STANBURY
TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

UPDATED TRAFFIC IMPACT ASSESSMENT

PLANNING PROPOSAL
MIXEDS USE DEVELOPMENT
2 – 36 CHURCH STREET, LIDCOMBE

PREPARED FOR LIDCOMBE CHURCH PROPERTY PTY. LTD.
OUR REF: 18-079-5

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302/166 glebe point road
glebe nsw 2037
morgan@stanburytraffic.com.au
www.stanburytraffic.com.au
ph : 0410 561 848
abn : 23 613 111 916

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1. INTRODUCTION

1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by Lidcombe Church Property Pty. Ltd. to prepare a Traffic Impact Assessment with respect to a Planning Proposal with respect to 2 – 36 Church Street, Lidcombe (hereafter referred to as the 'subject site'). The Planning Proposal seeks site specific modifications to the Auburn Local Environmental Plan 2010 to increase the maximum building height, increase the Floor Space Ratio and increase the gross floor area provisions.

This aim of this assessment is to investigate and report upon the potential traffic consequences of the Proposal and to recommend appropriate ameliorative measures where required. This report provides the following scope of assessment:

- Section 1 provides a summary of the site location, details, existing and surrounding land-uses;
- Section 2 describes the Planning Proposal;
- Section 3 assesses the existing traffic, parking and transport conditions surrounding and servicing the subject development site including a description of the surrounding road network, traffic demands, operational performance and available public transport infrastructure; and
- Section 4 estimates the traffic generating ability of the Planning Proposal and assesses the ability or otherwise of the surrounding road network to be capable of accommodating the altered demand in a safe and efficient manner.

The report has been prepared pursuant to State Environmental Planning Policy (Infrastructure) 2007.

1.2 Background

A Development Application (DA 94/2019) was recently approved with Cumberland Council with respect to the subject site, seeking approval for site preparation works, excavation, tree removal and the construction of four residential apartment buildings, collectively containing 262 dwellings.

The three western-most buildings (buildings B, C and D) were proposed to comprise 209 standard residential apartments, comprising:

- 58 one bedroom dwellings;
- 98 two bedroom dwellings; and
- 53 three bedroom dwellings.

These buildings were to be serviced by a shared basement parking area, provided over four levels, containing 239 parking spaces.

Vehicular access between this shared parking area and Church Street was proposed to be provided via a driveway situated approximately 50m to the east of the Swete Street. Access movements between this driveway and Church Street was proposed to be restricted to left in / left out only through the construction of a 600mm wide central median within Church Street, extending between Swete Street and Martin Street.

The eastern-most building (Building A) was proposed to comprise 53 social housing apartments in accordance with the Affordable Housing SEPP, comprising:

- 16 one bedroom dwellings; and
- 37 two bedroom dwellings.

The social housing dwellings were proposed to be serviced by a single basement car parking situated below the eastern building, accommodating 25 parking spaces. Vehicular access to this parking area was proposed via the creation of a fourth southern approach to the junction of Church Street and Martin Street, and the modification of this intersection to be control by a single lane circulating roundabout.

The abovementioned access roadway was also proposed to provide connectivity to a formalised off-street at-grade heavy vehicle loading area situated adjacent to the southern site boundary. This loading area was proposed to accommodate the refuse collection and removalist activities of all four buildings.

Stanbury Traffic Planning prepared a Parking & Traffic Impact Assessment dated September 2018 in support of DA 94/2019.

1.3 Reference Documents

Reference is made to the following documents throughout this report:

- Stanbury Traffic Planning's *Parking & Traffic Impact Assessment: Proposed Residential Apartment Development 2 – 36 Church Street, Lidcombe* dated September 2018 (herein referred to as "the DA Traffic Report");
- Transport for NSW's (formally Roads & Maritime Services) *Guide to Traffic Generating Developments*; and
- Auburn City Council's *Auburn Local Environmental Plan 2010* (ALEP 2010).

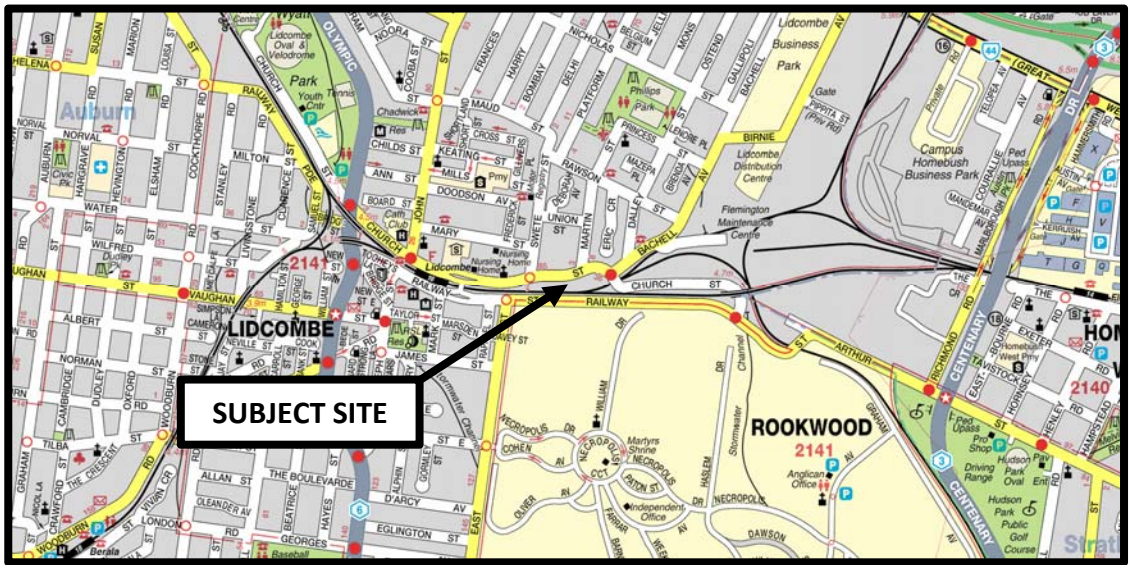
A Planning Proposal report has been prepared by Plus Architecture Pty. Ltd. and should be read in conjunction with this report.

1.3 Site Details

1.3.1 Site Location

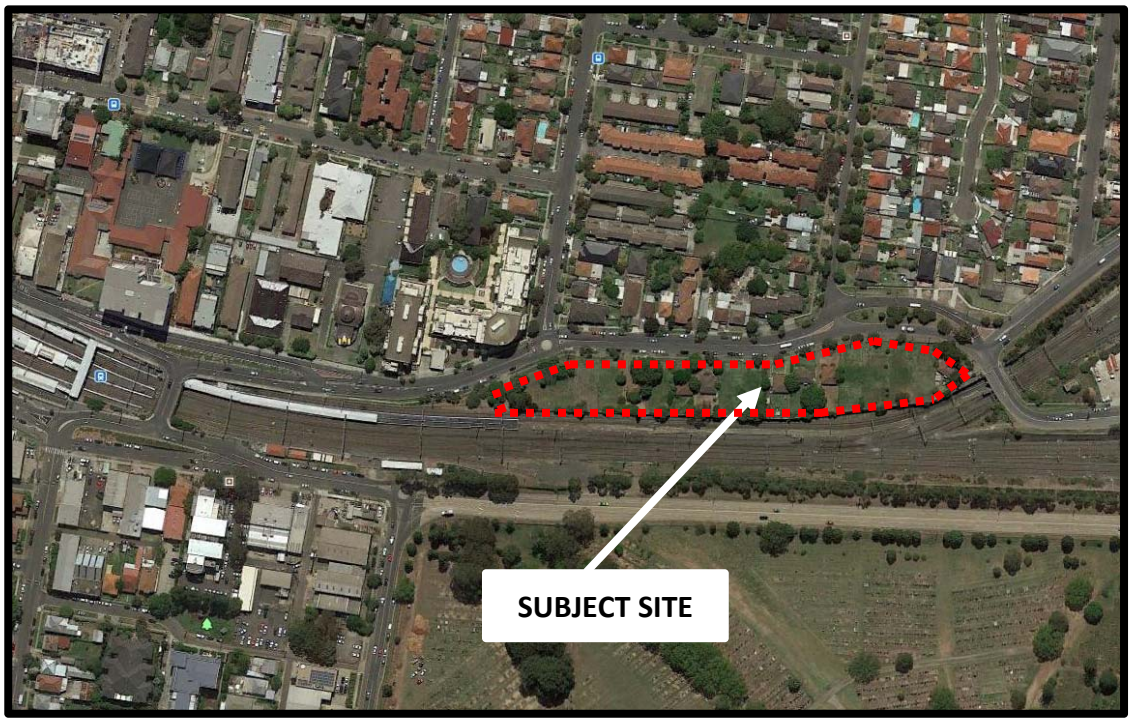
The subject site is situated on the southern side of Church Street approximately between Swete Street and Bachell Avenue, Lidcombe. The site location is illustrated below and overleaf within a local and aerial context by **Figure 1** and **Figure 2**, respectively.

FIGURE 1
SITE LOCATION WITHIN A LOCAL CONTEXT



Source: UBD's Australian City Streets – Version 4

FIGURE 2
SITE LOCATION WITHIN AN AERIAL CONTEXT



Source: Google Earth (accessed 13/08/18)

1.3.2 Site Details

The subject site comprises a number of allotments providing a street address of 2 – 36 Church Street, Lidcombe.

Collectively, the allotments form an irregularly shaped parcel of land providing an approximate frontage to Church Street of 310m.

The site extends to the south away from Church Street between 20 – 40m, resulting in an approximate total site area in the order of 1.1 hectares.

1.3.3 Existing Use

The subject site is largely vacant however previously accommodated a total of 18 detached residential dwellings, each with separate direct vehicular access to Church Street.

1.3.4 Surrounding Uses

The site is immediately adjoined to the south by the T1, T2, T3 and T7 Railway Lines. Rookwood Cemetery is located further to the south on the opposite side of Railway Street.

A combination of low, medium and high density residential development is located to the north on the opposite side of Church Street.

The Lidcombe town centre is situated to the west of the site.

An industrial precinct bounded by the railway line and Church Street is situated to the east.

2. PLANNING PROPOSAL

2.1 Built Form

The Planning Proposal seeks the following site specific modifications to the ALEP 2010:

- Increase the maximum building height of buildings within the site to 40m;
- Increase the Floor Space Ratio of development within the site to 3.2:1; and
- Increase the gross floor area permitted within the site to 32,425m^2.

The above alterations to existing ALEP 2010 controls are proposed to facilitate an uplift in the proposed residential yield over and above that recently proposed as part of DA 94/2019 and assessed within the DA Traffic Report. **Table 1** below provides a summary of the development yield subject to DA 94/2019 and the current Planning Proposal.

TABLE 1
SUMMARY OF DEVELOPMENT APPLICATION AND PLANNING PROPOSAL DEVELOPMENT YIELD

	Development Application	Planning Proposal	Alteration
MARKET HOUSING			
One Bedroom Units	58	103	+45
Two Bedroom Units	98	133	+35
Three Bedroom Units	53	71	+18
Subtotal	209	307	+98
SOCIAL HOUSING			
One Bedroom Units	16	21	+5
Two Bedroom Units	37	47	+10
Three Bedroom Units	-	-	-
Subtotal	53	68	+15
TOTAL	**262**	**375**	**+113**

Table 1 indicates that the Planning Proposal involves an additional development yield of 113 dwellings over and above that proposed by DA 94/2019, comprising 98 market dwellings and 15 social housing dwellings.

The abovementioned additional development yield is proposed to be contained within four buildings as proposed by DA 94/2019, however additional building storeys are to be provided.

Further to the above residential yield, the Planning Proposal involves the following ancillary non-residential uses:

- A child care centre is proposed to be provided within Building B, providing a gross floor area of 300m^2 and a capacity of 60 children; and

- A retail tenancy is proposed to be provided within Building D, providing a gross floor area of 206m^2.

The originally proposed site access arrangements are proposed to be retained, whereby:

- The market housing dwellings are proposed to be serviced by a driveway connecting with Church Street, situated approximately 50m to the east of the Swete Street. Access movements between this driveway and Church Street is proposed to be restricted to left in / left out only through the construction of a 600mm wide central median within Church Street, extending between Swete Street and Martin Street.

- The social housing dwellings are proposed to be serviced through the creation of a fourth southern approach to the junction of Church Street and Martin Street, and modification of the intersection to be controlled by a single lane circulating roundabout.

3. EXISTING TRAFFIC CONDITIONS

3.1 Surrounding Road Network

The following provides a description of the local road network servicing the subject development site:

- **Church Street**, with Bachell Avenue and Birnie Avenue, performs a collector function connecting Olympic Drive in the west with Parramatta Road in the north-east, intersecting with both under traffic signal control. Adjacent to the subject site, Church Street primarily provides a 12m wide carriageway, providing one through lane of traffic in each direction in conjunction with unrestricted parallel parking along both kerb alignments. Notwithstanding this, a wide vegetated median separates directional travel lanes between Martin Place and Bachell Avenue.

  Traffic flow within Church Street adjacent to the site is governed by a sign posted speed limit of 60km/h, however a 50km/h speed limit applies to the west of the site within the Lidcombe town centre.

  Church Street forms a T-junction with Swete Street adjacent to the north-western corner of the site, operating under single lane circulating roundabout control.

  Church Street forms a T-junction with Martin Street approximately central to the northern site frontage, operating under major / minor priority control with Church Street performing the priority route.

  Church Street forms a T-junction with Bachell Avenue adjacent to the north-eastern corner of the site, operating under traffic signal control. Kerbside parking restrictions apply in the vicinity of this junction facilitating the provision of exclusive left and right turn lanes within Church Street on approach to Bachell Avenue.

  Church Street extends to the south-east to form a T-junction with Railway Street, operating under traffic signal control.

