

PACIFIC PLANNING PTY LTD

**TRAFFIC IMPACT ASSESSMENT REPORT
FOR
RE-ZONING APPLICATION FOR
10-16 LOFTUS CRESCENT, 2 SUBWAY LANE,
88-92A PARRAMATTA ROAD
AND
9-11 KNIGHT STREET, HOMEBUSH**

REVISION C

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Drawing No LPP-102 Landscape Masterplan South

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SIDRA Intersection Analysis Movement and Intersection Summary for scenario 7:1

APPENDIX G:

Existing Survey Plans Prepared by Stratasurv Registered Surveyors
Drawing No 3553DT-02 Sheet 1 and Sheet 2

1.0 INTRODUCTION

1.1 Background

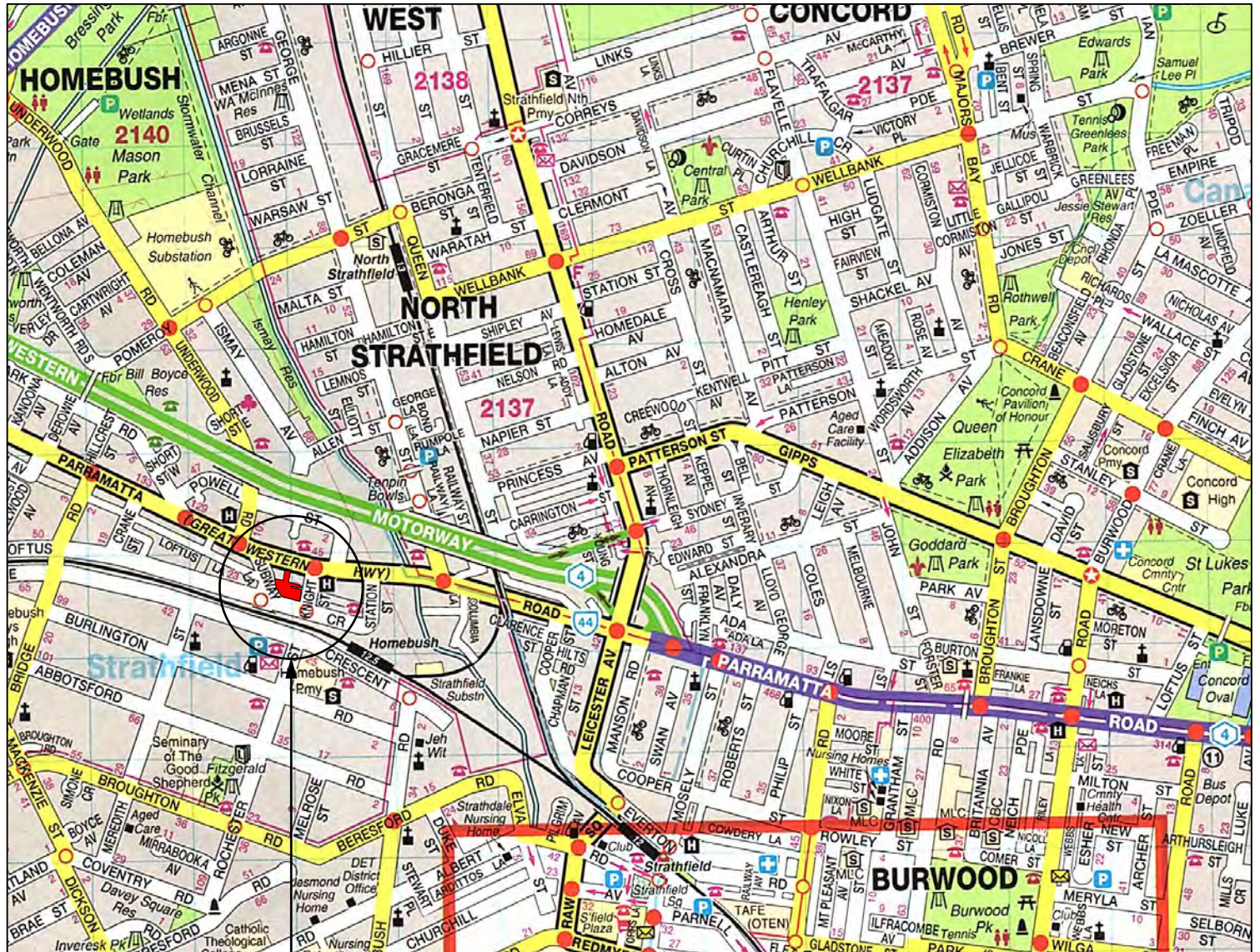
An application is to be made by Homebush Linx Pty Ltd for a Rezoning Planning Proposal for a development site at **10-16 Loftus Crescent, 2 Subway Lane, 88-92A Parramatta Road and 5 & 9-11 Knight Street, Homebush.**

The Planning Proposal that seeks to amend the development controls under Strathfield LEP 2012. The Planning Proposal seeks to increase the maximum building height from part 16 metres and part 29 metres to 80 metres; increase the maximum floor space ratio control from part 2:1, part 2.7:1 and part 3.15:1 to 5:1; and amend the key site provisions to remove existing height and floor space provisions, and provide for an additional 2:1 floor space provision (7:1 total) where better planning outcomes are achieved.

The subject site is within the first stage of delivery (2016-2023) under the Parramatta Road Urban Transformation Strategy (PRCUTS). The final PRCUTS provided for a recommended maximum building height of 80 metres and a preferred maximum FSR of 5:1. The provisions under Section 9.1 Direction 7.3 Parramatta Road Corridor Urban Transformation Strategy provide for inconsistencies with the Direction where a better planning outcome can be achieved.

A Better Planning Outcome report has been prepared by Pacific Planning Pty Ltd September 2018 that addresses the Section 9.1 Direction in detail and justifies a floor space ratio above that preferred by the Parramatta Road Corridor Urban Transformation Strategy (PRCUTS), subject to a number of better planning outcome items being achieved, including a 1,250sq.m public park and the dedication of certain public land. Note that the maximum height limit is as recommended by the PRCUTS.

The site is shown in **Figure 1 Locality Plan**. The lots to be amalgamated are listed in Table 1.1 below



PROPOSED SITE AT 11-16 LOFTUS CRESCENT, 2 SUBWAY LANE,
88-92 PARRAMATTA ROAD, 9-11 KNIGHT ST HOMEBUSH

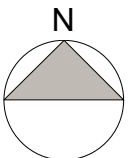


FIGURE 1
LOCALITY MAP

(1.1 Continued)**Table 1.1 Amalgamated lots**

Street Number	Street Name	Lot Numbers	DP	Notes
88-92A	Parramatta Road	1-3	DP201120	
		A	DP419617	Land Dedication to Future Laneway
2	Subway Lane	7	DP18702	
10	Loftus Crescent	A	DP335908	
11	Loftus Crescent	B	DP419854	
12	Loftus Crescent	A	DP419854	
13	Loftus Crescent	2	DP201286	
14	Loftus Crescent	1	DP201286	
15	Loftus Crescent	2	DP314354	
16	Loftus Crescent	101	846306	
	Knight Street	A	DP335091	Land Dedication to Future Laneway
11	Knight Street	C	DP336700	
16	Knight Street		SP1702	

The site area is **5764** square metres which includes all of the amalgamated lots. A future potential development site at No 7 Knight Street (SP3941) is identified in the Massing Study but has not been included in the development site at this time.

1.2 Scope of Report

This report addresses the *traffic and parking issues* for the proposed site rezoning and potential mixed-use residential development. It also addresses possible future transport infrastructure benefits that could be implemented to support and enhance the transport network

In preparation of this traffic report, we also refer the following Statutory Controls and Reports.

- Parramatta Road Corridor Urban Transformation Study- Urban Growth NSW November 2016 (PRCUTS).
- Strathfield Development Control Plan No 20 Strathfield Council- May 2006
- Strathfield Local Environmental Plan 2012
- Strathfield Council Active Travel Plan
- Strathfield Consolidated Development Control Plan
- Homebush Station Upgrade- Traffic and Transport Impact Assessment- AECOM October 2016
- Letter Report prepared by Traffix Traffic and Transport Planners dated March 2016 for sites 10-16 Loftus Crescent, 2 Subway Lane and 88-92A Parramatta Road.

2.0 EXISTING TRAFFIC CONDITIONS

2.1 Existing Road Network

The site has a frontage of approximately **18.45** metres to Parramatta Road and **52.62** metres to Subway Lane and a frontage to Loftus Crescent of **104.62** metres and a site frontage to Knight Street of **29.135** metres. The site is located within the Homebush Precinct and is identified as Nos 79, 80, 82 and 71 on the Key Sites Map in the Strathfield LEP 2012.

Parramatta Road is an RMS Classified Road MR5 runs east/west linking Granville in the west to Camperdown in the east. It has a **60km/hr** speed limit. As a Classified Road, it is subject to access restrictions in accordance with State Environmental Planning Policy (Infrastructure) 2007. Parramatta Road carries in the order of 30,000 vehicles per day in the vicinity of the site.

The Crescent is a local collector road that runs in an east-west direction to the south of the main Suburban Railway Line (Inner West to Leppington T2). It provides a connection to Eastbourne Road to the west and Beresford Road to the east. The Crescent is a two lane, two way road with parking on both sides except near Homebush Station where parking is only on the southern side. There is a 40K/hr speed limit near Homebush Public school located on the corner of The Crescent and Rochester Street.

Loftus Crescent is a local road that runs in an east west direction on the northern side of the Main Suburban Railway line. It forms the southern site frontage. Loftus Crescent links Station Street to the east of the subject site to Bridge Road and through to Smallwood Avenue to the west

Subway Lane a local road that runs in a north to south direction between Parramatta Road and The Crescent, via an underpass beneath the Main Suburban Railway line. Subway lane between Parramatta Road and Loftus Crescent is one-way southbound.

