5.0	0.577	8.0	LOS A	3.7	27.3	0.48	0.59	46.3
Approach		703	5.0	0.577	5.4	LOS A	3.7	27.3	0.48	0.59	46.5
North: Woodburn Road											
7	L2	201	5.0	0.388	5.4	LOS A	1.7	12.3	0.44	0.69	45.4
9a	R1	153	5.0	0.388	7.7	LOS A	1.7	12.3	0.44	0.69	46.0
9	R2	25	5.0	0.388	8.5	LOS A	1.7	12.3	0.44	0.69	45.5
Approach		379	5.0	0.388	6.5	LOS A	1.7	12.3	0.44	0.69	45.7
West: Tilba Street											
10	L2	22	5.0	0.250	5.7	LOS A	1.1	8.1	0.48	0.65	44.8
11	T1	168	5.0	0.250	5.6	LOS A	1.1	8.1	0.48	0.65	46.3
12b	R3	34	5.0	0.250	9.6	LOS A	1.1	8.1	0.48	0.65	46.5
Approach		224	5.0	0.250	6.2	LOS A	1.1	8.1	0.48	0.65	46.2
SouthWest: Woodburn Road											
30b	L3	27	5.0	0.297	6.2	LOS A	1.4	9.9	0.51	0.71	45.1
30a	L1	97	5.0	0.297	5.1	LOS A	1.4	9.9	0.51	0.71	46.0
32a	R1	158	5.0	0.297	8.0	LOS A	1.4	9.9	0.51	0.71	46.2
Approach		282	5.0	0.297	6.8	LOS A	1.4	9.9	0.51	0.71	46.1
All Vehicles		1588	5.0	0.577	6.1	LOS A	3.7	27.3	0.47	0.64	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.