  Church Street provides connectivity to a railway overbridge to the west of Swete Street in the vicinity of the Lidcombe town centre, providing a local tow centre connection to Railway Street to the south of the railway line. Bypasses are provided to the north and south of the overbridge (within Church Street and Railway Street, respectively), via a series of junctions to actively separate conflicting movements as much as is practicable.

  Further to the west, Church Street forms a T-junction with John Street, operating under traffic signal control.

- **Swete Street** performs a local access function, extending to the north from Church Street to link with Maud Street. Swete Street provides a 13m wide pavement providing one through lane of traffic in each direction in conjunction with parallel parking along both kerb alignments. Traffic flow is governed by a sign posted speed limit of 50km/h.

  Swete Street forms T-junctions with a series of east-west local access streets in Mary Street, Union Street, Mills Street and Rawson Street, operating under major / minor priority or signage control with Swete Street performing the priority route in each instance. Further to the north, Swete Street curves to the west to form Maud Street, which in turn, connects with John Street and Yarram Street under an off-set roundabout control.

- **Martin Street** performs a lower order local access function, extending to the north from Church Street to link with Princess Street. Martin Street provides a 7m wide pavement providing one through lane of traffic in each direction and parallel parking along the western kerb alignment (parking along the eastern kerb alignment is prohibited). Traffic flow is governed by a sign posted speed limit of 50km/h.

  Martin Street forms intersections with Union Street ad Rawson Street operating under major / minor priority or signage control with Martin Street performing the priority route in both instances. Further to the north, Martin Street curves to the east to form Princess Street, which in turn, connects with Bachell Avenue.

- **Bachell Avenue** primarily continues to the previously presented collector road route between Olympic Drive and Parramatta Road, also comprising Church Street and Birnie Avenue. Bachell Avenue provides a 13m wide pavement primarily providing one through lane of traffic in each direction in conjunction with parallel parking along both kerb alignments. Parking restrictions apply in the vicinity of Church Street to facilitate two south-boundary travel lanes on approach to the signalised intersection control. Traffic flow within Bachell Avenue by a sign posted speed limit of 60km/h.

  Bachell Avenue forms T-junctions with a series of lower order access roads in Dalley Street, Rawson Street and Princess Street under major / minor priority or signage control with Bachell Avenue performing the priority route in all instances. Further to the north, Bachell Avenue forms a T-junction with Birnie Avenue with the through route between the southern Bachell Avenue and the Birnie Avenue approaches forming the priority route. To the north of Birnie Avenue, Bachell Avenue continues to the north to connect with Parramatta Road, intersecting under major / minor priority control with the State Road performing the priority route.

3.2 Existing Traffic Volumes

This Practice has commissioned surveys of the following public road intersections in the immediate vicinity of the subject site during the preparation of the DA Traffic Report, in order to accurately ascertain the traffic demands:

- The junction of Church Street and Bachell Avenue;
- The junction of Church Street and Martin Street;
- The junction of Church Street and Swete Street;
- The series of junctions associated with the connection of Church Street with the railway overbridge; and
- The series of junctions associated with the connection of Railway Street with the railway overbridge.

Surveys were undertaken between 7:00am – 9:00am and 4:00pm – 6:00pm on Thursday the 26th of July 2018.

Table 2 below provides a summary of the surveyed commuter peak hour (8:00am – 9:00am and 4:30pm – 5:30pm) traffic flows at the intersections whilst full details are contained within **Appendix 1** for reference.

TABLE 2
EXISTING PEAK HOUR TRAFFIC VOLUMES
8:00AM – 9:00AM & 4:30PM – 5:30PM

Road	AM Peak			PM Peak		
	EB/NB	WB/SB	Total	EB/NB	WB/SB	Total
Church Street						
West of Railway Overbridge	345	465	810	382	633	1015
East of Railway Overbridge	827	451	1278	494	991	1485
East of Swete Street	598	307	905	375	720	1095
East of Martin Street	604	303	907	382	779	1161
East of Bachell Avenue	299	255	554	408	333	741
Railway Overbridge						
B/n Church St & Railway St	932	434	1336	686	901	1587
Railway Street						
West of Mark Street	214	-	214	153	-	153
East of Railway Overbridge	259	314	573	550	452	1002
Mark Street						
South of Railway Street	512	274	786	273	560	833
Swete Street						
North of Church Street	456	357	813	313	476	789
Martin Street						
North of Church Street	16	34	50	66	21	87
Bachell Avenue						
North of Church Street	504	248	752	270	740	1010

Note: EB = Eastbound NB = Northbound
WB = Westbound SB = Southbound

3.3 Existing Road Network Operation

3.3.1 Local Intersection Operation

The surveyed intersections were analysed as part of the DA Traffic Report assessment utilising the SIDRA computer intersection analysis program in order to objectively assess the operation of the nearby public road network.

SIDRA is a computerised traffic arrangement program which, when volume and geometrical configurations of an intersection are imputed, provides an objective assessment of the operation efficiency under varying types of control (i.e. signs, signal and roundabouts). Key indicators of SIDRA include level of service where results are placed on a continuum from A to F, with A providing the greatest intersection efficiency and therefore being the most desirable by the Roads and Maritime Services.

SIDRA uses detailed analytical traffic models coupled with an iterative approximation method to provide estimates of the abovementioned key indicators of capacity and performance statistics. Other key indicators provided by SIDRA are average vehicle delay, the number of stops per hour and the degree of saturation. Degree of saturation is the ratio of the arrival rate of vehicles to the capacity of the approach. Degree of saturation is a useful and professionally accepted measure of intersection performance.

SIDRA provides analysis of the operating conditions that can be compared to the performance criteria set out in **Table 3** below (being the Transport for NSW method of calculation of Level of Service).

TABLE 3
LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS
PRIORITY CONTROLLED INTERSECTIONS

Level of Service	Average Delay per Vehicle (secs/veh)	Expected Delay
SIGNAGE / PRIORITY CONTROLLED INTERSECTIONS		
A	Less than 14	Good
B	15 to 28	Acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Near capacity
E	57 to 70	At capacity and requires other control mode
F	> 70	Unsatisfactory and requires other control mode
SIGNALISED INTERSECTIONS AND ROUNDABOUTS		
A	Less than 14	Little or no delay
B	15 to 28	Minimal delay and spare capacity
C	29 to 42	Satisfactory delays with spare capacity
D	43 to 56	Satisfactory but near capacity
E	57 to 70	At capacity, incidents will cause excessive delays
F	> 70	Extreme delay, unsatisfactory

The existing conditions have been modelled utilising the peak hour traffic volumes presented within **Appendix 1**.

Table 3 provides a summary of the SIDRA output data whilst more detailed summaries are included as **Appendix 2**.

TABLE 3 SIDRA OUTPUT – EXISTING WEEKDAY PEAK HOUR PERFORMANCE		
	AM	**PM**
Church Street & Western Overbridge Ramp		
Delay	9.6	10.3
Degree of Saturation	0.21	0.34
Level of Service	A	A
Church St & Overbridge		
Delay	16.5	21.5
Degree of Saturation	0.52	0.61
Level of Service	B	B
Church Street & Eastern Overbridge Ramp		
Delay	8.8	6.2
Degree of Saturation	0.36	0.39
Level of Service	A	A
Railway Street & Mark Street		
Delay	12.4	12.6
Degree of Saturation	0.27	0.21
Level of Service	A	A
Railway Street & Overbridge		
Delay	20.0	27.8
Degree of Saturation	0.68	0.84
Level of Service	B	B
Railway Street & Eastern Overbridge Ramp		
Delay	7.9	11.3
Degree of Saturation	0.14	0.27
Level of Service	A	A
Church Street & Swete Street		
Delay	7.5	11.0
Degree of Saturation	0.65	0.81
Level of Service	A	A
Church Street & Martin Street		
Delay	7.5	12.6
Degree of Saturation	0.15	0.422
Level of Service	A	A
Church Street & Bachell Avenue		
Delay	16.4	21.4
Degree of Saturation	0.36	0.61
Level of Service	B	B

Table 3 indicates that the immediate precinct and adjoining public road intersections provide a level of service of A or B during peak commuter periods, representing acceptable operation with spare capacity.

3.3.2 Regional Road Network Access Conditions

The previously presented SIDRA assessment indicates that motorists are provided with a good level of serviced when Church Street in the immediate vicinity of the subject site. Further to this, the following discussion is provided with respect to access to the greater surrounding regional road network:

- John Street provides signalised connectivity to / from Parramatta Road to the north-west, with all movements facilitated;
- Birnie Avenue provides signalised connectivity to / from Parramatta road to the north-east, with all movements facilitated;
- Arthur Street provides signalised connectivity to / from Centenary Drive to the south-east, with all movements facilitated;
- Weeroona Road provides signalised connectivity to / from Joseph Street to the south, with all movements facilitated;
- Joseph Street provides signalised connectivity to / from Olympic Drive to the south-west (although right turn movements from Joseph Street are prohibited);
- Church Street provides signalised connectivity to / from Olympic Drive to the west (although right turn movements to Church Street are prohibited); and
- Boorea Street provides signalised connectivity to Olympic Drive to the north-west, with all movements facilitated.

3.4 Public Transport

3.4.1 Heavy Rail

The centre of the site is located approximately 500m walking distance to the east of Lidcombe Railway Station. Lidcombe Railway Station performs an important interchange within the Sydney train network facilitating access to train services which operate along the following lines:

- The T1 (Western) Line;
- The T2 (Inner West) Line;
- The T3 (Bankstown) Line; and
- The T7 (Olympic Park) Line.

3.4.2 Buses

The following bus services operate in the vicinity of the site:

- Route 401 between Lidcombe and Sydney Olympic Park operates along Swete Street, with the closest stops being within 200m walking distance of the site;
- Route m92 between Sutherland and Parramatta operates along Church Street, with the closest stops being within 350m walking distance of the site; and

- Route 925 between Lidcombe and East Hills via Bankstown operates along Railway Street, with the closest stops being within 550m walking distance of the site.

Route 401 provides a service frequency of 20 minutes during weekday commuter peaks, extending to 40 minutes during other weekday periods and Saturdays.

Route m92 provides a service frequency of 10 minutes during weekday commuter peaks, extending to 15 minutes during other weekday business periods and 20 minutes during other times.

Route 925 provides a service frequency of 30 minutes during weekday commuter peaks, extending to 60 minutes during other periods.

3.4.3 Pedestrians

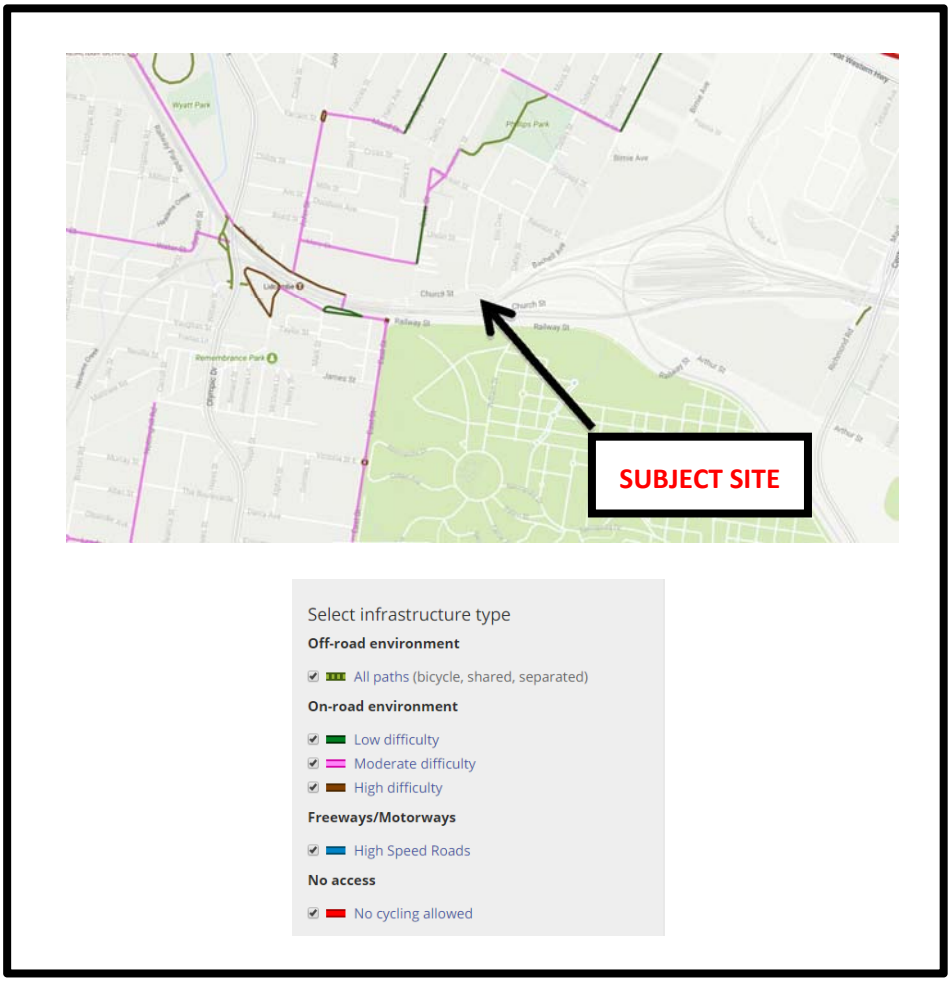
Pedestrians are provided with the following access and mobility infrastructure within the immediate vicinity of the subject site:

- Footpaths are provided along both sides of Church Street in the immediate vicinity of the site;
- A signalised pedestrian crossing is provided over the eastern Church Street approach at its junction with Bachell Avenue;
- A footpath is provided along the western side of Bachell Avenue;
- Footpaths are provided along both sides of Martin Street and Swete Street;
- A pedestrian refuge is provided over Swete Street at its junction with Church Street within the roundabout intersection control splitter island;
- A footpath is provided along the northern side of Church Street to the west of Swete Street;
- Signalised pedestrian crossings are provided over all approaches at the junction of Church Street and John Street;
- A grade separated pedestrian bridge is provided over the railway line connecting Church Street and Railway Street at Lidcombe Railway Station;
- A pedestrian crossing is provided over Railway Street adjacent to Lidcombe Railway Station;
- A footpath is provided along the southern side of Railway Street; and
- A pedestrian crossing is provided over Mark Street at its intersection with Railway Street.