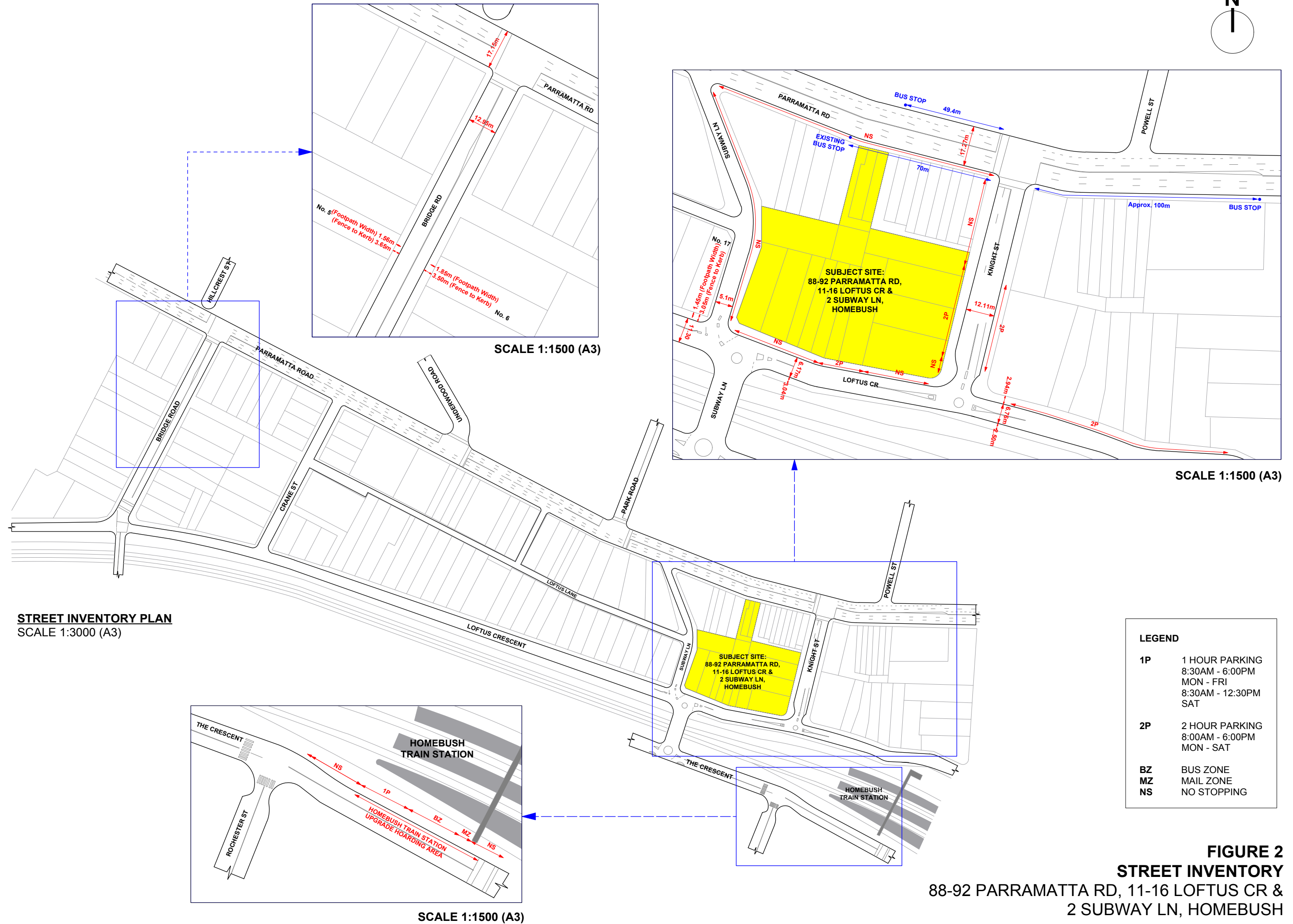
Knight Street a collector road that runs in a north-south direction to the east of the site and provides a connection between Parramatta Road and Loftus Crescent. Knight Street forms a signalised intersection with Parramatta Road.

Loftus Lane a local road that runs in an east-west direction between Subway Lane and Crane Street to the west. It primarily serves to provide rear access to properties with frontages to Parramatta Road. The Strathfield LEP 2012 identifies a Local Road (SP2) land acquisition through the site for the purposes of an extension of Loftus Lane between Subway Lane and Knight Street.

Bridge Road to the west of the subject site is a local collector road than runs in a north-south direction between Parramatta Road and Mackenzie Street. Bridge Street is a two lane two way street with parking on both sides. . It has a sign posted speed limit of 50K.hr. At the intersection of Loftus Crescent it narrows to two lanes over the railway overpass.

Station Street runs north-south between Parramatta Road and Loftus Crescent. Station Street is a two lane two way street with on street parking on both sides with a 2 hour parking limit. It has a sign posted speed limit of 50K.hr

The road inventory and number of traffic lanes are illustrated in **Figure 2**. The site is located in one of eight precincts identified in the Parramatta Road Corridor Urban Transformation Corridor Study



2.2 Road Inventory and Parking

The sign posted parking restrictions in Knight Street are 2 hour parking 8:00am-6:00pm Monday-Friday. There is *1 hour parking restriction* east of the subject site in Loftus Crescent 8:30am to 6:00pm Monday to Friday and outside the site frontage are two 2 hour parking spaces. There are no available parking spaces in Subway lane. Loftus Crescent west of the subject site has un-restricted on street parking on both sides. Station Street east of the subject site has 2 hour parking on both sides.

The existing street inventory is shown in **Figure 2**.

A site inspection was carried out on Wednesday 15th November 2017. Photographs **P1** and **P2** show the site frontage in Knight Street. The intersection of Knight Street and Loftus Crescent is shown in Photograph **P3**. The Homebush Station upgrade is currently under construction and temporary traffic signals are in place in Loftus Crescent as shown in Photograph **P5**. The Roundabout at Subway Lane and Loftus Crescent is shown in Photograph **P7** and **P13** and **14**. The site frontage in Loft Crescent is shown in Photograph **P8**. Subway lane is one-way southbound as shown in Photographs **P9** and **P10**.

2.3 Existing Peak Hour Traffic Volumes

Traffic Counts were made at the following intersections in *15 minute intervals* on **Tuesday 14th November 7:00am to 9:00am and 4:00pm to 6:00pm** and **Wednesday 15 November 2017 from 7:00am to 9:00am and 4:00pm to 6:00pm** and correspond with the commuter peak hours:-

- **Bridge Road/ Parramatta Road**
- **Underwood Road/ Parramatta Road**
- **Subway Lane/ Parramatta Road**
- **Bridge Road/ Loftus Crescent**

- **Subway Lane/Loftus Crescent**
- **Knight Street/Loftus Crescent**
- **Subway Lane/ the Crescent**

The **am** peak hour was **8:00-9:00am** at all intersections. The **pm** peak hour was **5:00 – 6:00pm**. The *existing peak hour* count summary is shown in **Figures 3a** and **3b**. The results of the surveys are located in **Appendix B**.

2.4 Intersection Performance

The intersections have been analysed using **SIDRA** Version 7.1, 2017. The intersections were networked linked in the analysis. The summary reports are located in **Appendix C** of this report.

The traffic volumes in Loftus Crescent near the vicinity of the site are less than 300 vehicles per AM and PM peak hour. Intersections are operating at **with plenty of spare capacity**.

The network performance is determined by the Level of Service (**LoS**) Average Vehicle Delay (**AVD**), Degree of Saturation (**DoS**) and maximum delay on the critical movement at the intersections during peak hours. The Level of Service criteria for intersections are explained in **Table 4.2** taken from the *RTA Guide to Traffic Engineering Developments*.

Table 4.2
(RTA Guide To Traffic Generating Developments) Level of Service criteria for intersections.

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 TO 28	Good with acceptable delays spare capacity	Acceptable delays & spare capacity
C	29 TO 42	Satisfactory	Satisfactory, but accident study required
D	43 TO 56	Operating near capacity	Near capacity & accident study required
E	57 TO 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

The results of the analysis are set out in **Table 2.4**

Table 2.4 Sidra Analysis Existing AM and PM Peak Hour Volumes

No	Location	Sign/ Control	Peak Hour	Level Of Service LoS	Degree of Saturation DoS	Average Delay Av	Critical Movement
1	Parramatta RD / Bridge RD	S	AM	C	0.891	40.1	57.7 secs South West Approach Bridge Road to Parramatta
1	Parramatta RD / Bridge RD	S	PM	B	0.912	25.4	68.4 secs South West Approach Bridge RD LHT
2	Bridge RD / Loftus CR	ST	AM	A	0.351	1.3	18.4 secs RHT Loftus Cres East Approach
2	Bridge RD / Loftus CR	ST	PM	A	0.383	1.0	18.2 secs RHT Loftus Cres East Approach
3	Parramatta RD / Underwood RD	S	AM	B	0.495	17.1	53.3RHT Underwood North Approach to Parramatta RD
3	Parramatta RD / Underwood RD	S	PM	B	0.629	16.0	47.4 Secs North Approach Underwood RHT
4	Parramatta RD / Knight ST	S	AM	A	0.569	11.9	44.1 secs RHT South Approach Knight Street to Parramatta RD
4	Parramatta RD / Knight ST	S	PM	A	0.42	9.8	40.8 secs South Approach Knight ST RHT
5	Knight ST / Loftus CR	R	AM	A	0.231	5.2	7.8 secs North Approach Knight ST U-Turn
5	Knight ST / Loftus CR	R	PM	A	0.224	5.8	8.3 secs East Approach Loftus Cres RHT

(Table 2.4 continued)

No	Location	Sign/ Control	Peak Hour	Level Of Service LoS	Degree of Saturation DoS	Average Delay Av	Critical Movement
6	Loftus CR / Subway LN	R	AM	A	0.243	5.4	11.1 secs West Approach Loftus Crescent U-Turn
6	Loftus CR / Subway LN	R	PM	A	0.347	5.4	9.2 secs North Subway LN RHT
7	The Crescent / Subway LN	R	AM	A	0.388	5.3	8.7 secs East Approach Loftus Cres U-Turn
7	The Crescent / Subway LN	R	PM	A	0.422	4.7	9.6 secs The Crescent West Approach U-Turn
8	Subway LN / Parramatta RD	SI	AM	A	0.292	0.1	5.5 secs East Approach LHT
8	Subway LN / Parramatta RD	SI	PM	A	0.211	0.1	5.5 secs East Approach Left Turn

- (1) Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
- (2) Average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.

Level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets

Note: S Signals

ST Stop

SI Sign

G Give Way

R Roundabout

2.5 Current Uses Of Existing Site

The current uses are as follows:-

No. 88-92A Parramatta Road	Vacant Commercial Shops
No. Nos 10-16 Loftus Crescent	Cleared Site
No. 11 Knight Street	Residential Flats
No. 9 Knight Street	Cleared Site

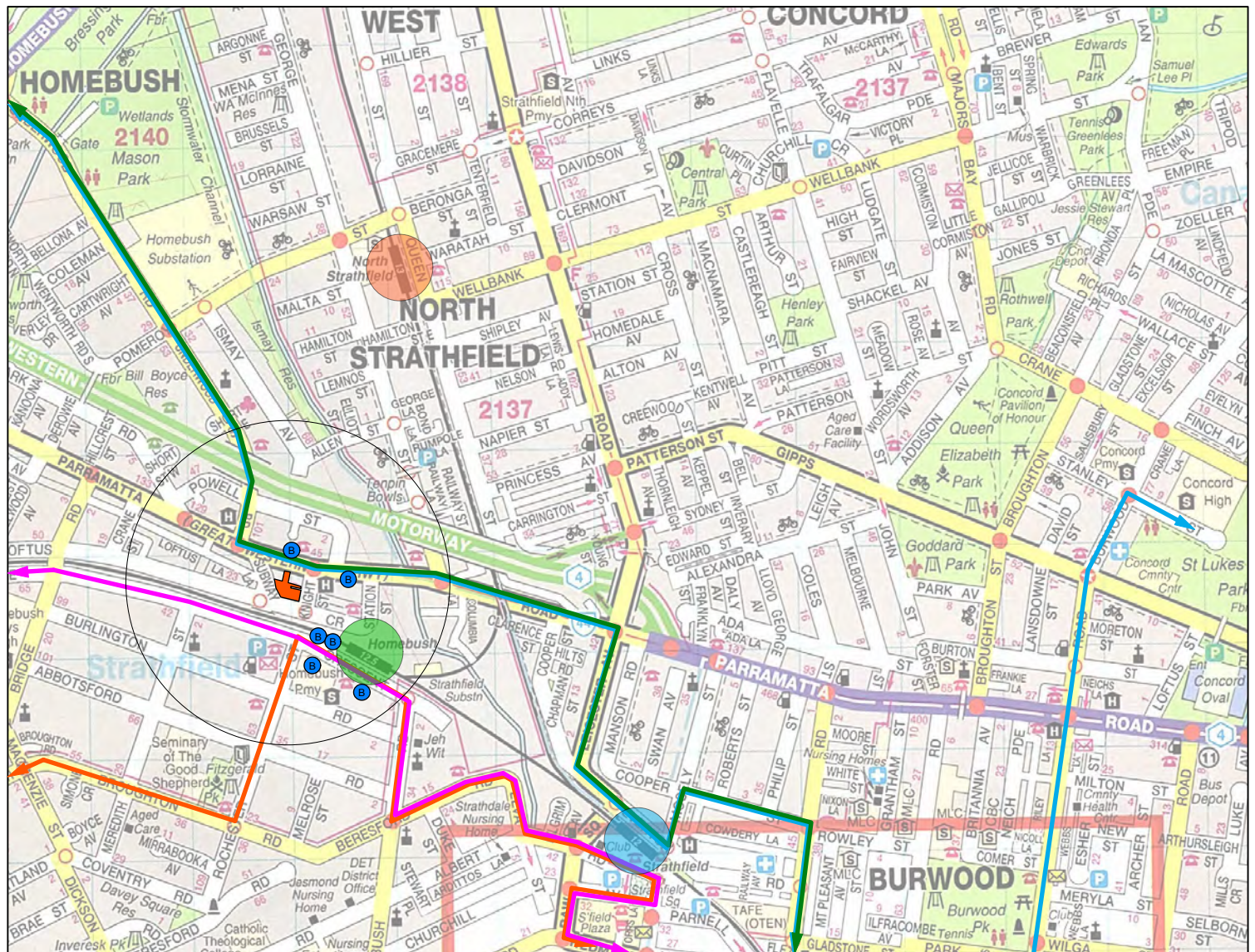
2.6 Existing Vehicular Access To the Site

There is currently a vehicular driveway off subway lane to No 2 Subway Lane. The properties numbered 10-16 Loftus Crescent have existing vehicular driveways. No 11 Knight Street and No 16 Knight Street have vehicular driveways to Knight Street.

2.7 Existing Public Transport

The site is well served by public transport services. Homebush Railway Station is within 200 metres walking distance of the subject site. There is an existing bus stop outside the site frontage in Parramatta Road. A number of bus stops are located within 400 metres radial distance of the subject site. **Figure 4** shows the existing transport Networks to the site.

The Strathfield Bicycle Network Plan is shown in Council's Active Travel Plan. It identifies a separate cycleway as C1 along Loftus Crescent connecting into Bridge Road. A copy of the Active Travel Plan is located in **Appendix D**.



LEGEND



BUS STOP

11-16 LOFTUS CRESCENT, 2 SUBWAY LANE, 88-92 PARRAMATTA ROAD,
9-11 KNIGHT ST TO BUS STOP 214026(PARRAMATTA ROAD OPP KNIGHT ST)1 MIN WALK
BUS STOP 214026 TO STRATFIELD STATION - 6 MIN TRIP

BUS ROUTE 525 PARRAMATTA TO BURWOOD VIA SYDNEY OLYMPIC PARK
BUS ROUTE 526 RHODES SHOPPING CENTRE TO BURWOOD

11-16 LOFTUS CRESCENT, 2 SUBWAY LANE, 88-92 PARRAMATTA ROAD,
9-11 KNIGHT ST TO BUS STOP 214011(HOMEBUSH STATION, THE CRESCENT)6 MIN WALK
BUS STOP 213515 TO STRATFIELD STATION - 3 MIN TRIP

BUS ROUTE N60 CITY TOWN HALL TO FAIRFIELD
BUS ROUTE N61 CITY TOWN HALL TO CARLINGFORD
BUS ROUTE 408 ROOKWOOD CEMETERY TO BURWOOD VIA FLEMINGTON



HOMEBUSH STATION



STRATFIELD STATION



NORTH STRATHFIELD STATION

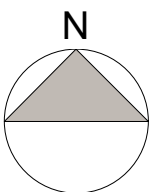


FIGURE 4:
TRANSPORT NETWORKS

11-16 LOFTUS CRESCENT, 2 SUBWAY LANE,
88-92 PARRAMATTA ROAD, 9-11 KNIGHT ST
HOMBUSH

3.0 TRAFFIC EFFECTS OF PROPOSED DEVELOPMENT

3.1 Floor Areas and Uses

The gross floor areas for the business premises and the gross leasable floor areas for the residential components have been calculated. The building has commercial areas on the ground floor and three residential buildings A, B and C with 7 floors of residential units. These areas and the number and type of each residential unit on each level are contained in **Table 3.1**. The **FSR** for the site is calculated to be **7:1**

Table 3.1 Floor Areas and Uses for 7:1 FSR

USE	LEVEL	Gross Floor Area M ²	Gross Leasable Floor Area M ²			
COMMERICAL COMPONENT					.	
Building A	Level 1	210				
Building B	Level 1	546				
Building C	Level 1	522				
TOTAL		1278				
RESIDENTIAL COMPONENT				1BR.	2BR.	3BR
	GFA	39028				
	LEVELS					
Building A	2-15	6400		20	60	
Building B	2-15	17106		62	142	7
Building C	2-15	15522		48	118	24
				130	320	31

There are a total of **481** residential units. The ground floor plan, and typical massing floor plans are located in **Appendix A** of this Report.

The proposed development includes the following urban design strategies:-

1. Dedication of a lane way through the site for public access to facilitate the cycle network, traffic and pedestrian link. We refer to the provisions for the laneway in the current Strathfield LEP 2012. It is indented to increase the width of the laneway from 6 to 11 metres. This will allow for 2-way directional traffic and pedestrian footpath. It will have a low speed environment and will provide the through site linkages between Subway Lane and Knight Street to improve connectivity to the road network. This laneway will provide a visual link to an internal deep soil planting park (approximately 30m x 14m) with embellishment. (Approximately 400m2 possible dedication).

(3.1 Continued)

2. A through site link through the site from Parramatta Road to Loftus Crescent, to improve pedestrian access through the site to major transport and further improve the permeability of the site and the precinct. (not dedicated but public access).
3. An increased 3 metre set back perimeter around the development to Loftus Crescent, Subway Lane and Knight Street. (approximately 490m²)
 - a. This is to allow for improved traffic flow around the site and precinct and to allow for on road local cycleway connections to Bridge Street and Homebush Station and possible indented short-term parking during weekdays for the activated street frontage.
 - b. Provide a greater pedestrian and landscaping element around the built form.

3.2 Car Parking Requirements and Provision**3.2.1 Residential Parking**

Residential car parking has been calculated in accordance with the **RMS Guide To Traffic Generating Developments** Section 5.4.3 High Density Residential Flat Buildings. We refer to Objective 3J-1 of the Apartment Design Guide as this site is within 800 metres of Homebush Railway Station. A comparison has been made to the car parking rates provided in the Strathfield Development Control Plan Parramatta Road Corridor Area DCP No 20.

Parking has been calculated for residential car parking, as shown in **Table 3.2.1**. The required **number of spaces** for the *residential component* is **505** spaces.

Table 3.2.1 Residential Parking Requirements

No. of Units	No. of Bed(s)	Strathfield DCP No. 20		From RMS Guide to Traffic Generating Developments	
		Minimum Rates	Total No. of Car Parking Required	Metropolitan Sub-Regional Centres Parking Rates	Total No. of Car Parking Spaces Required
130	1 bed	1	130	0.6	78
320	2 bed	1	320	0.9	288
31	3 bed	1.5	47	1.4	43
481	Visitor	1 per 5	97	1 per 5	97
Total Required			594		505

*Car Wash Bay is required

*Suitable Facilities for bicycle parking are required.

3.3.2 Commercial Premises Parking

The car parking for the commercial premises has been calculated in accordance with Strathfield Consolidated Development Control Plan Part I Provision of Off Street Parking Facilities Section 3.3.1 Commercial Premises.

Table 3.2.2 Office (Commercial) Parking Requirement

Use	GFA (m ²)	Strathfield SCDCP Part I	
		Minimum Rates	Total No. of Car Parking Required
Office/ Commercial	1278	1 per 40m ²	32
Total Required			32

- One courier space must be provided for servicing (Refer to Part I of Strathfield Consolidated Development Control Plan Provision of Off Street Parking Facilities).

Parking has been calculated for residential car parking, as shown in **Table 3.2.2**. The required **number of spaces** for the *commercial component* is **51** spaces and will include at least one courier parking space.

3.3.3 Bicycle Storage Facilities

In order to encourage the use of bicycles by residents and workforce, it is proposed to provide '*bicycle storage racks/rails* and *bicycle lockers*' within the basement car park to encourage commuter and recreational cycling.

The suggested storage facilities are provided as a guide for the proposed development.

	Bicycle Lockers		Bicycle rail/racks
Residential	1 per 10 units	PLUS	1 per 12 units
Commerical	1 per 450m²	PLUS	1 per 150m²

3.3 Internal Access Lane (Loftus Lane)

A new **access lane**, as shown on the Architects Drawing Ground Floor **02** located in **Appendix A**, has been created to provide a *vehicular access* to basement car parking for Block A which has a frontage to Parramatta Road and provide vehicular access to Block B which has frontages to Loftus Crescent and Subway Lane, and to provide through site links between Subway Lane and Knight Street. As Subway Lane is one-way southbound vehicles can turn left into the laneway from Subway Lane and travel eastbound to access Building A car park. A Pavement width of 6000mm will allow 2 way traffic. The lane dedication is 11 metres and will allow for 3 metres of landscaping and a pedestrian footpath.

3.4 Journey To Work Data

In order to assign the 'trip distribution', to the road network, the Journey to Work data for residents and those employees commuting to Belmore have to be *reviewed* from the *JTW Explorer figures* from the *2011 Journey To Work Data*.

Table 3.4.1 Journey To Work in Homebush by Car Driver Employee

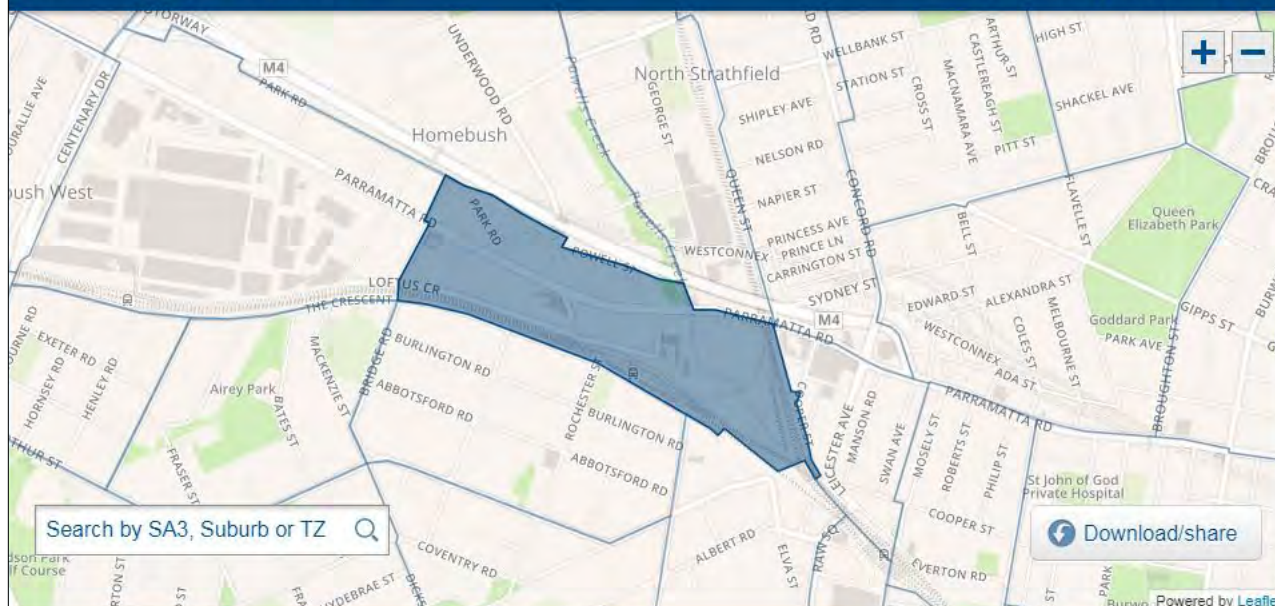
Origin SA3	Origin SA3 ID	Vehicle driver	% Veh. Driver	% Veh. Driver (adj)
Bankstown	11901	89	8.33%	9.00%
Merrylands - Guildford	12503	71	6.65%	7.18%
Strathfield - Burwood - Ashfield	12003	65	6.09%	6.57%
Canada Bay	12001	61	5.71%	6.17%
Parramatta	12504	57	5.34%	5.76%
Auburn	12501	53	4.96%	5.36%
Baulkham Hills	11501	49	4.59%	4.95%
Penrith	12403	49	4.59%	4.95%
Blacktown	11601	48	4.49%	4.85%
Fairfield	12702	40	3.75%	4.04%
Carlingford	12502	33	3.09%	3.34%
Liverpool	12703	29	2.72%	2.93%
Hurstville	11903	27	2.53%	2.73%
Blacktown - North	11602	26	2.43%	2.63%
Campbelltown (NSW)	12302	26	2.43%	2.63%
Bringelly - Green Valley	12701	25	2.34%	2.53%
Canterbury	11902	22	2.06%	2.22%
Ryde - Hunters Hill	12602	22	2.06%	2.22%
Cronulla - Miranda - Caringbah	12801	19	1.78%	1.92%
Mount Druitt	11603	17	1.59%	1.72%
Kogarah - Rockdale	11904	17	1.59%	1.72%
Wyong	10202	16	1.50%	-
St Marys	12405	16	1.50%	1.62%
Ku-ring-gai	12103	15	1.40%	1.52%
Blue Mountains	12401	15	1.40%	-
Sutherland - Menai - Heathcote	12802	13	1.22%	1.31%