3.4.4 Cyclists

Figure 5 below illustrates the bicycle routes established in the Lidcombe region.

FIGURE 5
BICYCLE PATHS



Source: Transport Roads and Maritime Services

The routes in the immediate vicinity of the subject site include:

- On-road routes to the north via Swete Street and John Street;
- An on-road route to the west via Church Street; and
- An on-road route to the south via East Street.

4. PROJECTED TRAFFIC CONDITIONS

4.1 Traffic Generation

Traffic generation rates for various land-uses have been established through extensive surveys undertaken throughout NSW and published within Transport for NSW's and the more recently released *Technical Direction TDT 203/04a*. The following sub-sections provide a summary of the traffic generating potential of the previous and proposed site uses with respect to those rates established by Transport for NSW.

4.1.1 Development Application

DA 94/2019 involves the provision of four high density residential apartment buildings, accommodating 262 dwellings.

Transport for NSW's *Technical Direction TDT 203/04a* provides trip generation advice for high-density residential developments, specifying average weekday morning and evening peak hour trip generation of 0.19 and 0.15 trips per unit respectively.

DA 94/2019 was therefore projected to be capable of generating in the order of 50 and 39 vehicular trips during weekday morning and evening peak hours.

4.1.2 Planning Proposal

The Planning Proposal involves the provision of four high density residential apartment buildings, accommodating 375 dwellings.

Application of the previously presented Transport for NSW average traffic generation rates to the increased Planning Proposal development yield therefore results in the site being capable of generating approximately 71 and 56 vehicular trips during weekday morning and evening peak hours.

Further to the above residential yield, the Planning Proposal involves the following ancillary non-residential uses:

- A child care centre is proposed to be provided within Building B, providing a gross floor area of 300m^2 and a capacity of 60 children; and

- A retail tenancy is proposed to be provided within Building D, providing a gross floor area of 206m^2.

The small scale of the retail tenancy (most likely to form a neighbourhood shop / supermarket) is such that it is envisaged to form an entirely ancillary use to the primary residential component of the development, entirely servicing the development residents or indeed, passing walking trade. The retail tenancy within Building D is accordingly not anticipated to generate additional traffic to and from the site over and above the residential dwellings.

It can be expected that a notable portion of the child care centre will also service the residential community contained within the development. Notwithstanding this, some portion of the child care centre users are expected to form surrounding town centre residents or employees, thereby potentially generating some external vehicle trips to and from the site.

Transport for NSW's *Guide to Traffic Generating Developments* specifies that child care centres typically generate traffic at a rate of 0.8 trips per child during the morning commuter peak hours and 0.7 trips per child during the evening commuter peak hours. This equates to some 48 and 42 vehicle trips during weekday morning and evening peak hours. The subject child care centre is however expected to largely service the residential community within the subject development. For the purposes of this assessment, the centre is expected to generate approximately 40% of the abovementioned average Transport for NSW traffic generation rate as external vehicle trips, representing some 21 and 16 additional morning and evening commuter peak hour vehicle trips, over and above the previously presented primarily residential development yield.

The total traffic generating potential of the Planning Proposal is accordingly estimated to be 92 and 72 vehicular trips during the weekday morning and evening peak hours.

4.2 Trip Assignment

Residential traffic generation typically comprises egress movements during the morning peak period and ingress movements during the evening peak period, associated with normal journey to and from work patterns. Whilst the Planning Proposal also comprises some minor ancillary non-residential uses, for the purposes of this assessment, an 80% outbound / 20% inbound split has been applied to traffic generated by the development during the morning peak period. The reverse condition has been applied during the evening peak.

Traffic has been assigned to / from the development block as follows, being derived from existing distribution patterns recently surveyed and illustrated within **Appendix 1**:

- 20% of trips travel to and from the west via Church Street;
- 20% of trips travel to and from the north via Swete Street;
- 5% of trips travel to and from the north via Martin Street;
- 20% of trips travel to and from the north-east via Bachell Avenue;
- 15% of trips travel to and from the east via Church Street; and
- 20% of trips travel to and from the south-west via the railway overbridge.

4.3 Traffic Impacts

4.3.1 Projected Intersection Performance

The nearby surrounding public road intersections have been modelled in order to estimate that likely impact on traffic safety and efficiency incorporating the additional traffic generation associated with the proposed development, under the following scenarios:

- The development yield of 262 dwellings and site access arrangements proposed under DA 94/2019; and

- The development yield of 375 dwellings, the ancillary non-residential uses and the site access arrangements proposed under the current Planning Proposal.

A summary of the most pertinent results are indicated within **Table 4** overleaf whilst more detailed summaries are provided within **Appendix 3**.

TABLE 4 SIDRA OUTPUT – WEEKDAY PEAK HOUR PERFORMANCE						
	Existing Conditions		Projected Conditions			
			Devel'ment Application		Planning Proposal	
	AM	PM	AM	PM	AM	PM
Church St & Western Overbridge Ramp						
Delay	9.6	10.3	9.6	10.4	9.6	10.5
Degree of Saturation	0.21	0.34	0.22	0.35	0.22	0.35
Level of Service	A	A	A	A	A	A
Church St & Overbridge						
Delay	16.5	21.5	16.7	21.8	16.9	22.1
Degree of Saturation	0.52	0.61	0.52	0.61	0.52	0.62
Level of Service	B	B	B	B	B	B
Church St & Eastern Overbridge Ramp						
Delay	8.8	6.2	8.9	6.2	9.0	6.3
Degree of Saturation	0.36	0.39	0.36	0.39	0.36	0.39
Level of Service	A	A	A	A	A	A
Railway St & Mark St						
Delay	12.4	12.6	12.4	12.7	12.5	12.7
Degree of Saturation	0.27	0.21	0.27	0.21	0.27	0.21
Level of Service	A	A	A	A	A	A
Railway St & Overbridge						
Delay	20.0	27.8	20.2	28.8	23.3	30.1
Degree of Saturation	0.68	0.84	0.68	0.85	0.74	0.86
Level of Service	B	B	B	C	B	C
Railway St & Eastern Overbridge Ramp						
Delay	7.9	11.3	7.9	11.3	8.0	11.3
Degree of Saturation	0.14	0.27	0.14	0.27	0.14	0.27
Level of Service	A	A	A	A	A	A
Church St & Swete St						
Delay	7.5	11.0	7.8	11.3	8.1	11.5
Degree of Saturation	0.65	0.81	0.68	0.82	0.70	0.83
Level of Service	A	A	A	A	A	A
Church St & Martin St						
Delay	7.5	12.6	5.0	5.3	5.2	5.5
Degree of Saturation	0.15	0.42	0.20	0.51	0.19	0.55
Level of Service	A	A	A	A	A	A
Church St & Bachell Ave						
Delay	16.4	21.4	15.6	21.4	15.8	21.4
Degree of Saturation	0.36	0.61	0.31	0.62	0.31	0.63
Level of Service	B	B	B	B	B	B

Table 4 indicates the following:

- The additional development yield associated with the Planning Proposal is not projected to result in any unreasonable impacts on the surrounding road network over and above that associated with DA 94/2019;

- In regard to the above, the additional traffic generated by the Planning Proposal is not projected to have unreasonable impacts on operation of the surrounding surveyed public road intersections, with only minor alterations projected with respect to delay and degree of saturation;

- The current intersection levels of service are projected to remain unaltered, with the exception of the junction of Railway Street and the railway over bridge, which is projected to reduce from 'B' to 'C' during the evening peak hour, with such a level of service still represents satisfactory performance; and

- The modification of the existing priority controlled junction of Church Street and Martin Street to accommodate roundabout control (including a new fourth southern approach to service the development) is projected to result in a reduction in the average vehicular delays at the junction, whilst also facilitating safe and efficient development access.

4.3.2 Surrounding Regional Road Network

The previous assessment indicates that the Planning Proposal is projected generate up to 92 peak hour vehicles movements to and from the site during peak periods. This equates to 42 additional peak hour vehicle movements over and above that approved by DA 94/2019.

The abovementioned Planning Proposal traffic generation equates to approximately three vehicle movements every two minutes over and above current demands during commuter peaks. These additional trips are envisaged to be distributed to various surrounding regional roads including Olympic Drive, Parramatta Road and Centenary Drive, thereby not all being accommodated at any one particular access intersection. Such a level of additional traffic, given this distribution, is not projected to in itself, result in any unreasonable impacts on the existing operational performance of the surrounding regional road network.

Whilst it is acknowledged that traffic demands within the surrounding arterial road network are considerable, the presence of traffic signal intersection operation at major junctions provide motorists with safe means with which to access and exit the subject precinct.

4.3.3 Site Access Assessment

It has previously been presented that the Planning Proposal involves the following access arrangements:

- An access driveway directly connecting with Church Street to the east of Swete Street, whereby turning movements will be restricted to left in / left out by virtue of a central median; and

- The creation of a fourth southern approach to the existing junction of Church Street and Martin Street and the modification of the intersection control to operate under traffic signal control.

Whilst turning movements to / from the western access driveway are proposed to be limited to left in / left out, unrestricted access movements are to be facilitated by the proposed roundabout control at Martin Street. This roundabout control, in conjunction with the existing roundabout control at Swete Street allows motorists to undertake necessary turnaround movements thereby being

capable of accessing the site from the west along Church Street and also to egress the site to the east along Church Street. The same turnaround movements will also be afforded to properties along the northern side of Church Street whose access movements will also be limited to left in / left out.

The proposed restricted access movements will ensure that site access movements will have minimal impact on the efficiency of through vehicle movements along Church Street. Similarly, egress movements from the western site driveway are envisaged to be able to occur with regular and extended gaps in westbound Church Street traffic flow afforded by the traffic signal control at Bachell Avenue.

Further to the above with respect to the subject development, the introduction of the median removes existing undesirable right turn movements between abutting development (to the north) and Church Street, thereby removing prevailing existing traffic conflicts.

The existing 12m wide Church Street pavement is capable of maintaining one 3.6m wide through traffic lane and one 2.1m wide parking lane in each direction in conjunction with the proposed 600mm wide median.

Further to the above, the proposed implementation of roundabout control at the eastern site access driveway is expected to afford motorists accessing and exiting the site with an efficient control mechanism. It has been previously presented that the variable alignment of Church Street to the east of Martin Street somewhat limits sight distance from the proposed eastern driveway to the east. The extent of sight distance is considered to be appropriate, particularly considered the desirable frictional effect of the roundabout control on through Church Street traffic speeds, thereby affording motorists entering and exiting the site appropriate viewing time of approaching public road traffic prior to entering a conflict situation. The proposed roundabout control at the eastern site access driveway and the junction of Church Street and Martin Street is therefore projected to provide motorists with safe and efficient means of site access / egress.

4.4 Public Transport Considerations

The subject site is ideally situated within close walking distance to a number of bus services and Lidcombe Railway Station. It is accordingly expected that a proportion of the future residents within the subject development will utilise the surrounding public transport infrastructure to access destinations throughout the Sydney metropolitan area. The provision of high development density is this location is accordingly justified and is accordance with the current land use planning principle of providing high density residential development is close proximity of good public transport infrastructure.

5. CONCLUSION

This report assesses the potential traffic implications associated with a Planning Proposal which seeks modifications to the ALEP 2010 to increase the maximum building height, increase the Floor Space Ratio and increase the gross floor area provisions of residential development within 2 – 36 Church Street, Lidcombe. Based on this assessment, the following conclusions are now made:

- The Planning Proposal seeks modifications to ALEP 2010 which will allow a residential apartment yield of 375 dwellings, in conjunction with ancillary child care and retail shop uses;

- The Planning Proposal involves the following access arrangements:

  - An access driveway directly connecting with Church Street to the east of Swete Street, whereby turning movements will be restricted to left in / left out by virtue of a central median; and
  - The creation of a fourth southern approach to the existing junction of Church Street and Martin Street and the modification of the intersection control to operate under traffic signal control.

- The surrounding road network operates with a reasonable level of service during peak periods;

- The Planning Proposal development yield has been projected to generate up to 92 peak hour vehicle trips to and from the subject site;

- The adjoining road network is capable of accommodating the traffic projected to be generated by the subject development; and

- The proposed site access arrangements are projected to result in motorists being capable of entering and exiting the subject site in a safe and efficient manner, whilst also provided a series of benefits to surrounding road users.

It is considered, based on the contents of this report and the conclusions contained herein, there are no traffic related issues that should prevent approval of Proposal.