**Table 3.4.1 Journey To Work in Homebush by Car Driver
Employee (Continued)**

Origin SA3	Origin SA3 ID	Vehicle driver	% Veh. Driver	% Veh. Driver (adj)
Chatswood - Lane Cove	12101	12	1.12%	1.21%
Hornsby	12102	12	1.12%	1.21%
Gosford	10201	10	0.94%	-
Wollongong	10704	9	0.84%	-
Eastern Suburbs - South	11802	9	0.84%	0.91%
Botany	11701	8	0.75%	0.81%
Marrickville - Sydenham - Petersham	11702	8	0.75%	0.81%
Camden	12301	7	0.66%	0.71%
Richmond - Windsor	12404	7	0.66%	0.71%
Lake Macquarie - West	11102	6	0.56%	-
Leichhardt	12002	6	0.56%	0.61%
Warringah	12203	6	0.56%	0.61%
Pennant Hills - Epping	12601	6	0.56%	0.61%
Kiama - Shellharbour	10703	4	0.37%	-
Shoalhaven	11401	4	0.37%	-
North Sydney - Mosman	12104	4	0.37%	0.40%
Dapto - Port Kembla	10701	3	0.28%	-
Dural - Wisemans Ferry	11502	3	0.28%	0.30%
Rouse Hill - McGraths Hill	11504	3	0.28%	0.30%
Sydney Inner City	11703	3	0.28%	0.30%
Eastern Suburbs - North	11801	3	0.28%	0.30%
Pittwater	12202	3	0.28%	0.30%
Wollondilly	12303	3	0.28%	-
Special Purpose Codes SA3 (NSW)	19999	3	0.28%	-
Centenary	30401	3	0.28%	-
Ormeau - Oxenford	30907	3	0.28%	-
South Coast	10104	0	0.00%	-
Lake Macquarie - East	11101	0	0.00%	-
Manningham - West	20702	0	0.00%	-
Total		1068		100.00%

*Note: The adjusted calculation does not include SA3s outside Metropolitan Sydney, Not Stated or have a special purpose code

The journey to work – place of work is shown in **Figure 5A**



TZ Selection X clear 963

Place of Work

Place of Residence

1,557 people work in the selected employment area from the map above

How do workers commute to the selected employment destination?

Mode Share* for all places of residence



- 77% Vehicle driver
- 13% Train
- 4% Vehicle passenger
- 2% Walked only
- 2% Mode not stated
- 1% Bus
- 1% Other mode

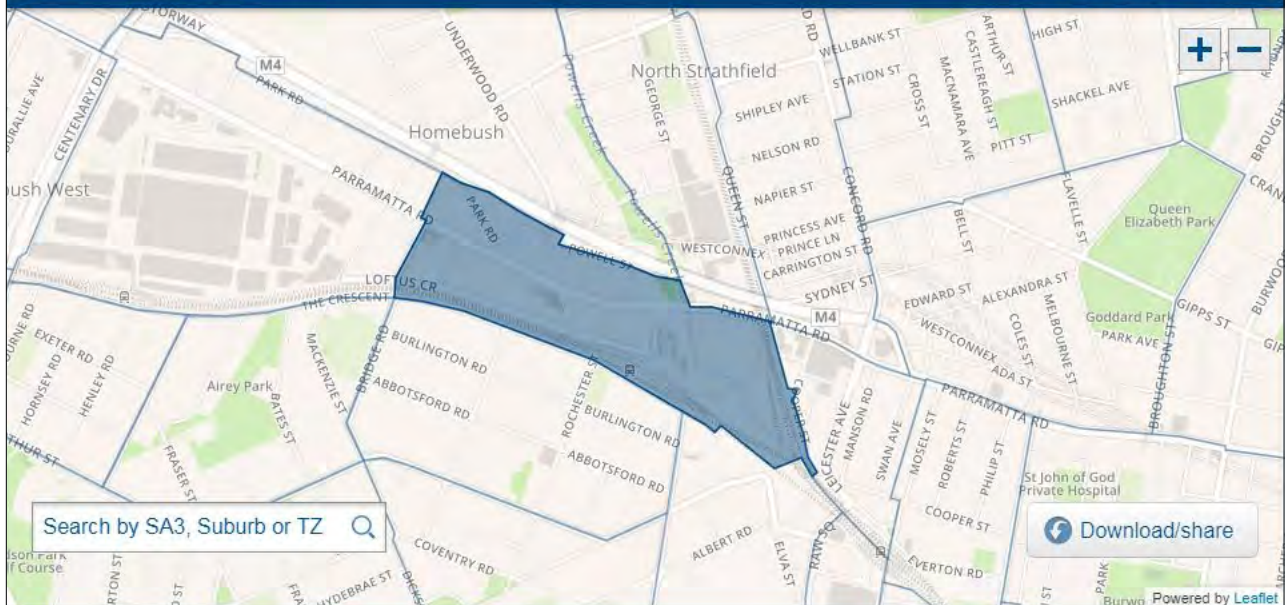
* Excludes those who did not go to work

Where do the workers in the selected area live?

%	No.	Origin or place of residence (SA3)
■	137	Strathfield - Burwood - Ashfield
■	112	Merrylands - Guildford
■	105	Bankstown
■	86	Parramatta
■	85	Auburn
■	83	Penrith
■	82	Canada Bay
■	66	Blacktown
■	65	Fairfield
■	55	Baulkham Hills
■	681	Other

Click on a specific location to update Mode Share chart >

FIGURE 5A
JOURNEY TO WORK DATA
-PLACE OF WORK



TZ Selection X clear 963

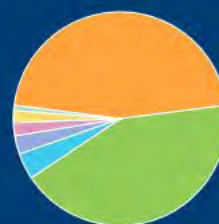
Place of Work

Place of Residence

1,082 people live in the selected residential area from the map above

How do workers commute from the selected residential area?

Mode Share* for all places of work



- 46% Train
- 43% Vehicle driver
- 4% Vehicle passenger
- 3% Walked only
- 2% Other mode
- 2% Mode not stated
- 1% Bus

* Excludes those who did not go to work

Where do the residents in the selected area work?

%	No.	Destination or place of work (SA3)
37%	387	Sydney Inner City
15%	152	Strathfield - Burwood - Ashfield
6%	61	North Sydney - Mosman
5%	57	Auburn
4%	47	Canada Bay
4%	43	Chatswood - Lane Cove
3%	39	Ryde - Hunters Hill
3%	35	Bankstown
3%	33	Parramatta
2%	29	No fixed place of work
18%	199	Other

Click on a specific location to update Mode Share chart ▶

FIGURE 5B
JOURNEY TO WORK DATA
-PLACE OF RESIDENCE

Table 3.4.2 No of employed residents living in Homebush travelling out- Car Driver

Destination SA3	Destination SA3 Id	Vehicle driver	% Veh. Driver	% Veh. Driver (adj)
Sydney Inner City	11703	71	16.55%	17.66%
Strathfield - Burwood - Ashfield	12003	65	15.15%	16.17%
Auburn	12501	37	8.62%	9.20%
Canada Bay	12001	29	6.76%	7.21%
Ryde - Hunters Hill	12602	29	6.76%	7.21%
Not Stated	19499	23	5.36%	-
Bankstown	11901	21	4.90%	5.22%
Parramatta	12504	19	4.43%	4.73%
Chatswood - Lane Cove	12101	13	3.03%	3.23%
Leichhardt	12002	11	2.56%	2.74%
North Sydney - Mosman	12104	11	2.56%	2.74%
Baulkham Hills	11501	9	2.10%	2.24%
Eastern Suburbs - South	11802	9	2.10%	2.24%
Liverpool	12703	9	2.10%	2.24%
Cronulla - Miranda - Caringbah	12801	8	1.86%	1.99%
Canterbury	11902	7	1.63%	1.74%
Carlingford	12502	7	1.63%	1.74%
Botany	11701	6	1.40%	1.49%
Ku-ring-gai	12103	6	1.40%	1.49%
Hawkesbury	11503	4	0.93%	-
Mount Druitt	11603	4	0.93%	1.00%
Marrickville - Sydenham - Petersham	11702	4	0.93%	1.00%
Hurstville	11903	4	0.93%	1.00%
Kogarah - Rockdale	11904	4	0.93%	1.00%
Merrylands - Guildford	12503	4	0.93%	1.00%
Blacktown	11601	3	0.70%	0.75%
Eastern Suburbs - North	11801	3	0.70%	0.75%
Pittwater	12202	3	0.70%	0.75%
Bringelly - Green Valley	12701	3	0.70%	0.75%
Fairfield	12702	3	0.70%	0.75%
Wyong	10202	0	0.00%	-
Warringah	12203	0	0.00%	0.00%
Penrith	12403	0	0.00%	0.00%
Pennant Hills - Epping	12601	0	0.00%	0.00%
Total		429		100.00%

*Note: The adjusted calculation does not include SA3s outside Metropolitan Sydney, Not Stated or have a special purpose code.

The journey to work for resident car drivers is shown in Figure 5B.

3.6 Estimated Traffic Generation

The traffic generation for the proposed development has been calculated in accordance with the **RMS** Technical note **TDT 2013/04a** which lists the rates for high density residential units. The estimated traffic generation for two development scenarios one for an FSR of 5:1 and the future 7:1 scenario have been calculated as shown in Tables 3.6.1 and Table 3.6.2 respectively.

Table 3.6.1 Estimated Traffic Generation Scenario 5:1

Peak Hour	Units	Rate	Traffic Generation - Residents ⁽¹⁾		
			IN	OUT	TOTAL
AM	327	0.32	26.16	78.48	104.64
PM	327	0.18	39.24	19.62	58.86

Peak Hour			Traffic Generation - Employees		
			IN	OUT	TOTAL
AM	2035	0.02 ⁽²⁾	32.56	8.14	40.7
PM	2035	0.02 ⁽²⁾	8.14	32.56	40.7

Notes:

- (1) AM Peak Hour for Residential is based on 0.25 IN and 0.75 OUT and in the PM Peak Hour 0.66 IN and 0.33 OUT.