APPENDIX 1

Lidcombe IC - Traffic Flows

MATRIX Traffic and Transport Data

Search By Time and Classfication

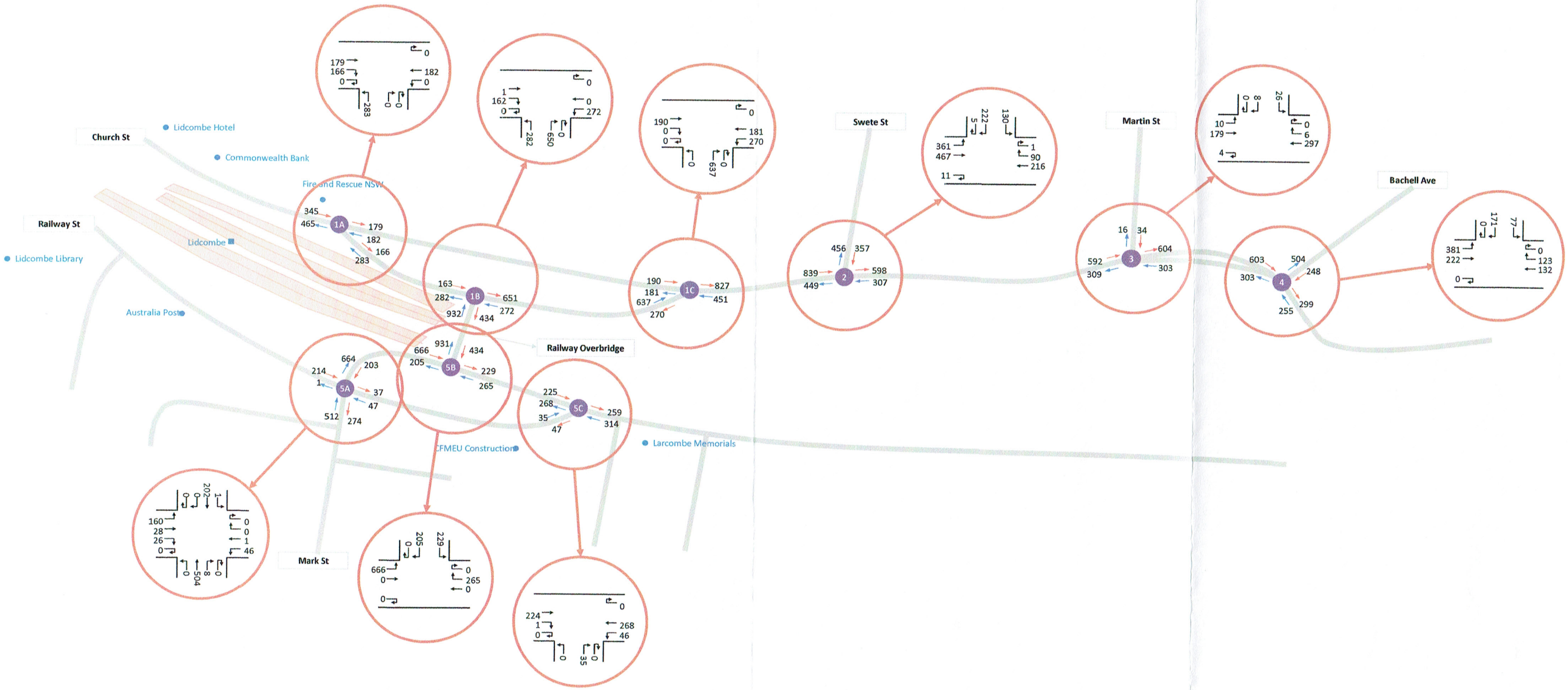
Day	Start Time	End Time	Classification
AM	8:00	9:00	All vehicles

Volume Forecasting

0 % * 0 = original survey data

(e.g. input 20 for volume increase 20% or -20 for volume decrease 20%)

1 Site No.



Lidcombe IC - Traffic Flows

MATRIX
Traffic and Transport Data

Search By Time and Classfication

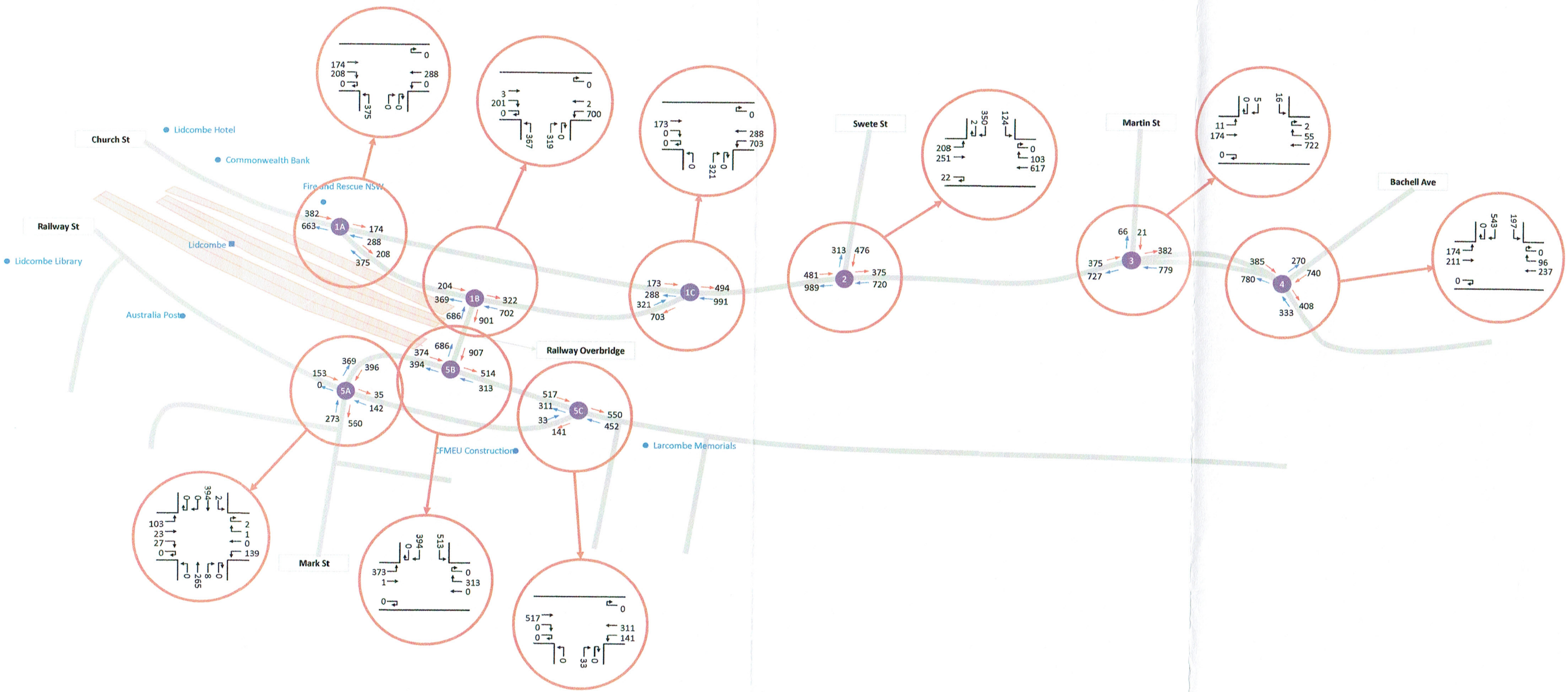
Day	Start Time	End Time	Classification
PM	15:30	17:30	All vehicles

Volume Forecasting

0 % * 0 = original survey data

(e.g. input 20 for volume increase 20% or -20 for volume decrease 20%)

1 Site No.



APPENDIX 2

MOVEMENT SUMMARY

Site: [Church Street & Western Railway Overbridge Ramp]

Existing AM
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Western Railway Bridge Ramp												
1	L2	283	5.0	0.158	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
Approach		283	5.0	0.158	5.7	NA	0.0	0.0	0.00	0.53	0.00	54.7
East: Church Street East												
5	T1	182	5.0	0.206	9.6	LOS A	0.8	6.1	0.40	0.97	0.40	51.0
Approach		182	5.0	0.206	9.6	LOS A	0.8	6.1	0.40	0.97	0.40	51.0
West: Church Street West												
11	T1	179	5.0	0.095	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	166	5.0	0.093	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		345	5.0	0.095	2.7	NA	0.0	0.0	0.00	0.28	0.00	56.5
All Vehicles		810	5.0	0.206	5.3	NA	0.8	6.1	0.09	0.52	0.09	54.6

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Western Railway Overbridge Ramp]

Existing PM
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Western Railway Bridge Ramp												
1	L2	375	5.0	0.209	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
Approach		375	5.0	0.209	5.7	NA	0.0	0.0	0.00	0.53	0.00	54.7
East: Church Street East												
5	T1	288	5.0	0.343	10.3	LOS A	1.7	12.1	0.48	1.00	0.51	50.6
Approach		288	5.0	0.343	10.3	LOS A	1.7	12.1	0.48	1.00	0.51	50.6
West: Church Street West												
11	T1	174	5.0	0.092	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	208	5.0	0.116	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		382	5.0	0.116	3.0	NA	0.0	0.0	0.00	0.32	0.00	56.1
All Vehicles		1045	5.0	0.343	6.0	NA	1.7	12.1	0.13	0.58	0.14	54.0

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.

MOVEMENT SUMMARY

Site: [Church Street & Railway Overbridge]

Existing AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Overbridge												
1	L2	282	5.0	0.520	5.7	LOS A	0.0	0.0	0.00	0.59	0.00	53.3
3	R2	650	5.0	0.520	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		932	5.0	0.520	5.6	NA	0.0	0.0	0.00	0.59	0.00	52.9
East: Eastern Church Street Ramp												
4	L2	272	5.0	0.152	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
Approach		272	5.0	0.152	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.4
West: Western Church Street Ramp												
12	R2	163	5.0	0.424	16.5	LOS B	1.8	12.8	0.80	1.00	1.09	45.6
Approach		163	5.0	0.424	16.5	LOS B	1.8	12.8	0.80	1.00	1.09	45.6
All Vehicles		1367	5.0	0.520	6.9	NA	1.8	12.8	0.10	0.64	0.13	52.0

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.

MOVEMENT SUMMARY

Site: [Church Street & Railway Overbridge]

Existing PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Overbridge												
1	L2	367	5.0	0.383	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.4
3	R2	319	5.0	0.383	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		686	5.0	0.383	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
East: Eastern Church Street Ramp												
4	L2	700	5.0	0.390	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.3
Approach		700	5.0	0.390	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.3
West: Western Church Street Ramp												
12	R2	204	5.0	0.607	21.5	LOS B	2.9	21.1	0.87	1.11	1.47	42.9
Approach		204	5.0	0.607	21.5	LOS B	2.9	21.1	0.87	1.11	1.47	42.9
All Vehicles		1590	5.0	0.607	7.7	NA	2.9	21.1	0.11	0.65	0.19	51.6

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Eastern Overbridge Ramp]

Existing AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Overbridge Ramp												
3	R2	637	5.0	0.355	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.1
Approach		637	5.0	0.355	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
East: Church Street East												
4	L2	270	5.0	0.151	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
5	T1	181	5.0	0.272	8.8	LOS A	1.1	7.9	0.62	0.85	0.70	51.2
Approach		451	5.0	0.272	6.9	LOS A	1.1	7.9	0.25	0.65	0.28	53.3
West: Church Street West												
11	T1	190	5.0	0.260	8.0	LOS A	1.0	7.4	0.58	0.82	0.63	51.7
Approach		190	5.0	0.260	8.0	LOS A	1.0	7.4	0.58	0.82	0.63	51.7
All Vehicles		1278	5.0	0.355	6.4	NA	1.1	7.9	0.17	0.64	0.19	53.0

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.

MOVEMENT SUMMARY

Site: [Church Street & Eastern Overbridge Ramp]

Existing PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Overbridge Ramp												
3	R2	321	5.0	0.179	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		321	5.0	0.179	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.2
East: Church Street East												
4	L2	703	5.0	0.392	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
5	T1	288	5.0	0.288	6.2	LOS A	1.2	8.8	0.48	0.70	0.48	53.1
Approach		991	5.0	0.392	5.8	LOS A	1.2	8.8	0.14	0.58	0.14	54.2
West: Church Street West												
11	T1	173	5.0	0.160	5.5	LOS A	0.6	4.4	0.39	0.62	0.39	53.5
Approach		173	5.0	0.160	5.5	LOS A	0.6	4.4	0.39	0.62	0.39	53.5
All Vehicles		1485	5.0	0.392	5.7	NA	1.2	8.8	0.14	0.58	0.14	53.9

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Mark Street]

Existing AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Mark Street												
2	T1	504	5.0	0.273	0.0	LOS A	0.1	0.5	0.01	0.01	0.01	59.9
3	R2	8	5.0	0.273	6.5	LOS A	0.1	0.5	0.01	0.01	0.01	57.3
Approach		512	5.0	0.273	0.1	NA	0.1	0.5	0.01	0.01	0.01	59.8
East: Railway Street East												
4	L2	47	5.0	0.035	6.3	LOS A	0.1	1.0	0.29	0.56	0.29	52.5
Approach		47	5.0	0.035	6.3	LOS A	0.1	1.0	0.29	0.56	0.29	52.5
North: Western Overbridge Ramp												
7	L2	1	5.0	0.108	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	58.1
8	T1	202	5.0	0.108	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		203	5.0	0.108	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Railway Street West												
10	L2	160	5.0	0.170	8.0	LOS A	0.7	4.9	0.52	0.74	0.52	51.6
11	T1	28	5.0	0.112	8.9	LOS A	0.4	2.7	0.62	0.84	0.62	49.9
12	R2	26	5.0	0.112	12.4	LOS A	0.4	2.7	0.62	0.84	0.62	49.1
Approach		214	5.0	0.170	8.7	LOS A	0.7	4.9	0.54	0.77	0.54	51.1
All Vehicles		976	5.0	0.273	2.3	NA	0.7	4.9	0.14	0.20	0.14	57.3

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Mark Street]

Existing PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Mark Street												
2	T1	265	5.0	0.147	0.1	LOS A	0.1	0.6	0.04	0.02	0.04	59.7
3	R2	8	5.0	0.147	7.3	LOS A	0.1	0.6	0.04	0.02	0.04	57.2
Approach		273	5.0	0.147	0.3	NA	0.1	0.6	0.04	0.02	0.04	59.6
East: Railway Street East												
4	L2	139	5.0	0.129	7.3	LOS A	0.5	3.8	0.45	0.67	0.45	52.0
Approach		139	5.0	0.129	7.3	LOS A	0.5	3.8	0.45	0.67	0.45	52.0
North: Western Overbridge Ramp												
7	L2	2	5.0	0.210	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	58.0
8	T1	394	5.0	0.210	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		396	5.0	0.210	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Railway Street West												
10	L2	103	5.0	0.083	6.6	LOS A	0.3	2.4	0.35	0.60	0.35	52.3
11	T1	23	5.0	0.104	8.3	LOS A	0.3	2.5	0.61	0.83	0.61	49.9
12	R2	27	5.0	0.104	12.6	LOS A	0.3	2.5	0.61	0.83	0.61	49.1
Approach		153	5.0	0.104	7.9	LOS A	0.3	2.5	0.44	0.68	0.44	51.3
All Vehicles		961	5.0	0.210	2.4	NA	0.5	3.8	0.15	0.21	0.15	57.1