AM Peak Hour trips for the Commercial assumes 80% IN and 20% OUT. The PM peak hour trips are assumed to be 20% IN and 80 % OUT

- (2) 2 Trips per 100m² GFA was used for calculation of retail/commercial as per RMS Guide to Traffic Generating Developments.

Table 3.6.2 Estimated Traffic Generation Scenario 7:1

Peak Hour	Units	Rate	Traffic Generation - Residents ⁽¹⁾		
			IN	OUT	TOTAL
AM	481	0.32	38.50	115.5	154
PM	481	0.18	57.14	29.44	86.58 (87)

Peak Hour			Traffic Generation - Employees		
			IN	OUT	TOTAL
AM	1278	0.02 ⁽²⁾	20.45	5.11	25.56
PM	1278	0.02 ⁽²⁾	5.11	20.45	25.56

Notes:

- (1) AM Peak Hour for Residential is based on 0.25 IN and 0.75 OUT and in the PM Peak Hour 0.66 IN and 0.33 OUT.

AM Peak Hour trips for the Commercial assumes 80% IN and 20% OUT. The PM peak hour trips are assumed to be 20% IN and 80 % OUT

- (2) 2 Trips per 100m² GFA was used for calculation of retail/commercial as per RMS Guide to Traffic Generating Developments.

3.7 Intersection Performance

The future volumes at the intersections surrounding the development site have been modelled using SIDRA 7.1 network linked. All intersections have been modelled for two development scenarios of 7:1 FSR and 5:1 FSR.

Table 3.7.1 Sidra Analysis Development Scenario FSR 5:1

No	Location	Sign/ Control	Peak Hour	Level Of Service LoS	Degree of Saturation DoS	Average Delay Av	Critical Movement
1	Parramatta RD / Bridge RD	S	AM	C	0.899	40.7	57.7 secs South West Approach Bridge Road LHT
1	Parramatta RD / Bridge RD	S	PM	C	0.932	28.9	72.4 secs South West Approach Bridge RD RHT
2	Bridge RD / Loftus CR	ST	PM	A	0.351	1.3	18.6 secs East Approach Loftus CR RHT
2	Bridge RD / Loftus CR	STI	PM	A	0.39	1.0	18.4 secs East Approach Loftus Crescent RHT
3	Parramatta RD / Underwood RD	S	AM	B	0.495	17.1	53.3 RHT North Approach Underwood RHT
3	Parramatta RD / Underwood RD	S	PM	B	0.713	19.4	5.0 North Approach Underwood RD RHT
4	Parramatta RD / Knight ST	S	AM	A	0.679	12.5	44.9 secs South Approach Knight ST RHT
4	Parramatta RD / Knight ST	S	PM	A	0.423	10.0	41.1 secs South Approach Knight ST RHT
5	Knight ST Loftus CR	R	AM	A	0.277	5.2	7.8 secs South Approach Knight ST U-Turn
5	Knight ST	R	PM	A	0.23	5.8	8.3 secs East Approach Loftus Cres RHT

(Table 3.7.1 Continued)

No	Location	Sign/ Control	Peak Hour	Level Of Service LoS	Degree of Saturation DoS	Average Delay Av	Critical Movement
6	Loftus CR / Subway LN	R	AM	A	0.254	5.6	11.2 secs West Approach Loftus CR U-Turn
6	Loftus CR / Subway LN	R	PM	A	0.37	9.4	North Approach Subway LN RHT
7	The Crescent / Subway LN	R	AM	A	0.413	5.6	8.8 secs East Approach the Crescent U-Turn
7	The Crescent / Subway LN	R	PM	A	0.443	4.8	9.7 secs West Approach The Crescent U-Turn
8	Subway LN / Parramatta RD	SI	AM	A	0.298	0.1	5.5 secs Parramatta RD LHT Subway LN
8	Subway LN / Parramatta RD	SI	PM	A	0.226	0.1	5.5 secs Parramatta RD LHT Subway LN

Note: S Signals

ST Stop

SI Sign

G Give Way

R Roundabout

Table 3.7.1 Sidra Analysis Future Development Scenario 7:1

No	Location	Sign/ Control	Peak Hour	Level Of Service LoS	Degree of Saturation DoS	Average Delay Av	Critical Movement
1	Parramatta RD / Bridge RD	S	AM	C	0.901	40.8	57.7 secs South West Approach Bridge Road LHT
1	Parramatta RD / Bridge RD	S	PM	C	0.801	29.0	45.1 secs South West Approach Bridge RD RHT
2	Bridge RD / Loftus CR	ST	AM	A	0.351	1.4	18.7 secs East Approach Loftus CR RHT
2	Bridge RD / Loftus CR	ST	PM	A	0.392	1.0	18.1 secs East Approach Loftus Crescent RHT
3	Parramatta RD / Underwood RD	S	AM	B	0.495	17.1	53.3RHT North Approach Underwood RHT
3	Parramatta RD / Underwood RD	S	PM	B	0.629	15.8	47.4 North Approach Underwood RD RHT
4	Parramatta RD / Knight ST	S	AM	A	0.724	12.7	45.2 secs South Approach Knight ST RHT
4	Parramatta RD / Knight ST	S	PM	A	0.425	10.1	41.2 secs South Approach Knight ST RHT
5	Knight ST Loftus CR	R	AM	A	0.288	5.2	7.8 secs South Approach Knight ST U-Turn
5	Knight ST	R	PM	A	0.231	5.8	8.4 secs East Approach Loftus Cres RHT

(Table 3.7.1 Continued)

No	Location	Sign/ Control	Peak Hour	Level Of Service LoS	Degree of Saturation DoS	Average Delay Av	Critical Movement
6	Loftus CR / Subway LN	R	AM	A	0.256	5.6	11.3 secs West Approach Loftus CR U-Turn
6	Loftus CR / Subway LN	R	PM	A	0.373	5.5	9.4 secs North Approach Subway LN RHT
7	The Crescent / Subway LN	R	AM	A	0.420	5.6	8.9 secs East Approach the Crescent U-Turn
7	The Crescent / Subway LN	R	PM	A	0.445	4.9	9.7 secs West Approach The Crescent U- Turn
8	Subway LN / Parramatta RD	SI	AM	A	0.30	0.1	5.5 secs Parramatta RD LHT Subway LN
8	Subway LN / Parramatta RD	SI	PM	A	0.232	0.1	5.5 secs Parramatta RD LHT Subway LN

Note: **S** Signals
 ST Stop
 SI Sign
 G Give Way
 R Roundabout

3.8 Delivery Vehicles

Small delivery vehicles and light vans up to **5.4 metres** in length, can park in one courier space **2.6 metres** wide, signposted “*visitor parking and small delivery vehicles*”. One courier space should be provided within each separated basement car park for Buildings A, B and C.

In accordance with the **RMS** (RTA) *Guide to Traffic Generating Developments Table 5.1*, the required number of *loading bays* for commercial premises *less than 20,000 GFA* is **1 space per 4000m² GFA**.

For retail use shopping centres, restaurants, the required number of loading bays is **1 space per 400m² of GFA**. The commercial use is or 1278m² and therefore, the provision of one **MRV** loading space and **one** visitor space for small vans is *all* that is required. The loading space for MRV vehicles can be located off the laneway at the site within Building B which has the largest commercial area. Building C will have one loading space for a small delivery vehicle.

3.9 Provision of Alternative Transport

It is recommended that a “Green Travel Plan” be adopted for this development to *reduce car based travel* to encourage employees in the retail tenancies to make *greater use* of public transport, cycling, walking and car sharing for the journey to work.

The following initiatives are recommended:-

1. Bicycle storage, showers and changing facilities can be provided to encourage cycling by employees and bicycle storage for residents.
2. Provide train and bus timetables to staff and residents.
3. Provide a walking map that shows walking distances to bus stops, schools, parks and local shops.

4.0 TRAFFIC IMPACTS OF PROPOSED DEVELOPMENT

4.1 Impacts on Frontage Road Traffic

The Journey To Work data has been distributed to the road network, as shown in **Figure 6A** and **Figure 6B**. *Future* traffic volumes have been assigned to the road network as shown in **Figures 7A** and **7B** for the Scenario FSR of 5:1. Future traffic volumes for 7:1 FSR are shown in **Figures 8a and 8b**.

The impacts of the proposed increase in traffic volumes between the 5:1 FSR scenario and the 7:1 FSR scenario show no change in the level of service of each network linked intersection.

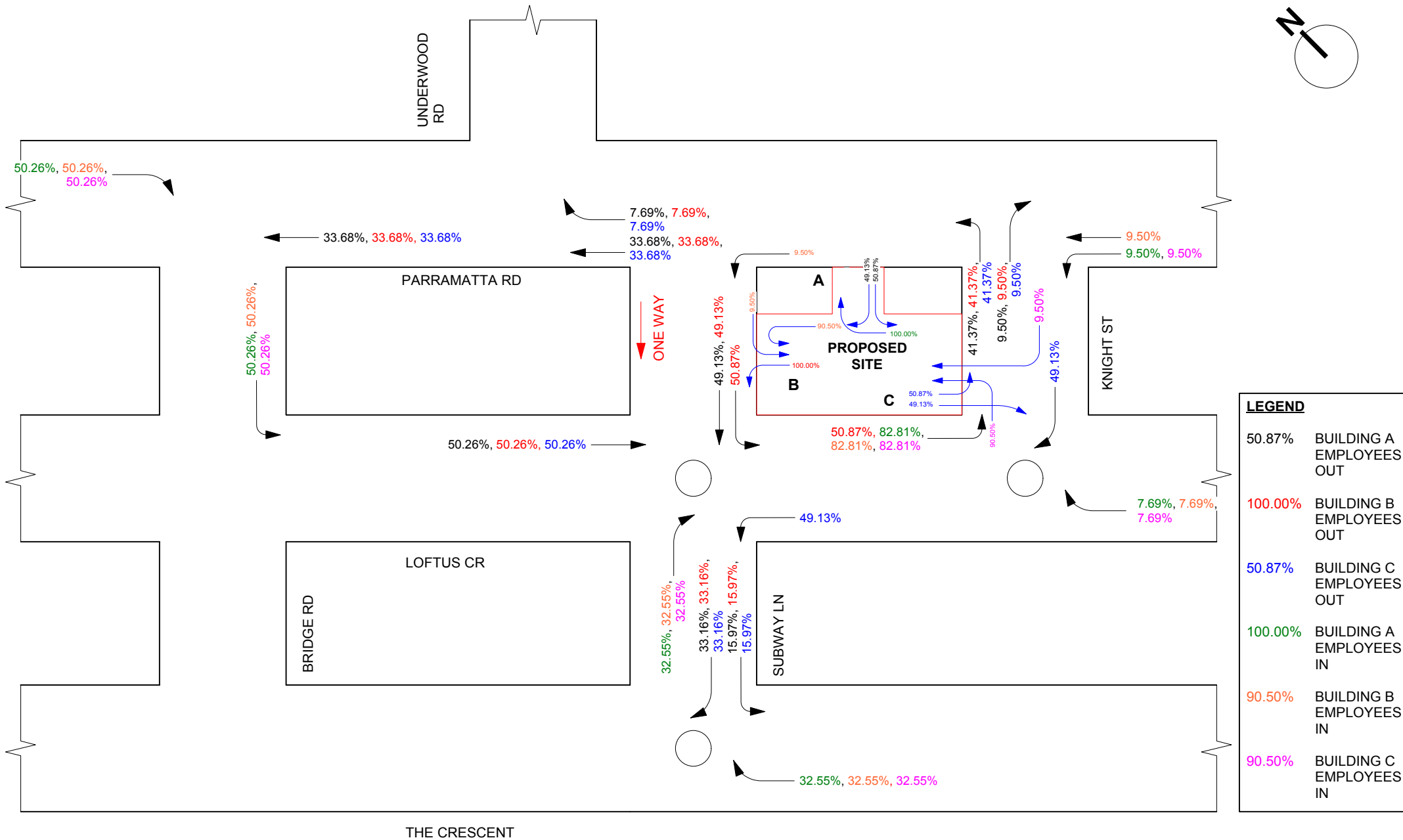


FIGURE 6A
TRAFFIC ASSIGNMENT FOR EMPLOYEES

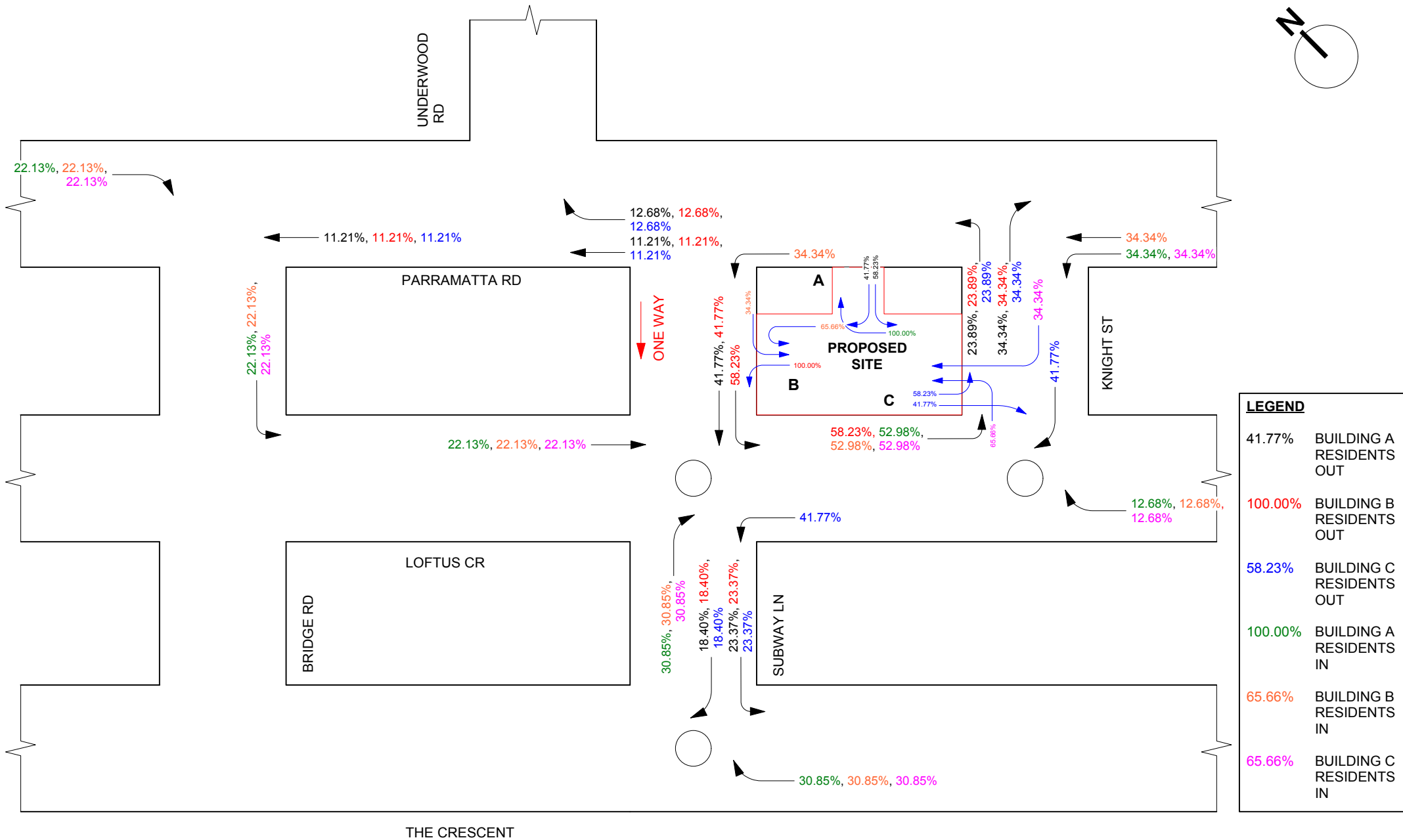


FIGURE 6B
TRAFFIC ASSIGNMENT FOR RESIDENTS

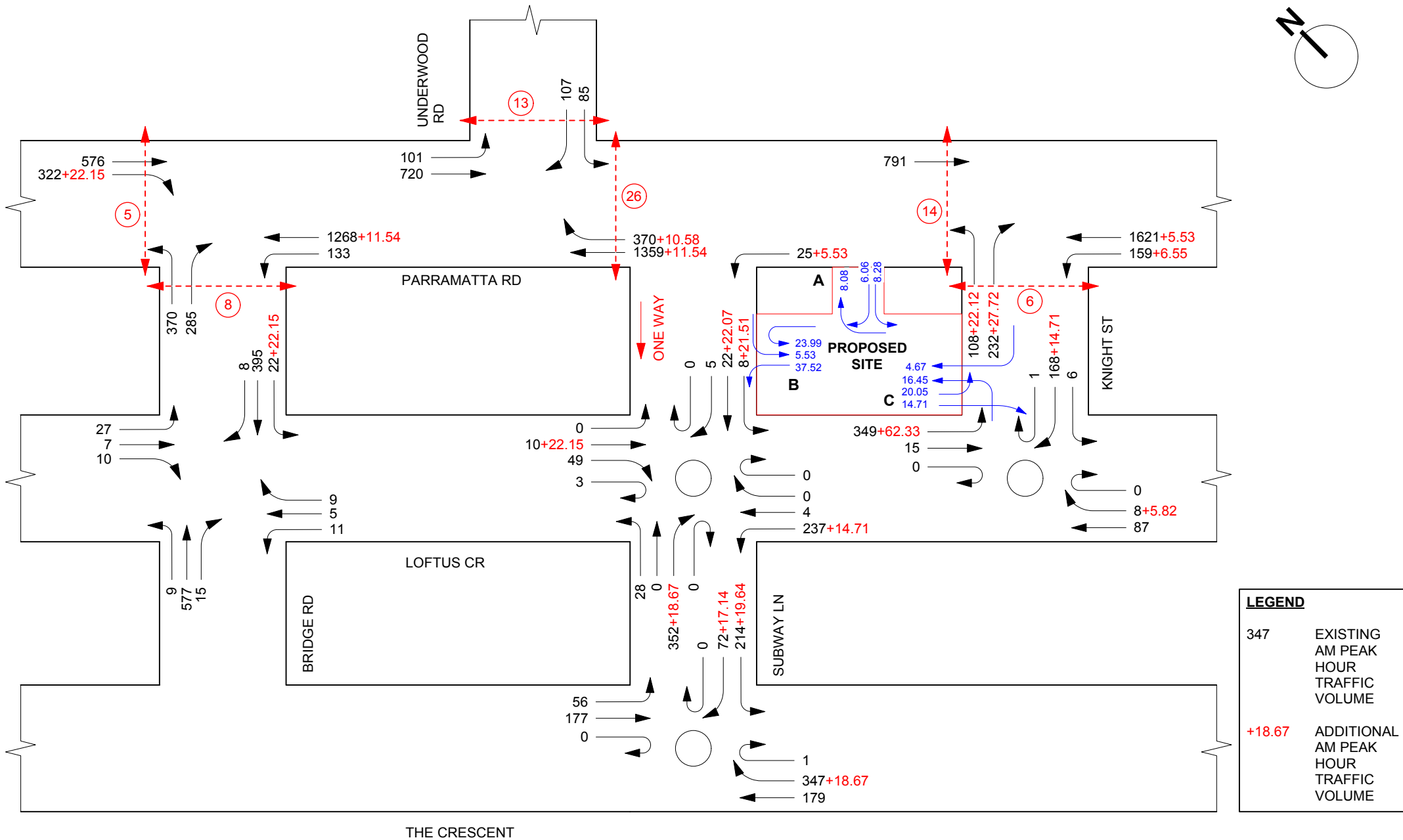


FIGURE 7A
FUTURE AM PEAK HOUR TRAFFIC VOLUMES
 5:1 FSR

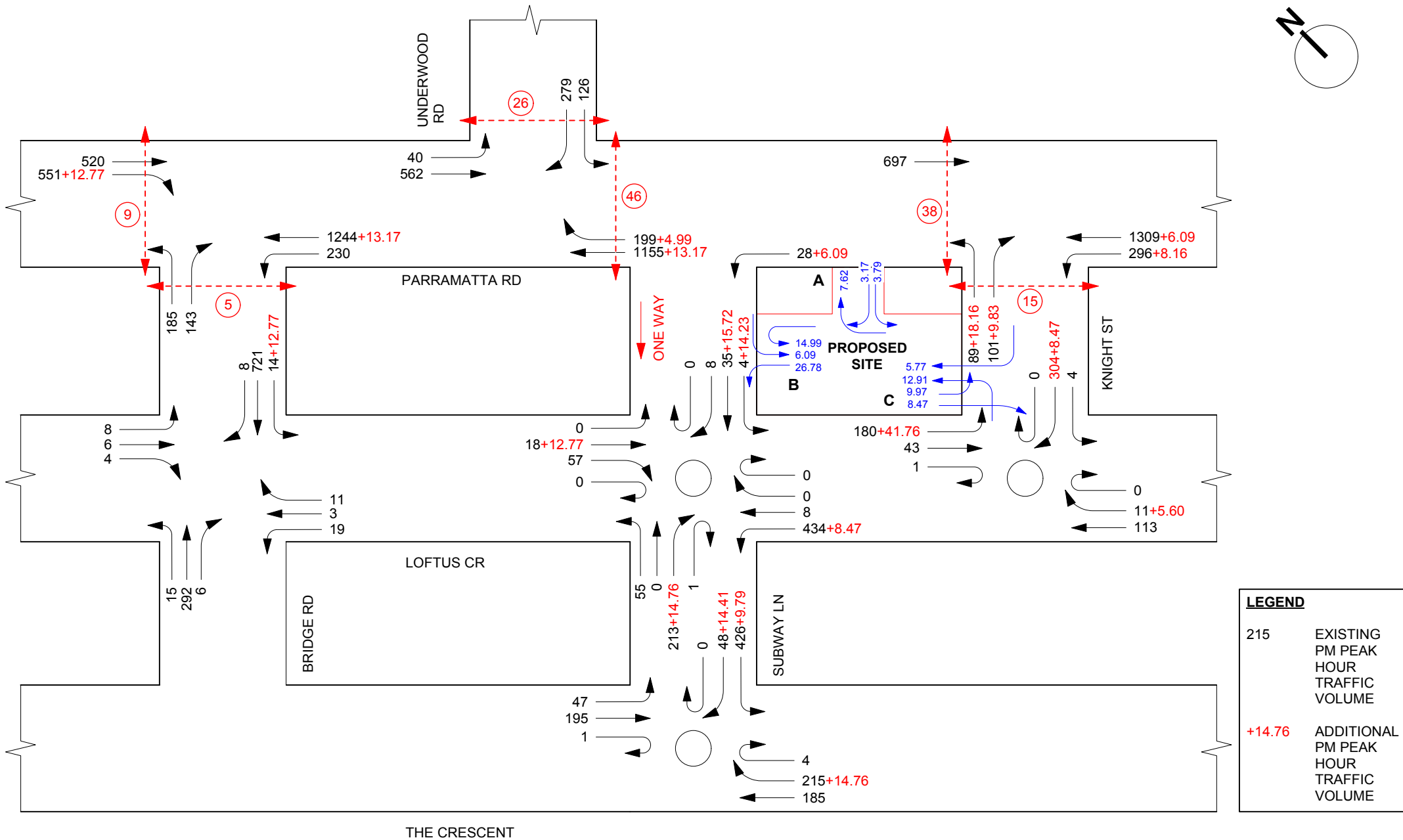


FIGURE 7B
FUTURE PM PEAK HOUR TRAFFIC VOLUMES
 5:1 FSR

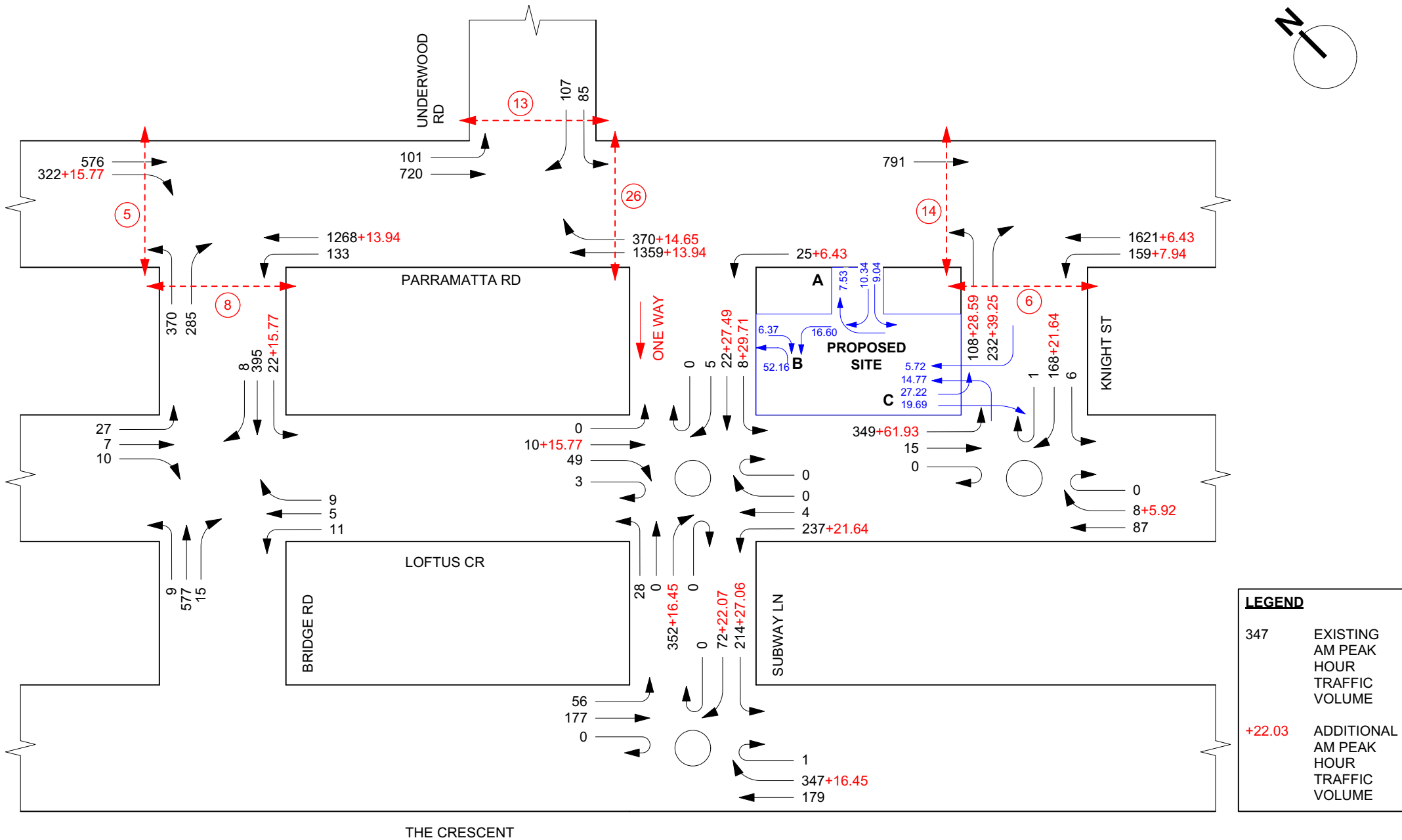


FIGURE 8A
FUTURE AM PEAK HOUR TRAFFIC VOLUMES
 7:1 FSR

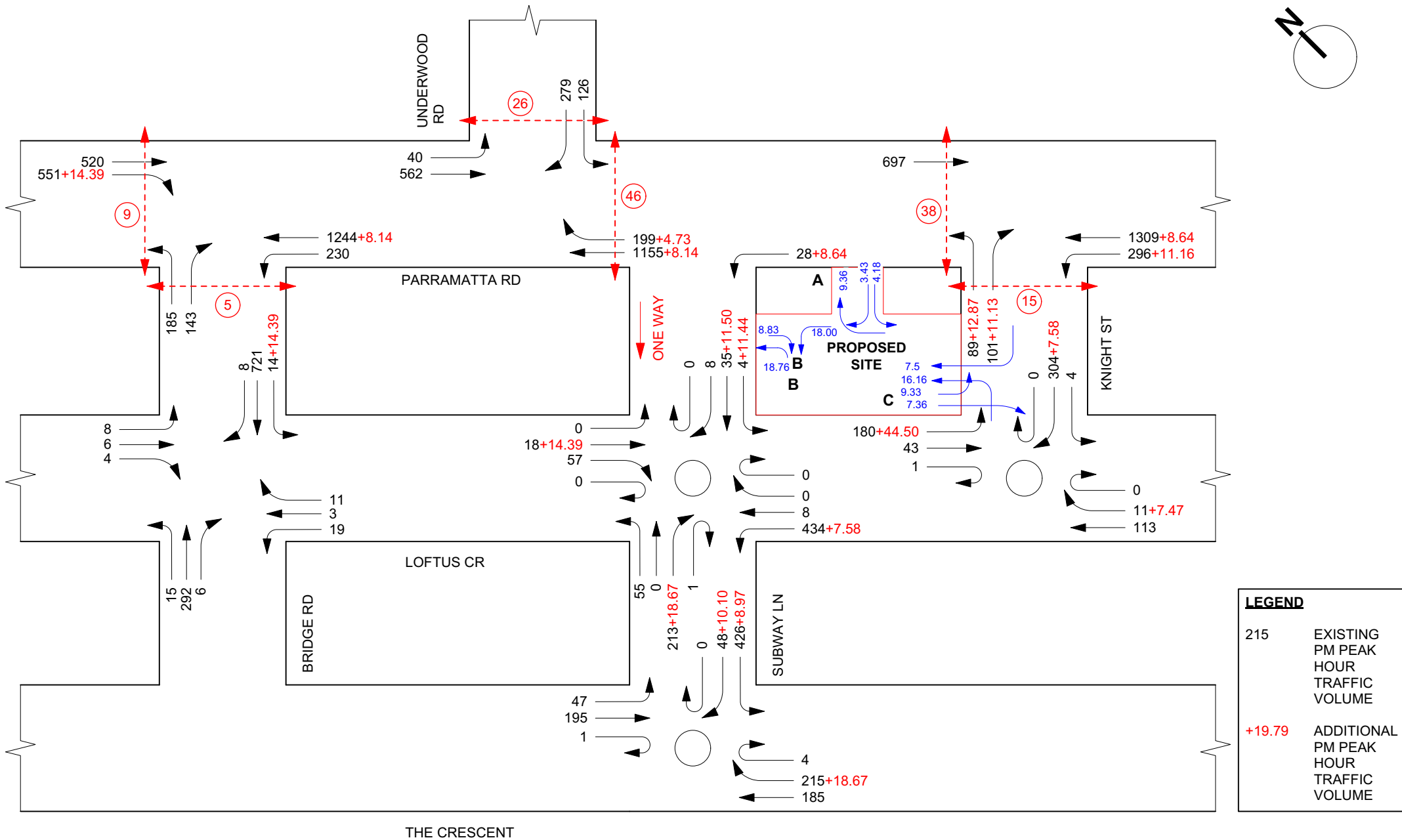


FIGURE 8B
FUTURE PM PEAK HOUR TRAFFIC VOLUMES
 7:1 FSR

5.0 PUBLIC BENEFIT RECOMMENDATIONS

The following transport infrastructure benefits have been identified and shown in **Figure 9** of this report. **Figure 10** shows the Sectional Diagram similar to Architect's Section B-B.

The Parramatta Road Corridor Urban Transformation Strategy identifies Key Actions for the Homebush Precinct.

These key actions include:-

Land Uses- *Employment and mixed-use focus along Paramatta Road*

High Density Development around key transport nodes.

Transport and Movement- *Capitalise on development around transport modes.*

Reduce car dependency by improving access to public and active transport infrastructure.

Place-making- *Undertake public domain improvements to Homebush Station as a key link to public transport. Break up large blocks with laneways and through site linkages. Facilitate site amalgamation to provide opportunities for master-planned redevelopment which delivers good public open space outcomes.*

Open space, linkages and connections- *Reinforce the Bridge Road cycle link as part of the Bay to Bay regional cycle network, enhance east-west connections, Leverage new development to provide new open space, high quality and active public domains and new through-site links.*

5.1 Bicycle Travel Path and Facilities – Road Widening to Loftus Crescent

Loftus Crescent has been widened to allow for a separated on road cycleway path in each direction. This is in accordance with Strathfield Council's Active Travel Plan which identifies C1 route to Bridge Road. This on road local cycle path is part of the open space and connections stated in the Parramatta Road Corridor Urban Transformation Strategy for the Homebush Precinct where the Bridge Road cycle link should be reinforced as part of the Bay to Bay regional cycle network. Bicycle parking facilities and end trip facilities can be provided within the basement car parks of the development. Additional bicycle parking rails are provided within the green park off the new Loftus Lane. As part of the Homebush Station upgrade new sheltered bicycle parking facilities will be located on the north side of the station as stated in the Homebush Station Upgrade Traffic Transport and Access Impact Assessment Report by Aecom.