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Overbridge]

Existing AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Eastern Railway Street Ramp												
6	R2	279	5.0	0.678	20.0	LOS B	3.9	28.5	0.86	1.17	1.67	43.7
Approach		279	5.0	0.678	20.0	LOS B	3.9	28.5	0.86	1.17	1.67	43.7
North: Overbridge												
7	L2	241	5.0	0.255	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.4
9	R2	216	5.0	0.255	5.5	LOS A	0.0	0.0	0.00	0.59	0.00	52.9
Approach		457	5.0	0.255	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
West: Western Railway Street Ramp												
10	L2	701	5.0	0.391	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.3
Approach		701	5.0	0.391	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.3
All Vehicles		1437	5.0	0.678	8.4	NA	3.9	28.5	0.17	0.69	0.32	51.1

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Overbridge]

Existing PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Eastern Railway Street Ramp												
6	R2	329	5.0	0.836	27.8	LOS B	6.6	48.4	0.93	1.44	2.61	39.9
Approach		329	5.0	0.836	27.8	LOS B	6.6	48.4	0.93	1.44	2.61	39.9
North: Overbridge												
7	L2	540	5.0	0.532	5.7	LOS A	0.0	0.0	0.00	0.59	0.00	53.3
9	R2	415	5.0	0.532	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		955	5.0	0.532	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
West: Western Railway Street Ramp												
10	L2	394	5.0	0.220	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
Approach		394	5.0	0.220	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.4
All Vehicles		1678	5.0	0.836	10.0	NA	6.6	48.4	0.18	0.75	0.51	49.9

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Eastern Overbridge Ramp]

Existing AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Street West												
3	R2	35	5.0	0.046	7.9	LOS A	0.1	1.1	0.45	0.69	0.45	51.4
Approach		35	5.0	0.046	7.9	LOS A	0.1	1.1	0.45	0.69	0.45	51.4
East: Railway Street East												
4	L2	46	5.0	0.026	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
5	T1	268	5.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		314	5.0	0.142	0.8	NA	0.0	0.0	0.00	0.08	0.00	59.1
West: Eastern Overbridge Ramp												
11	T1	225	5.0	0.119	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		225	5.0	0.119	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		574	5.0	0.142	0.9	NA	0.1	1.1	0.03	0.08	0.03	58.9

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Eastern Overbridge Ramp]

Existing PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Street West												
3	R2	33	5.0	0.070	11.3	LOS A	0.2	1.6	0.64	0.85	0.64	49.1
Approach		33	5.0	0.070	11.3	LOS A	0.2	1.6	0.64	0.85	0.64	49.1
East: Railway Street East												
4	L2	141	5.0	0.079	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
5	T1	311	5.0	0.165	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		452	5.0	0.165	1.8	NA	0.0	0.0	0.00	0.16	0.00	58.2
West: Eastern Overbridge Ramp												
11	T1	517	5.0	0.274	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		517	5.0	0.274	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1002	5.0	0.274	1.2	NA	0.2	1.6	0.02	0.10	0.02	58.7

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.

MOVEMENT SUMMARY

Site: [Church Street & Swete Street]

Existing AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	216	5.0	0.316	6.6	LOS A	2.1	15.2	0.55	0.65	0.55	52.1
6	R2	90	5.0	0.316	9.5	LOS A	2.1	15.2	0.55	0.65	0.55	51.7
6u	U	1	5.0	0.316	11.0	LOS A	2.1	15.2	0.55	0.65	0.55	52.1
Approach		307	5.0	0.316	7.5	LOS A	2.1	15.2	0.55	0.65	0.55	52.0
North: Swete Street												
7	L2	130	5.0	0.459	9.4	LOS A	3.3	24.2	0.76	0.86	0.80	49.2
9	R2	222	5.0	0.459	12.1	LOS A	3.3	24.2	0.76	0.86	0.80	49.5
9u	U	5	5.0	0.459	13.6	LOS A	3.3	24.2	0.76	0.86	0.80	49.9
Approach		357	5.0	0.459	11.1	LOS A	3.3	24.2	0.76	0.86	0.80	49.4
West: Church Street West												
10	L2	361	5.0	0.653	6.1	LOS A	7.2	52.5	0.53	0.54	0.53	51.8
11	T1	467	5.0	0.653	5.9	LOS A	7.2	52.5	0.53	0.54	0.53	52.7
12u	U	11	5.0	0.653	10.3	LOS A	7.2	52.5	0.53	0.54	0.53	52.7
Approach		839	5.0	0.653	6.0	LOS A	7.2	52.5	0.53	0.54	0.53	52.3
All Vehicles		1503	5.0	0.653	7.5	LOS A	7.2	52.5	0.59	0.64	0.60	51.5

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Swete Street]

Existing PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	617	5.0	0.813	15.1	LOS B	13.2	96.1	1.00	1.08	1.41	47.1
6	R2	103	5.0	0.813	18.0	LOS B	13.2	96.1	1.00	1.08	1.41	46.7
6u	U	1	5.0	0.813	19.5	LOS B	13.2	96.1	1.00	1.08	1.41	47.1
Approach		721	5.0	0.813	15.5	LOS B	13.2	96.1	1.00	1.08	1.41	47.0
North: Swete Street												
7	L2	124	5.0	0.487	7.4	LOS A	3.6	26.1	0.64	0.73	0.64	50.3
9	R2	350	5.0	0.487	10.1	LOS A	3.6	26.1	0.64	0.73	0.64	50.7
9u	U	2	5.0	0.487	11.6	LOS A	3.6	26.1	0.64	0.73	0.64	51.1
Approach		476	5.0	0.487	9.4	LOS A	3.6	26.1	0.64	0.73	0.64	50.6
West: Church Street West												
10	L2	208	5.0	0.400	5.8	LOS A	3.3	24.0	0.43	0.55	0.43	52.1
11	T1	251	5.0	0.400	5.6	LOS A	3.3	24.0	0.43	0.55	0.43	52.9
12u	U	22	5.0	0.400	10.1	LOS A	3.3	24.0	0.43	0.55	0.43	52.9
Approach		481	5.0	0.400	5.9	LOS A	3.3	24.0	0.43	0.55	0.43	52.5
All Vehicles		1678	5.0	0.813	11.0	LOS A	13.2	96.1	0.73	0.83	0.91	49.5

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Martin Street]

Existing AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	267	5.0	0.146	0.0	LOS A	0.0	0.4	0.02	0.01	0.02	59.8
6	R2	6	5.0	0.146	6.3	LOS A	0.0	0.4	0.02	0.01	0.02	57.9
Approach		273	5.0	0.146	0.2	NA	0.0	0.4	0.02	0.01	0.02	59.8
North: Martin Street												
7	L2	26	5.0	0.019	6.2	LOS A	0.1	0.5	0.27	0.55	0.27	52.6
9	R2	8	5.0	0.010	7.5	LOS A	0.0	0.2	0.42	0.64	0.42	51.4
Approach		34	5.0	0.019	6.5	LOS A	0.1	0.5	0.31	0.57	0.31	52.3
West: Church Street West												
10	L2	10	5.0	0.102	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.8
11	T1	183	5.0	0.102	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach		193	5.0	0.102	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.6
All Vehicles		500	5.0	0.146	0.6	NA	0.1	0.5	0.03	0.06	0.03	59.1

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Martin Street]

Existing PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	722	5.0	0.422	0.1	LOS A	0.6	4.5	0.08	0.04	0.08	59.3
6	R2	57	5.0	0.422	6.7	LOS A	0.6	4.5	0.08	0.04	0.08	57.4
Approach		779	5.0	0.422	0.6	NA	0.6	4.5	0.08	0.04	0.08	59.1
North: Martin Street												
7	L2	16	5.0	0.012	6.1	LOS A	0.0	0.3	0.26	0.54	0.26	52.6
9	R2	5	5.0	0.013	12.6	LOS A	0.0	0.3	0.70	0.83	0.70	48.0
Approach		21	5.0	0.013	7.7	LOS A	0.0	0.3	0.37	0.61	0.37	51.4
West: Church Street West												
10	L2	11	5.0	0.098	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.8
11	T1	174	5.0	0.098	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.7
Approach		185	5.0	0.098	0.3	NA	0.0	0.0	0.00	0.04	0.00	59.5
All Vehicles		985	5.0	0.422	0.7	NA	0.6	4.5	0.07	0.05	0.07	59.0

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.

MOVEMENT SUMMARY

Site: [Church Street & Bachell Avenue]

Existing AM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	132	5.0	0.116	8.2	LOS A	2.4	17.9	0.45	0.37	0.45	52.9
6	R2	123	5.0	0.183	15.2	LOS B	2.4	17.3	0.62	0.72	0.62	46.6
Approach		255	5.0	0.183	11.6	LOS A	2.4	17.9	0.53	0.54	0.53	49.7
North: Bachell Avenue												
7	L2	77	5.0	0.081	16.5	LOS B	1.6	11.8	0.51	0.69	0.51	46.1
9	R2	171	5.0	0.358	34.8	LOS C	6.2	45.1	0.86	0.79	0.86	37.3
Approach		248	5.0	0.358	29.1	LOS C	6.2	45.1	0.75	0.76	0.75	39.7
West: Church Street West												
10	L2	381	5.0	0.299	6.6	LOS A	2.1	15.1	0.24	0.62	0.24	53.3
11	T1	222	5.0	0.353	24.5	LOS B	7.4	54.0	0.80	0.67	0.80	42.8
Approach		603	5.0	0.353	13.2	LOS A	7.4	54.0	0.44	0.64	0.44	48.9
All Vehicles		1106	5.0	0.358	16.4	LOS B	7.4	54.0	0.53	0.64	0.53	46.6

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	Distance m	Prop. Queued	Effective Stop Rate
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		53	39.3	LOS D			0.94	0.94

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.

MOVEMENT SUMMARY

Site: [Church Street & Bachell Avenue]

Existing PM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	237	5.0	0.478	25.6	LOS B	8.1	59.3	0.82	0.69	0.82	42.2
6	R2	96	5.0	0.363	32.7	LOS C	3.3	24.0	0.93	0.76	0.93	38.1
Approach		333	5.0	0.478	27.7	LOS B	8.1	59.3	0.85	0.71	0.85	40.9
North: Bachell Avenue												
7	L2	197	5.0	0.162	11.2	LOS A	3.1	22.5	0.38	0.68	0.38	49.4
9	R2	543	5.0	0.613	19.9	LOS B	15.5	113.3	0.70	0.80	0.70	44.0
Approach		740	5.0	0.613	17.6	LOS B	15.5	113.3	0.62	0.77	0.62	45.3
West: Church Street West												
10	L2	174	5.0	0.132	6.5	LOS A	0.9	6.6	0.19	0.60	0.19	53.4
11	T1	211	5.0	0.591	36.9	LOS C	8.7	63.6	0.96	0.80	0.96	37.3
Approach		385	5.0	0.591	23.2	LOS B	8.7	63.6	0.62	0.71	0.62	43.2
All Vehicles		1458	5.0	0.613	21.4	LOS B	15.5	113.3	0.67	0.74	0.67	43.7

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
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		53	39.3	LOS D			0.94	0.94

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.

APPENDIX 3

MOVEMENT SUMMARY

Site: [Church Street & Bachell Avenue]

Projected AM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	134	5.0	0.128	10.1	LOS A	2.8	20.2	0.51	0.41	0.51	51.4
6	R2	123	5.0	0.224	17.7	LOS B	2.8	20.2	0.67	0.73	0.67	45.2
Approach		257	5.0	0.224	13.8	LOS A	2.8	20.2	0.58	0.56	0.58	48.2
North: Bachell Avenue												
7	L2	77	5.0	0.092	19.8	LOS B	1.9	13.6	0.59	0.70	0.59	44.2
9	R2	171	5.0	0.307	31.2	LOS C	5.8	42.1	0.80	0.78	0.80	38.7
Approach		248	5.0	0.307	27.6	LOS B	5.8	42.1	0.74	0.75	0.74	40.3
West: Church Street West												
10	L2	389	5.0	0.305	6.6	LOS A	2.1	15.4	0.23	0.62	0.23	53.3
11	T1	229	5.0	0.303	19.8	LOS B	6.9	50.0	0.72	0.61	0.72	45.3
Approach		618	5.0	0.305	11.5	LOS A	6.9	50.0	0.41	0.62	0.41	50.0
All Vehicles		1123	5.0	0.307	15.6	LOS B	6.9	50.0	0.52	0.63	0.52	47.1

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
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		53	39.3	LOS D			0.94	0.94

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.

MOVEMENT SUMMARY

Site: [Church Street & Bachell Avenue]

Projected PM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	243	5.0	0.500	25.7	LOS B	8.4	61.0	0.83	0.69	0.83	42.2
6	R2	96	5.0	0.364	32.7	LOS C	3.3	24.0	0.93	0.76	0.93	38.1
Approach		339	5.0	0.500	27.7	LOS B	8.4	61.0	0.86	0.71	0.86	40.9
North: Bachell Avenue												
7	L2	197	5.0	0.162	11.2	LOS A	3.1	22.5	0.38	0.68	0.38	49.4
9	R2	549	5.0	0.622	20.0	LOS B	15.8	115.1	0.71	0.80	0.71	43.9
Approach		746	5.0	0.622	17.7	LOS B	15.8	115.1	0.62	0.77	0.62	45.3
West: Church Street West												
10	L2	177	5.0	0.134	6.5	LOS A	0.9	6.8	0.19	0.60	0.19	53.4
11	T1	212	5.0	0.594	36.9	LOS C	8.8	63.9	0.97	0.80	0.97	37.3
Approach		389	5.0	0.594	23.1	LOS B	8.8	63.9	0.61	0.71	0.61	43.3
All Vehicles		1474	5.0	0.622	21.4	LOS B	15.8	115.1	0.67	0.74	0.67	43.7

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
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		53	39.3	LOS D			0.94	0.94

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.

MOVEMENT SUMMARY

Site: [Church Street & Bachell Avenue]

Projected PP AM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 91 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	134	5.0	0.129	10.5	LOS A	2.8	20.7	0.51	0.42	0.51	51.1
6	R2	123	5.0	0.229	18.1	LOS B	2.8	20.7	0.67	0.73	0.67	44.9
Approach		257	5.0	0.229	14.2	LOS A	2.8	20.7	0.59	0.57	0.59	48.0
North: Bachell Avenue												
7	L2	77	5.0	0.091	19.7	LOS B	1.9	13.6	0.58	0.70	0.58	44.3
9	R2	175	5.0	0.306	30.9	LOS C	5.9	43.1	0.80	0.78	0.80	38.8
Approach		252	5.0	0.306	27.5	LOS B	5.9	43.1	0.73	0.75	0.73	40.4
West: Church Street West												
10	L2	396	5.0	0.310	6.7	LOS A	2.3	16.9	0.24	0.62	0.24	53.2
11	T1	233	5.0	0.312	20.4	LOS B	7.1	52.0	0.73	0.62	0.73	44.9
Approach		629	5.0	0.312	11.8	LOS A	7.1	52.0	0.42	0.62	0.42	49.8
All Vehicles		1138	5.0	0.312	15.8	LOS B	7.1	52.0	0.53	0.64	0.53	47.0

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.
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
P2	East Full Crossing	53	39.8	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		53	39.8	LOS D			0.94	0.94

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.

MOVEMENT SUMMARY

Site: [Church Street & Bachell Avenue]

Projected PP PM
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 90 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	246	5.0	0.507	25.8	LOS B	8.5	61.9	0.83	0.69	0.83	42.1
6	R2	96	5.0	0.365	32.7	LOS C	3.3	24.0	0.93	0.76	0.93	38.1
Approach		342	5.0	0.507	27.7	LOS B	8.5	61.9	0.86	0.71	0.86	40.9
North: Bachell Avenue												
7	L2	197	5.0	0.162	11.2	LOS A	3.1	22.5	0.38	0.68	0.38	49.4
9	R2	555	5.0	0.631	20.1	LOS B	16.0	116.9	0.71	0.80	0.71	43.9
Approach		752	5.0	0.631	17.7	LOS B	16.0	116.9	0.62	0.77	0.62	45.2
West: Church Street West												
10	L2	177	5.0	0.134	6.5	LOS A	0.9	6.8	0.19	0.60	0.19	53.4
11	T1	213	5.0	0.597	37.0	LOS C	8.8	64.2	0.97	0.80	0.97	37.3
Approach		390	5.0	0.597	23.1	LOS B	8.8	64.2	0.61	0.71	0.61	43.2
All Vehicles		1484	5.0	0.631	21.4	LOS B	16.0	116.9	0.68	0.74	0.68	43.6

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	Distance m	Prop. Queued	Effective Stop Rate
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		53	39.3	LOS D			0.94	0.94

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.

MOVEMENT SUMMARY

Site: [Church Street & Eastern Overbridge Ramp]

Projected AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Overbridge Ramp												
3	R2	638	5.0	0.356	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.1
Approach		638	5.0	0.356	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
East: Church Street East												
4	L2	277	5.0	0.154	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
5	T1	190	5.0	0.286	8.9	LOS A	1.2	8.5	0.63	0.86	0.73	51.1
Approach		467	5.0	0.286	7.0	LOS A	1.2	8.5	0.26	0.66	0.30	53.2
West: Church Street West												
11	T1	193	5.0	0.265	8.0	LOS A	1.0	7.6	0.58	0.82	0.64	51.7
Approach		193	5.0	0.265	8.0	LOS A	1.0	7.6	0.58	0.82	0.64	51.7
All Vehicles		1298	5.0	0.356	6.5	NA	1.2	8.5	0.18	0.65	0.20	52.9

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Eastern Overbridge Ramp]

Projected PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Overbridge Ramp												
3	R2	327	5.0	0.182	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		327	5.0	0.182	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.2
East: Church Street East												
4	L2	704	5.0	0.393	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
5	T1	290	5.0	0.293	6.2	LOS A	1.2	9.1	0.48	0.71	0.50	53.1
Approach		994	5.0	0.393	5.9	LOS A	1.2	9.1	0.14	0.58	0.15	54.2
West: Church Street West												
11	T1	179	5.0	0.166	5.5	LOS A	0.6	4.6	0.40	0.62	0.40	53.5
Approach		179	5.0	0.166	5.5	LOS A	0.6	4.6	0.40	0.62	0.40	53.5
All Vehicles		1500	5.0	0.393	5.8	NA	1.2	9.1	0.14	0.59	0.14	53.9

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Eastern Overbridge Ramp]

Projected PP AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Overbridge Ramp												
3	R2	640	5.0	0.357	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.1
Approach		640	5.0	0.357	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
East: Church Street East												
4	L2	284	5.0	0.158	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
5	T1	195	5.0	0.295	9.0	LOS A	1.2	8.8	0.63	0.86	0.74	51.0
Approach		479	5.0	0.295	7.0	LOS A	1.2	8.8	0.26	0.66	0.30	53.2
West: Church Street West												
11	T1	194	5.0	0.267	8.1	LOS A	1.0	7.6	0.58	0.82	0.64	51.7
Approach		194	5.0	0.267	8.1	LOS A	1.0	7.6	0.58	0.82	0.64	51.7
All Vehicles		1313	5.0	0.357	6.5	NA	1.2	8.8	0.18	0.65	0.20	52.9

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Eastern Overbridge Ramp]

Projected PP PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Overbridge Ramp												
3	R2	333	5.0	0.186	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		333	5.0	0.186	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.2
East: Church Street East												
4	L2	705	5.0	0.393	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
5	T1	292	5.0	0.298	6.3	LOS A	1.3	9.4	0.49	0.72	0.51	53.0
Approach		997	5.0	0.393	5.9	LOS A	1.3	9.4	0.14	0.58	0.15	54.2
West: Church Street West												
11	T1	185	5.0	0.173	5.6	LOS A	0.7	4.8	0.40	0.63	0.40	53.5
Approach		185	5.0	0.173	5.6	LOS A	0.7	4.8	0.40	0.63	0.40	53.5
All Vehicles		1515	5.0	0.393	5.8	NA	1.3	9.4	0.14	0.59	0.15	53.9

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.
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.

MOVEMENT SUMMARY

Site: [Church Street, Martin Street & Site Access]

Projected AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Site Access												
1	L2	5	5.0	0.009	6.2	LOS A	0.0	0.3	0.44	0.57	0.44	52.0
2	T1	1	5.0	0.009	6.4	LOS A	0.0	0.3	0.44	0.57	0.44	52.9
3	R2	3	5.0	0.009	9.7	LOS A	0.0	0.3	0.44	0.57	0.44	52.5
Approach		9	5.0	0.009	7.4	LOS A	0.0	0.3	0.44	0.57	0.44	52.2
East: Church Street East												
4	L2	1	5.0	0.203	4.7	LOS A	1.2	8.5	0.09	0.46	0.09	53.6
5	T1	297	5.0	0.203	4.8	LOS A	1.2	8.5	0.09	0.46	0.09	54.6
6	R2	6	5.0	0.203	8.1	LOS A	1.2	8.5	0.09	0.46	0.09	54.2
Approach		304	5.0	0.203	4.9	LOS A	1.2	8.5	0.09	0.46	0.09	54.6
North: Martin Street												
7	L2	26	5.0	0.033	5.6	LOS A	0.2	1.1	0.34	0.57	0.34	52.5
8	T1	1	5.0	0.033	5.7	LOS A	0.2	1.1	0.34	0.57	0.34	53.5
9	R2	8	5.0	0.033	9.0	LOS A	0.2	1.1	0.34	0.57	0.34	53.1
Approach		35	5.0	0.033	6.4	LOS A	0.2	1.1	0.34	0.57	0.34	52.7
West: Church Street West												
10	L2	10	5.0	0.130	4.6	LOS A	0.7	5.0	0.07	0.47	0.07	53.7
11	T1	179	5.0	0.130	4.8	LOS A	0.7	5.0	0.07	0.47	0.07	54.7
12	R2	1	5.0	0.130	8.1	LOS A	0.7	5.0	0.07	0.47	0.07	54.3
12u	U	5	5.0	0.130	9.8	LOS A	0.7	5.0	0.07	0.47	0.07	54.8
Approach		195	5.0	0.130	4.9	LOS A	0.7	5.0	0.07	0.47	0.07	54.6
All Vehicles		543	5.0	0.203	5.0	LOS A	1.2	8.5	0.11	0.48	0.11	54.5

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.
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.

MOVEMENT SUMMARY

Site: [Church Street, Martin Street & Site Access]

Projected PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Site Access												
1	L2	1	5.0	0.005	9.9	LOS A	0.0	0.2	0.70	0.62	0.70	49.4
2	T1	1	5.0	0.005	10.0	LOS A	0.0	0.2	0.70	0.62	0.70	50.3
3	R2	1	5.0	0.005	13.3	LOS A	0.0	0.2	0.70	0.62	0.70	49.9
Approach		3	5.0	0.005	11.1	LOS A	0.0	0.2	0.70	0.62	0.70	49.9
East: Church Street East												
4	L2	2	5.0	0.513	4.8	LOS A	4.3	31.6	0.18	0.47	0.18	53.2
5	T1	722	5.0	0.513	4.9	LOS A	4.3	31.6	0.18	0.47	0.18	54.2
6	R2	57	5.0	0.513	8.2	LOS A	4.3	31.6	0.18	0.47	0.18	53.8
Approach		781	5.0	0.513	5.2	LOS A	4.3	31.6	0.18	0.47	0.18	54.1
North: Martin Street												
7	L2	16	5.0	0.021	5.6	LOS A	0.1	0.7	0.35	0.56	0.35	52.5
8	T1	1	5.0	0.021	5.7	LOS A	0.1	0.7	0.35	0.56	0.35	53.5
9	R2	5	5.0	0.021	9.0	LOS A	0.1	0.7	0.35	0.56	0.35	53.1
Approach		22	5.0	0.021	6.4	LOS A	0.1	0.7	0.35	0.56	0.35	52.7
West: Church Street West												
10	L2	11	5.0	0.158	4.9	LOS A	0.8	6.1	0.21	0.49	0.21	53.0
11	T1	174	5.0	0.158	5.1	LOS A	0.8	6.1	0.21	0.49	0.21	54.0
12	R2	3	5.0	0.158	8.4	LOS A	0.8	6.1	0.21	0.49	0.21	53.5
12u	U	15	5.0	0.158	10.0	LOS A	0.8	6.1	0.21	0.49	0.21	54.1
Approach		203	5.0	0.158	5.5	LOS A	0.8	6.1	0.21	0.49	0.21	53.9
All Vehicles		1009	5.0	0.513	5.3	LOS A	4.3	31.6	0.19	0.47	0.19	54.1

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.

MOVEMENT SUMMARY

Site: [Church Street, Martin Street & Site Access]

Projected PP AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Site Access												
1	L2	8	5.0	0.014	6.1	LOS A	0.1	0.5	0.43	0.58	0.43	52.0
2	T1	1	5.0	0.014	6.3	LOS A	0.1	0.5	0.43	0.58	0.43	52.9
3	R2	5	5.0	0.014	9.6	LOS A	0.1	0.5	0.43	0.58	0.43	52.5
Approach		14	5.0	0.014	7.4	LOS A	0.1	0.5	0.43	0.58	0.43	52.2
East: Church Street East												
4	L2	1	5.0	0.193	4.7	LOS A	1.1	7.9	0.11	0.46	0.11	53.5
5	T1	272	5.0	0.193	4.9	LOS A	1.1	7.9	0.11	0.46	0.11	54.5
6	R2	6	5.0	0.193	8.2	LOS A	1.1	7.9	0.11	0.46	0.11	54.1
6u	U	1	5.0	0.193	9.8	LOS A	1.1	7.9	0.11	0.46	0.11	54.7
Approach		280	5.0	0.193	5.0	LOS A	1.1	7.9	0.11	0.46	0.11	54.5
North: Martin Street												
7	L2	26	5.0	0.035	5.8	LOS A	0.2	1.2	0.37	0.58	0.37	52.4
8	T1	1	5.0	0.035	5.9	LOS A	0.2	1.2	0.37	0.58	0.37	53.4
9	R2	9	5.0	0.035	9.2	LOS A	0.2	1.2	0.37	0.58	0.37	53.0
Approach		36	5.0	0.035	6.6	LOS A	0.2	1.2	0.37	0.58	0.37	52.6
West: Church Street West												
10	L2	13	5.0	0.153	4.7	LOS A	0.8	6.1	0.08	0.48	0.08	53.5
11	T1	204	5.0	0.153	4.8	LOS A	0.8	6.1	0.08	0.48	0.08	54.6
12	R2	2	5.0	0.153	8.1	LOS A	0.8	6.1	0.08	0.48	0.08	54.1
12u	U	9	5.0	0.153	9.8	LOS A	0.8	6.1	0.08	0.48	0.08	54.7
Approach		228	5.0	0.153	5.0	LOS A	0.8	6.1	0.08	0.48	0.08	54.5
All Vehicles		558	5.0	0.193	5.2	LOS A	1.1	7.9	0.12	0.48	0.12	54.3

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.
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.

MOVEMENT SUMMARY

Site: [Church Street, Martin Street & Site Access]

Projected PP PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Site Access												
1	L2	2	5.0	0.007	10.3	LOS A	0.0	0.3	0.73	0.64	0.73	49.3
2	T1	1	5.0	0.007	10.5	LOS A	0.0	0.3	0.73	0.64	0.73	50.2
3	R2	1	5.0	0.007	13.8	LOS A	0.0	0.3	0.73	0.64	0.73	49.8
Approach		4	5.0	0.007	11.2	LOS A	0.0	0.3	0.73	0.64	0.73	49.7
East: Church Street East												
4	L2	4	5.0	0.554	5.0	LOS A	5.0	36.3	0.27	0.47	0.27	52.8
5	T1	739	5.0	0.554	5.1	LOS A	5.0	36.3	0.27	0.47	0.27	53.8
6	R2	57	5.0	0.554	8.4	LOS A	5.0	36.3	0.27	0.47	0.27	53.4
6u	U	2	5.0	0.554	10.1	LOS A	5.0	36.3	0.27	0.47	0.27	54.0
Approach		802	5.0	0.554	5.4	LOS A	5.0	36.3	0.27	0.47	0.27	53.8
North: Martin Street												
7	L2	16	5.0	0.022	5.7	LOS A	0.1	0.8	0.38	0.57	0.38	52.4
8	T1	1	5.0	0.022	5.9	LOS A	0.1	0.8	0.38	0.57	0.38	53.4
9	R2	6	5.0	0.022	9.2	LOS A	0.1	0.8	0.38	0.57	0.38	52.9
Approach		23	5.0	0.022	6.6	LOS A	0.1	0.8	0.38	0.57	0.38	52.6
West: Church Street West												
10	L2	12	5.0	0.176	4.9	LOS A	1.0	7.1	0.22	0.51	0.22	52.7
11	T1	178	5.0	0.176	5.1	LOS A	1.0	7.1	0.22	0.51	0.22	53.7
12	R2	6	5.0	0.176	8.4	LOS A	1.0	7.1	0.22	0.51	0.22	53.3
12u	U	30	5.0	0.176	10.1	LOS A	1.0	7.1	0.22	0.51	0.22	53.9
Approach		226	5.0	0.176	5.8	LOS A	1.0	7.1	0.22	0.51	0.22	53.7
All Vehicles		1055	5.0	0.554	5.5	LOS A	5.0	36.3	0.26	0.48	0.26	53.7

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.

MOVEMENT SUMMARY

Site: [Church Street & Railway Overbridge]

Projected AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Overbridge												
1	L2	282	5.0	0.520	5.7	LOS A	0.0	0.0	0.00	0.59	0.00	53.3
3	R2	651	5.0	0.520	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		933	5.0	0.520	5.6	NA	0.0	0.0	0.00	0.59	0.00	52.9
East: Eastern Church Street Ramp												
4	L2	279	5.0	0.156	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
Approach		279	5.0	0.156	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.4
West: Western Church Street Ramp												
12	R2	163	5.0	0.429	16.7	LOS B	1.8	13.0	0.80	1.00	1.10	45.5
Approach		163	5.0	0.429	16.7	LOS B	1.8	13.0	0.80	1.00	1.10	45.5
All Vehicles		1375	5.0	0.520	6.9	NA	1.8	13.0	0.09	0.64	0.13	52.0

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.

MOVEMENT SUMMARY

Site: [Church Street & Railway Overbridge]

Projected PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Overbridge												
1	L2	367	5.0	0.386	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.4
3	R2	325	5.0	0.386	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		692	5.0	0.386	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
East: Eastern Church Street Ramp												
4	L2	701	5.0	0.391	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.3
Approach		701	5.0	0.391	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.3
West: Western Church Street Ramp												
12	R2	204	5.0	0.613	21.8	LOS B	2.9	21.4	0.88	1.11	1.48	42.8
Approach		204	5.0	0.613	21.8	LOS B	2.9	21.4	0.88	1.11	1.48	42.8
All Vehicles		1597	5.0	0.613	7.7	NA	2.9	21.4	0.11	0.65	0.19	51.6

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Railway Overbridge]

Projected PP AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Overbridge												
1	L2	282	5.0	0.521	5.7	LOS A	0.0	0.0	0.00	0.59	0.00	53.3
3	R2	653	5.0	0.521	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		935	5.0	0.521	5.6	NA	0.0	0.0	0.00	0.59	0.00	52.9
East: Eastern Church Street Ramp												
4	L2	286	5.0	0.159	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
Approach		286	5.0	0.159	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.4
West: Western Church Street Ramp												
12	R2	163	5.0	0.434	16.9	LOS B	1.8	13.2	0.81	1.01	1.11	45.4
Approach		163	5.0	0.434	16.9	LOS B	1.8	13.2	0.81	1.01	1.11	45.4
All Vehicles		1384	5.0	0.521	6.9	NA	1.8	13.2	0.09	0.64	0.13	52.0

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.

MOVEMENT SUMMARY

Site: [Church Street & Railway Overbridge]

Projected PP PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Overbridge												
1	L2	367	5.0	0.389	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.4
3	R2	331	5.0	0.389	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		698	5.0	0.389	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
East: Eastern Church Street Ramp												
4	L2	702	5.0	0.391	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.3
Approach		702	5.0	0.391	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.3
West: Western Church Street Ramp												
12	R2	204	5.0	0.619	22.1	LOS B	3.0	21.6	0.88	1.12	1.50	42.6
Approach		204	5.0	0.619	22.1	LOS B	3.0	21.6	0.88	1.12	1.50	42.6
All Vehicles		1604	5.0	0.619	7.7	NA	3.0	21.6	0.11	0.65	0.19	51.6

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Swete Street]

Projected AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	232	5.0	0.352	6.7	LOS A	2.4	17.6	0.56	0.66	0.56	52.0
6	R2	98	5.0	0.352	9.6	LOS A	2.4	17.6	0.56	0.66	0.56	51.5
6u	U	14	5.0	0.352	11.1	LOS A	2.4	17.6	0.56	0.66	0.56	52.0
Approach		344	5.0	0.352	7.7	LOS A	2.4	17.6	0.56	0.66	0.56	51.8
North: Swete Street												
7	L2	132	5.0	0.473	9.8	LOS A	3.6	26.0	0.78	0.88	0.84	48.9
9	R2	222	5.0	0.473	12.5	LOS A	3.6	26.0	0.78	0.88	0.84	49.3
9u	U	5	5.0	0.473	14.0	LOS A	3.6	26.0	0.78	0.88	0.84	49.7
Approach		359	5.0	0.473	11.5	LOS A	3.6	26.0	0.78	0.88	0.84	49.2
West: Church Street West												
10	L2	361	5.0	0.680	6.4	LOS A	7.7	55.9	0.61	0.57	0.61	51.6
11	T1	471	5.0	0.680	6.2	LOS A	7.7	55.9	0.61	0.57	0.61	52.4
12u	U	11	5.0	0.680	10.6	LOS A	7.7	55.9	0.61	0.57	0.61	52.4
Approach		843	5.0	0.680	6.3	LOS A	7.7	55.9	0.61	0.57	0.61	52.1
All Vehicles		1546	5.0	0.680	7.8	LOS A	7.7	55.9	0.64	0.66	0.65	51.3

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Swete Street]

Projected PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	620	5.0	0.822	15.5	LOS B	13.7	100.1	1.00	1.09	1.44	46.8
6	R2	104	5.0	0.822	18.4	LOS B	13.7	100.1	1.00	1.09	1.44	46.5
6u	U	4	5.0	0.822	19.9	LOS B	13.7	100.1	1.00	1.09	1.44	46.8
Approach		728	5.0	0.822	16.0	LOS B	13.7	100.1	1.00	1.09	1.44	46.8
North: Swete Street												
7	L2	130	5.0	0.501	7.6	LOS A	3.7	27.2	0.66	0.75	0.66	50.2
9	R2	350	5.0	0.501	10.3	LOS A	3.7	27.2	0.66	0.75	0.66	50.6
9u	U	2	5.0	0.501	11.8	LOS A	3.7	27.2	0.66	0.75	0.66	51.0
Approach		482	5.0	0.501	9.6	LOS A	3.7	27.2	0.66	0.75	0.66	50.5
West: Church Street West												
10	L2	208	5.0	0.412	5.9	LOS A	3.4	25.0	0.45	0.55	0.45	52.0
11	T1	263	5.0	0.412	5.7	LOS A	3.4	25.0	0.45	0.55	0.45	52.9
12u	U	22	5.0	0.412	10.1	LOS A	3.4	25.0	0.45	0.55	0.45	52.9
Approach		493	5.0	0.412	6.0	LOS A	3.4	25.0	0.45	0.55	0.45	52.5
All Vehicles		1703	5.0	0.822	11.3	LOS A	13.7	100.1	0.74	0.84	0.93	49.4

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.

MOVEMENT SUMMARY

Site: [Church Street & Swete Street]

PP AM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	244	5.0	0.383	6.7	LOS A	2.7	19.8	0.58	0.67	0.58	51.8
6	R2	107	5.0	0.383	9.6	LOS A	2.7	19.8	0.58	0.67	0.58	51.4
6u	U	25	5.0	0.383	11.1	LOS A	2.7	19.8	0.58	0.67	0.58	51.9
Approach		376	5.0	0.383	7.8	LOS A	2.7	19.8	0.58	0.67	0.58	51.7
North: Swete Street												
7	L2	134	5.0	0.486	10.1	LOS A	3.8	27.6	0.80	0.89	0.88	48.7
9	R2	222	5.0	0.486	12.8	LOS A	3.8	27.6	0.80	0.89	0.88	49.1
9u	U	5	5.0	0.486	14.4	LOS A	3.8	27.6	0.80	0.89	0.88	49.5
Approach		361	5.0	0.486	11.8	LOS A	3.8	27.6	0.80	0.89	0.88	48.9
West: Church Street West												
10	L2	361	5.0	0.704	6.7	LOS A	8.1	58.9	0.67	0.60	0.67	51.4
11	T1	474	5.0	0.704	6.5	LOS A	8.1	58.9	0.67	0.60	0.67	52.2
12u	U	11	5.0	0.704	10.9	LOS A	8.1	58.9	0.67	0.60	0.67	52.2
Approach		846	5.0	0.704	6.6	LOS A	8.1	58.9	0.67	0.60	0.67	51.8
All Vehicles		1583	5.0	0.704	8.1	LOS A	8.1	58.9	0.68	0.68	0.70	51.1

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.

MOVEMENT SUMMARY

Site: [Church Street & Swete Street]

PP PM
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Church Street East												
5	T1	623	5.0	0.832	16.0	LOS B	14.4	104.9	1.00	1.11	1.47	46.5
6	R2	107	5.0	0.832	18.9	LOS B	14.4	104.9	1.00	1.11	1.47	46.2
6u	U	6	5.0	0.832	20.5	LOS B	14.4	104.9	1.00	1.11	1.47	46.5
Approach		736	5.0	0.832	16.5	LOS B	14.4	104.9	1.00	1.11	1.47	46.5
North: Swete Street												
7	L2	136	5.0	0.516	7.8	LOS A	3.9	28.5	0.68	0.76	0.68	50.1
9	R2	350	5.0	0.516	10.5	LOS A	3.9	28.5	0.68	0.76	0.68	50.5
9u	U	2	5.0	0.516	12.0	LOS A	3.9	28.5	0.68	0.76	0.68	50.9
Approach		488	5.0	0.516	9.8	LOS A	3.9	28.5	0.68	0.76	0.68	50.4
West: Church Street West												
10	L2	208	5.0	0.425	5.9	LOS A	3.6	26.1	0.46	0.55	0.46	52.0
11	T1	275	5.0	0.425	5.7	LOS A	3.6	26.1	0.46	0.55	0.46	52.8
12u	U	22	5.0	0.425	10.2	LOS A	3.6	26.1	0.46	0.55	0.46	52.8
Approach		505	5.0	0.425	6.0	LOS A	3.6	26.1	0.46	0.55	0.46	52.5
All Vehicles		1729	5.0	0.832	11.5	LOS A	14.4	104.9	0.75	0.85	0.95	49.2

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.

MOVEMENT SUMMARY

Site: [Church Street & Western Railway Overbridge Ramp]

Projected AM
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Western Railway Bridge Ramp												
1	L2	283	5.0	0.158	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
Approach		283	5.0	0.158	5.7	NA	0.0	0.0	0.00	0.53	0.00	54.7
East: Church Street East												
5	T1	191	5.0	0.217	9.6	LOS A	0.9	6.4	0.40	0.97	0.40	51.0
Approach		191	5.0	0.217	9.6	LOS A	0.9	6.4	0.40	0.97	0.40	51.0
West: Church Street West												
11	T1	182	5.0	0.096	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	166	5.0	0.093	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		348	5.0	0.096	2.7	NA	0.0	0.0	0.00	0.28	0.00	56.5
All Vehicles		822	5.0	0.217	5.3	NA	0.9	6.4	0.09	0.53	0.09	54.5

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Western Railway Overbridge Ramp]

Projected PM
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Western Railway Bridge Ramp												
1	L2	375	5.0	0.209	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
Approach		375	5.0	0.209	5.7	NA	0.0	0.0	0.00	0.53	0.00	54.7
East: Church Street East												
5	T1	290	5.0	0.347	10.4	LOS A	1.7	12.3	0.48	1.00	0.52	50.5
Approach		290	5.0	0.347	10.4	LOS A	1.7	12.3	0.48	1.00	0.52	50.5
West: Church Street West												
11	T1	180	5.0	0.095	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	208	5.0	0.116	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		388	5.0	0.116	3.0	NA	0.0	0.0	0.00	0.31	0.00	56.1
All Vehicles		1053	5.0	0.347	6.0	NA	1.7	12.3	0.13	0.58	0.14	54.0

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.

MOVEMENT SUMMARY

Site: [Church Street & Western Railway Overbridge Ramp]

Projected PP AM
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Western Railway Bridge Ramp												
1	L2	283	5.0	0.158	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
Approach		283	5.0	0.158	5.7	NA	0.0	0.0	0.00	0.53	0.00	54.7
East: Church Street East												
5	T1	196	5.0	0.223	9.6	LOS A	0.9	6.6	0.41	0.97	0.41	51.0
Approach		196	5.0	0.223	9.6	LOS A	0.9	6.6	0.41	0.97	0.41	51.0
West: Church Street West												
11	T1	183	5.0	0.097	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	166	5.0	0.093	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		349	5.0	0.097	2.7	NA	0.0	0.0	0.00	0.28	0.00	56.5
All Vehicles		828	5.0	0.223	5.3	NA	0.9	6.6	0.10	0.53	0.10	54.5

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.
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.

MOVEMENT SUMMARY

Site: [Church Street & Western Railway Overbridge Ramp]

Projected PP PM
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Western Railway Bridge Ramp												
1	L2	375	5.0	0.209	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
Approach		375	5.0	0.209	5.7	NA	0.0	0.0	0.00	0.53	0.00	54.7
East: Church Street East												
5	T1	292	5.0	0.350	10.5	LOS A	1.7	12.6	0.48	1.00	0.53	50.5
Approach		292	5.0	0.350	10.5	LOS A	1.7	12.6	0.48	1.00	0.53	50.5
West: Church Street West												
11	T1	186	5.0	0.098	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
12	R2	208	5.0	0.116	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.2
Approach		394	5.0	0.116	2.9	NA	0.0	0.0	0.00	0.31	0.00	56.2
All Vehicles		1061	5.0	0.350	6.0	NA	1.7	12.6	0.13	0.58	0.15	54.0

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.

MOVEMENT SUMMARY

Site: [Railway Street & Eastern Overbridge Ramp]

Projected AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Street West												
3	R2	35	5.0	0.046	7.9	LOS A	0.1	1.1	0.45	0.69	0.45	51.4
Approach		35	5.0	0.046	7.9	LOS A	0.1	1.1	0.45	0.69	0.45	51.4
East: Railway Street East												
4	L2	46	5.0	0.026	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
5	T1	268	5.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		314	5.0	0.142	0.8	NA	0.0	0.0	0.00	0.08	0.00	59.1
West: Eastern Overbridge Ramp												
11	T1	228	5.0	0.121	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		228	5.0	0.121	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		577	5.0	0.142	0.9	NA	0.1	1.1	0.03	0.08	0.03	58.9

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Eastern Overbridge Ramp]

Projected PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Street West												
3	R2	33	5.0	0.070	11.3	LOS A	0.2	1.6	0.64	0.85	0.64	49.1
Approach		33	5.0	0.070	11.3	LOS A	0.2	1.6	0.64	0.85	0.64	49.1
East: Railway Street East												
4	L2	141	5.0	0.079	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
5	T1	313	5.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		454	5.0	0.166	1.8	NA	0.0	0.0	0.00	0.16	0.00	58.2
West: Eastern Overbridge Ramp												
11	T1	517	5.0	0.274	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		517	5.0	0.274	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1004	5.0	0.274	1.2	NA	0.2	1.6	0.02	0.10	0.02	58.7

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.

MOVEMENT SUMMARY

Site: [Railway Street & Eastern Overbridge Ramp]

Projected PP AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Street West												
3	R2	35	5.0	0.046	8.0	LOS A	0.1	1.1	0.45	0.69	0.45	51.4
Approach		35	5.0	0.046	8.0	LOS A	0.1	1.1	0.45	0.69	0.45	51.4
East: Railway Street East												
4	L2	46	5.0	0.026	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
5	T1	269	5.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		315	5.0	0.142	0.8	NA	0.0	0.0	0.00	0.08	0.00	59.1
West: Eastern Overbridge Ramp												
11	T1	232	5.0	0.123	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		232	5.0	0.123	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		582	5.0	0.142	0.9	NA	0.1	1.1	0.03	0.08	0.03	58.9

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Eastern Overbridge Ramp]

Projected PP PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Railway Street West												
3	R2	33	5.0	0.070	11.3	LOS A	0.2	1.6	0.64	0.85	0.64	49.1
Approach		33	5.0	0.070	11.3	LOS A	0.2	1.6	0.64	0.85	0.64	49.1
East: Railway Street East												
4	L2	141	5.0	0.079	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.8
5	T1	317	5.0	0.168	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		458	5.0	0.168	1.8	NA	0.0	0.0	0.00	0.16	0.00	58.2
West: Eastern Overbridge Ramp												
11	T1	517	5.0	0.274	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		517	5.0	0.274	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		1008	5.0	0.274	1.2	NA	0.2	1.6	0.02	0.10	0.02	58.7

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.

MOVEMENT SUMMARY

Site: [Railway Street & Mark Street]

Projected AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Mark Street												
2	T1	505	5.0	0.273	0.0	LOS A	0.1	0.5	0.01	0.01	0.01	59.9
3	R2	8	5.0	0.273	6.5	LOS A	0.1	0.5	0.01	0.01	0.01	57.3
Approach		513	5.0	0.273	0.1	NA	0.1	0.5	0.01	0.01	0.01	59.8
East: Railway Street East												
4	L2	47	5.0	0.036	6.3	LOS A	0.1	1.0	0.29	0.56	0.29	52.5
Approach		47	5.0	0.036	6.3	LOS A	0.1	1.0	0.29	0.56	0.29	52.5
North: Western Overbridge Ramp												
7	L2	1	5.0	0.109	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	58.1
8	T1	205	5.0	0.109	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		206	5.0	0.109	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Railway Street West												
10	L2	160	5.0	0.170	8.0	LOS A	0.7	4.9	0.52	0.74	0.52	51.6
11	T1	28	5.0	0.112	9.0	LOS A	0.4	2.7	0.62	0.84	0.62	49.9
12	R2	26	5.0	0.112	12.4	LOS A	0.4	2.7	0.62	0.84	0.62	49.1
Approach		214	5.0	0.170	8.7	LOS A	0.7	4.9	0.55	0.77	0.55	51.1
All Vehicles		980	5.0	0.273	2.3	NA	0.7	4.9	0.14	0.20	0.14	57.3

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Mark Street]

Projected PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Mark Street												
2	T1	269	5.0	0.150	0.1	LOS A	0.1	0.6	0.04	0.02	0.04	59.7
3	R2	8	5.0	0.150	7.3	LOS A	0.1	0.6	0.04	0.02	0.04	57.2
Approach		277	5.0	0.150	0.3	NA	0.1	0.6	0.04	0.02	0.04	59.6
East: Railway Street East												
4	L2	139	5.0	0.129	7.3	LOS A	0.5	3.8	0.45	0.67	0.45	52.0
Approach		139	5.0	0.129	7.3	LOS A	0.5	3.8	0.45	0.67	0.45	52.0
North: Western Overbridge Ramp												
7	L2	2	5.0	0.210	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	58.0
8	T1	395	5.0	0.210	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		397	5.0	0.210	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Railway Street West												
10	L2	103	5.0	0.083	6.6	LOS A	0.3	2.4	0.36	0.60	0.36	52.3
11	T1	23	5.0	0.104	8.3	LOS A	0.3	2.5	0.62	0.84	0.62	49.8
12	R2	27	5.0	0.104	12.7	LOS A	0.3	2.5	0.62	0.84	0.62	49.0
Approach		153	5.0	0.104	7.9	LOS A	0.3	2.5	0.44	0.68	0.44	51.3
All Vehicles		966	5.0	0.210	2.4	NA	0.5	3.8	0.15	0.21	0.15	57.1

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Mark Street]

Projected PP AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Mark Street												
2	T1	506	5.0	0.274	0.0	LOS A	0.1	0.6	0.02	0.01	0.02	59.8
3	R2	8	5.0	0.274	6.5	LOS A	0.1	0.6	0.02	0.01	0.02	57.3
Approach		514	5.0	0.274	0.1	NA	0.1	0.6	0.02	0.01	0.02	59.8
East: Railway Street East												
4	L2	47	5.0	0.036	6.3	LOS A	0.1	1.0	0.30	0.56	0.30	52.5
Approach		47	5.0	0.036	6.3	LOS A	0.1	1.0	0.30	0.56	0.30	52.5
North: Western Overbridge Ramp												
7	L2	1	5.0	0.111	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	58.1
8	T1	209	5.0	0.111	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		210	5.0	0.111	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Railway Street West												
10	L2	160	5.0	0.171	8.0	LOS A	0.7	4.9	0.52	0.74	0.52	51.6
11	T1	28	5.0	0.113	9.0	LOS A	0.4	2.7	0.63	0.85	0.63	49.8
12	R2	26	5.0	0.113	12.5	LOS A	0.4	2.7	0.63	0.85	0.63	49.0
Approach		214	5.0	0.171	8.7	LOS A	0.7	4.9	0.55	0.77	0.55	51.0
All Vehicles		985	5.0	0.274	2.3	NA	0.7	4.9	0.14	0.20	0.14	57.3

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Mark Street]

Projected PP PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Mark Street												
2	T1	271	5.0	0.151	0.1	LOS A	0.1	0.6	0.04	0.02	0.04	59.7
3	R2	8	5.0	0.151	7.3	LOS A	0.1	0.6	0.04	0.02	0.04	57.2
Approach		279	5.0	0.151	0.3	NA	0.1	0.6	0.04	0.02	0.04	59.6
East: Railway Street East												
4	L2	139	5.0	0.129	7.3	LOS A	0.5	3.8	0.45	0.67	0.45	52.0
Approach		139	5.0	0.129	7.3	LOS A	0.5	3.8	0.45	0.67	0.45	52.0
North: Western Overbridge Ramp												
7	L2	2	5.0	0.210	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	58.0
8	T1	395	5.0	0.210	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		397	5.0	0.210	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Railway Street West												
10	L2	103	5.0	0.083	6.6	LOS A	0.3	2.4	0.36	0.60	0.36	52.3
11	T1	23	5.0	0.105	8.4	LOS A	0.3	2.5	0.62	0.84	0.62	49.8
12	R2	27	5.0	0.105	12.7	LOS A	0.3	2.5	0.62	0.84	0.62	49.0
Approach		153	5.0	0.105	7.9	LOS A	0.3	2.5	0.44	0.68	0.44	51.3
All Vehicles		968	5.0	0.210	2.4	NA	0.5	3.8	0.15	0.21	0.15	57.1

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Overbridge]

Projected AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Eastern Railway Street Ramp												
6	R2	279	5.0	0.683	20.2	LOS B	4.0	28.9	0.87	1.18	1.69	43.6
Approach		279	5.0	0.683	20.2	LOS B	4.0	28.9	0.87	1.18	1.69	43.6
North: Overbridge												
7	L2	244	5.0	0.258	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	53.4
9	R2	219	5.0	0.258	5.5	LOS A	0.0	0.0	0.00	0.59	0.00	52.9
Approach		463	5.0	0.258	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
West: Western Railway Street Ramp												
10	L2	702	5.0	0.392	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.3
Approach		702	5.0	0.392	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.3
All Vehicles		1444	5.0	0.683	8.4	NA	4.0	28.9	0.17	0.69	0.33	51.1

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Overbridge]

Projected PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Eastern Railway Street Ramp												
6	R2	332	5.0	0.846	28.8	LOS C	6.9	50.4	0.93	1.46	2.71	39.5
Approach		332	5.0	0.846	28.8	LOS C	6.9	50.4	0.93	1.46	2.71	39.5
North: Overbridge												
7	L2	541	5.0	0.533	5.7	LOS A	0.0	0.0	0.00	0.59	0.00	53.3
9	R2	415	5.0	0.533	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		956	5.0	0.533	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
West: Western Railway Street Ramp												
10	L2	398	5.0	0.222	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
Approach		398	5.0	0.222	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.4
All Vehicles		1685	5.0	0.846	10.2	NA	6.9	50.4	0.18	0.76	0.53	49.8

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Overbridge]

Projected PP AM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Eastern Railway Street Ramp												
6	R2	280	5.0	0.738	23.3	LOS B	4.5	33.0	0.90	1.24	1.93	42.1
Approach		280	5.0	0.738	23.3	LOS B	4.5	33.0	0.90	1.24	1.93	42.1
North: Overbridge												
7	L2	354	5.0	0.322	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.4
9	R2	223	5.0	0.322	5.5	LOS A	0.0	0.0	0.00	0.58	0.00	52.8
Approach		577	5.0	0.322	5.6	NA	0.0	0.0	0.00	0.58	0.00	53.2
West: Western Railway Street Ramp												
10	L2	703	5.0	0.392	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.3
Approach		703	5.0	0.392	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.3
All Vehicles		1560	5.0	0.738	8.8	NA	4.5	33.0	0.16	0.70	0.35	50.8

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.
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.

MOVEMENT SUMMARY

Site: [Railway Street & Overbridge]

Projected PP PM
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Eastern Railway Street Ramp												
6	R2	336	5.0	0.860	30.1	LOS C	7.3	53.6	0.94	1.51	2.86	39.0
Approach		336	5.0	0.860	30.1	LOS C	7.3	53.6	0.94	1.51	2.86	39.0
North: Overbridge												
7	L2	540	5.0	0.533	5.7	LOS A	0.0	0.0	0.00	0.59	0.00	53.3
9	R2	416	5.0	0.533	5.6	LOS A	0.0	0.0	0.00	0.59	0.00	52.8
Approach		956	5.0	0.533	5.6	NA	0.0	0.0	0.00	0.59	0.00	53.1
West: Western Railway Street Ramp												
10	L2	400	5.0	0.223	5.6	LOS A	0.0	0.0	0.00	0.57	0.00	53.4
Approach		400	5.0	0.223	5.6	NA	0.0	0.0	0.00	0.57	0.00	53.4
All Vehicles		1692	5.0	0.860	10.5	NA	7.3	53.6	0.19	0.77	0.57	49.6

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.
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.