5.2 On Street Parking Bays - Road Widening to Loftus Crescent

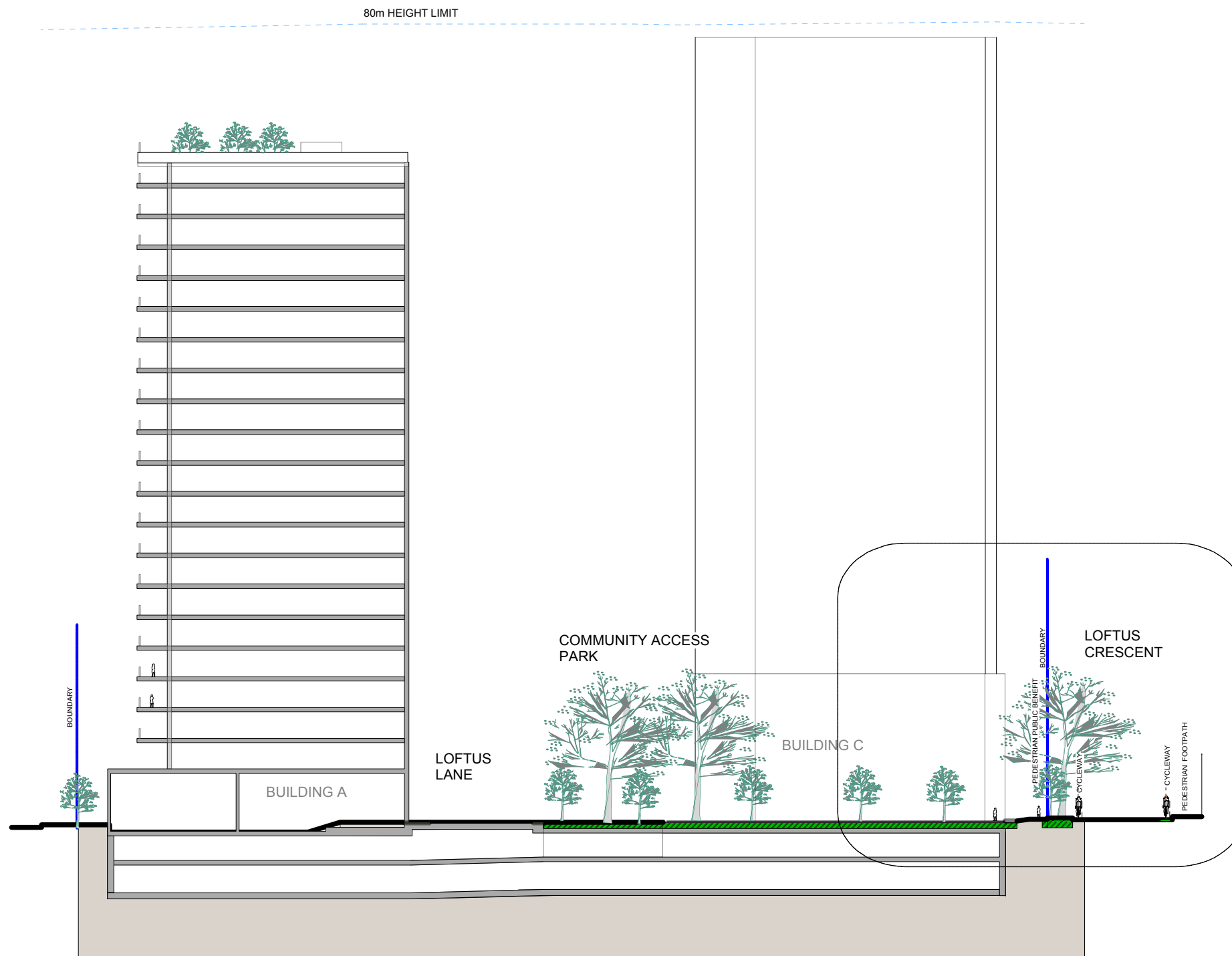
Loftus Crescent has been widened to allow for 2.4-metre-wide indented parking for 6 spaces along the site frontage in Loftus Crescent. It is anticipated that ½ hour parking between 8am and 6pm will allow for customer parking to the commercial use within the development and also allow for informal commuter drop off and pick up close to Homebush Station.



PEDESTRIAN FOOTPATH
2.5m WIDE

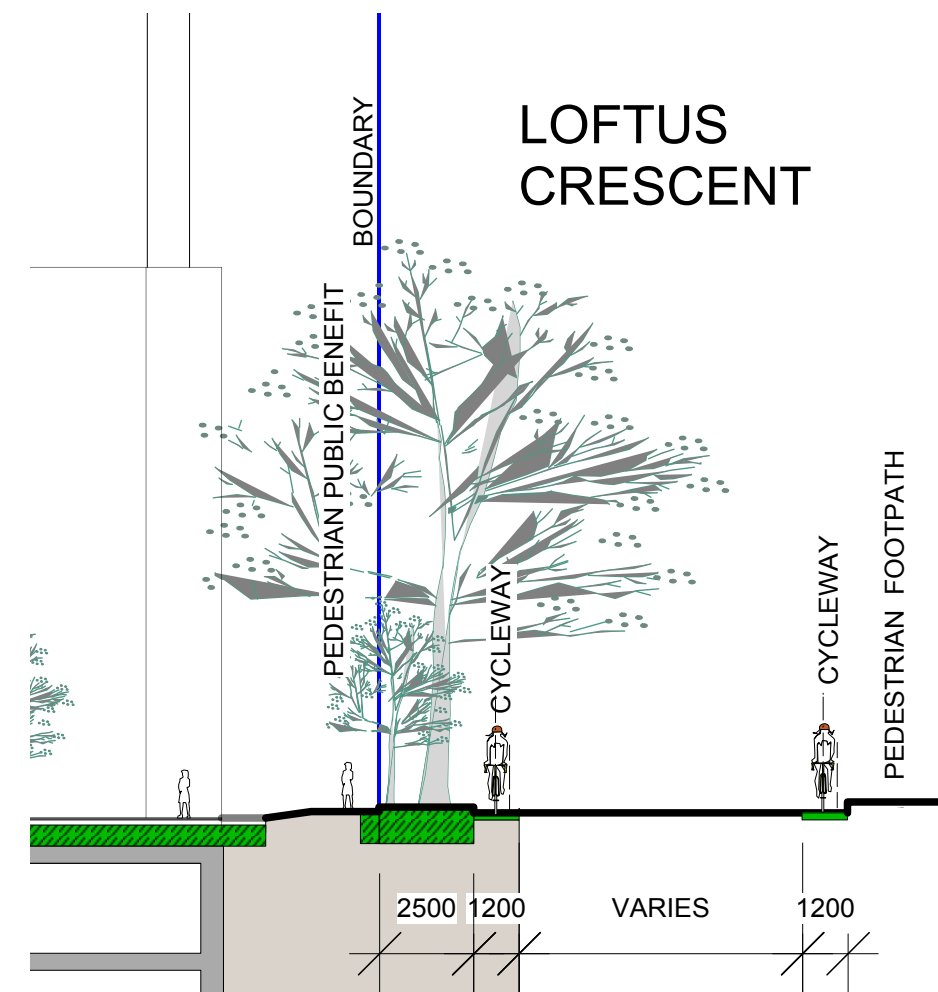
NEW INDENTED
PARKING BAYS
SIGNPOSTED
1/2P
7AM - 6PM
MON-FRI

CYCLEWAY
1.2m WIDE



**SECTION THROUGH SITE SHOWING PROPOSED TRANSPORT INFRASTRUCTURE AND PUBLIC BENEFIT
PROPOSED SCHEME FSR 7:1**

SCALE 1:500(A3)



SECTIONAL DETAIL

SCALE 1:200(A3)

FIGURE 10
PROPOSED TRANSPORT INFRASTRUCTURE

5.3 Pedestrian Pathways

A new pedestrian pathway 2.5 metres wide has been provided in Loftus Crescent. A new through site link between Parramatta Road and Loftus Crescent will link the new green park and bus service in Parramatta Road with surrounding developments and activate the pedestrian street network by walking travel times to the bus services in Parramatta Road.

Upgrade existing pedestrian parking along Loftus Crescent northern side to Homebush Station (a new pedestrian crossing facility is being provided as part of the Homebush Station upgrade works currently under construction.

5.4 Land Dedication to Parramatta Road – 3 metres

A three-metre setback is provided as a public benefit for future widening or increase in footpath provision.

5.5 Bus Shelter Upgrade in Parramatta Road

A new bus shelter could be incorporated into the site frontage along Parramatta Road which is connected to the new north-south pedestrian link through the site.

It is intended as part of the Parramatta Road Corridor Urban Transformation Study that new and improved bus services will run along Parramatta Road.

5.6 Green Park

A new public open space park located off the new Loftus Lane will further enhance pedestrian activity within the development site and allow for an active lifestyle for residents and workers. The new open park provides a sharing pedestrian linkage between Parramatta Road and Loftus Crescent. A copy of the Landscape Architects plan **Drawing No LPP-101 and LPP-102** prepared by Geoscapes Landscape Architects is included in **Appendix A** of this report.

5.7 Loftus Lane Dedication

Extension of Loftus Lane for 2-way vehicular traffic and pedestrian pathways to provide mid-block linkages between Subway Lane and Knight Street.

5.8 Commuter Car parking provision and reduction of commercial car parking provision

The basement car park could provide some commuter car parking. Commuter car parking could be provided as an offset to reduce overall car parking within the development.

Car Share spaces

This could be in the form of shared car parking spaces. Shared car parking spaces are used for small multi passenger vehicles. Car share can also include with the use of “Go Get parking spaces or similar schemes”. The result could be a reduction of 1 in 3 spaces for the development.

End user Trip Facilities For Cyclists

End or Trip user facilities within the basement car park for cyclists using public transport or recreational cyclists. End of trip facilities could include shower, bicycle lockers for users of the Homebush Railway Station. Key card access would be provided upon a payment of key card access or similar security system. End trip facilities could also be used by commercial employees.

6.0 SUMMARY

- The traffic report is in support of a Planning Proposal that seeks to amend the development controls under Strathfield LEP 2012. The Planning Proposal seeks to increase the maximum building height from part 16 metres and part 29 metres to 80 metres; increase the maximum floor space ratio control from part 2:1, part 2.7:1 and part 3.15:1 to 5:1; and amend the key site provisions to remove existing height and floor space provisions, and provide for an additional 2:1 floor space provision (7:1 total) where better planning outcomes are achieved.
- The site is known as 88-92A Parramatta Road, 2 Subway Lane, 10-16 Loftus Crescent and 9-11 Knight Street Homebush.
- The site has a frontage of approximately **18.45** metres to Parramatta Road and **52.62** metres to Subway Lane and a frontage to Loftus Crescent of **104.62** metres and a site frontage to Knight Street of **29.135** metres
- The site has vehicular access to three basement car parks. Building A fronting Parramatta Road has access from the new Loftus Laneway which has a road reserve width of 11 metres. Building B has access to a basement car park from Subway Lane. Building C has access to a basement car park from Knight Street.
- The proposed development comprises **1278m²** of 'commercial use' and **39028m²** of 'residential use'. The total GFA is **40306m²** over a site area of **5764 m²**. The site development proposes an **FSR of 7:1**
- The architectural drawings for the proposed development prepared by Aleksandar Design Group propose **481** residential units with **130** one-bedroom units, **320** two-bedroom units and **31** three-bedroom units.
- The car parking requirement for this site has been calculated to be **505 spaces** for the residential use in accordance with the RMS Guide To Traffic Generating Developments and **32 spaces** for commercial use in accordance with **Strathfield Consolidated DCP**.
- Transport infrastructure benefits have been identified and shown in **Figure 9** of this report and include separated on road local cycle paths in Loftus Crescent and Subway Lane, a new bus shelter in Parramatta Road, wide pedestrian pathways along Loftus Crescent, a pedestrian pathway through the site to link Parramatta Road to Loftus Crescent and a new pedestrian pathway in the new Loftus Lane. New indented parking for 6 spaces in Loftus Crescent to increase the short-term parking supply around the site for the active street frontages in Loftus Crescent.

(6.0 continued)

- The SIDRA Analysis of the existing intersections within the network show that all intersections are operating with plenty of spare capacity. The only change between the existing SIDRA analysis and the 5:1 FSR is the intersection of Parramatta Road and Bridge Road in the PM which shows an existing Level of service B and 25.5 second average delay and a slight increase in average delay of 3.4 seconds in the PM to Level of Service C.
- Network Analysis modelling using SIDRA 7.1 computer software shows that the proposed increase in FSR from 5:1 to 7:1 will not change the level of service of any intersection surrounding the site.
- The proposed development at FSR 7:1 with the public benefit schemes will provide good infrastructure connections to the surrounding transport network. We support this development on traffic and parking grounds.
- The increase from 5:1 to 7:1 has minimal effect on the operation of the road network and the provision of transport infrastructure benefits provides for positive transport planning outcomes for this site and the community.

APPENDICES

APPENDIX A

PROPOSAL GROUND FLOOR PLAN



PROPOSAL TYPICAL PODIUM L05 - 08 FLOOR PLAN



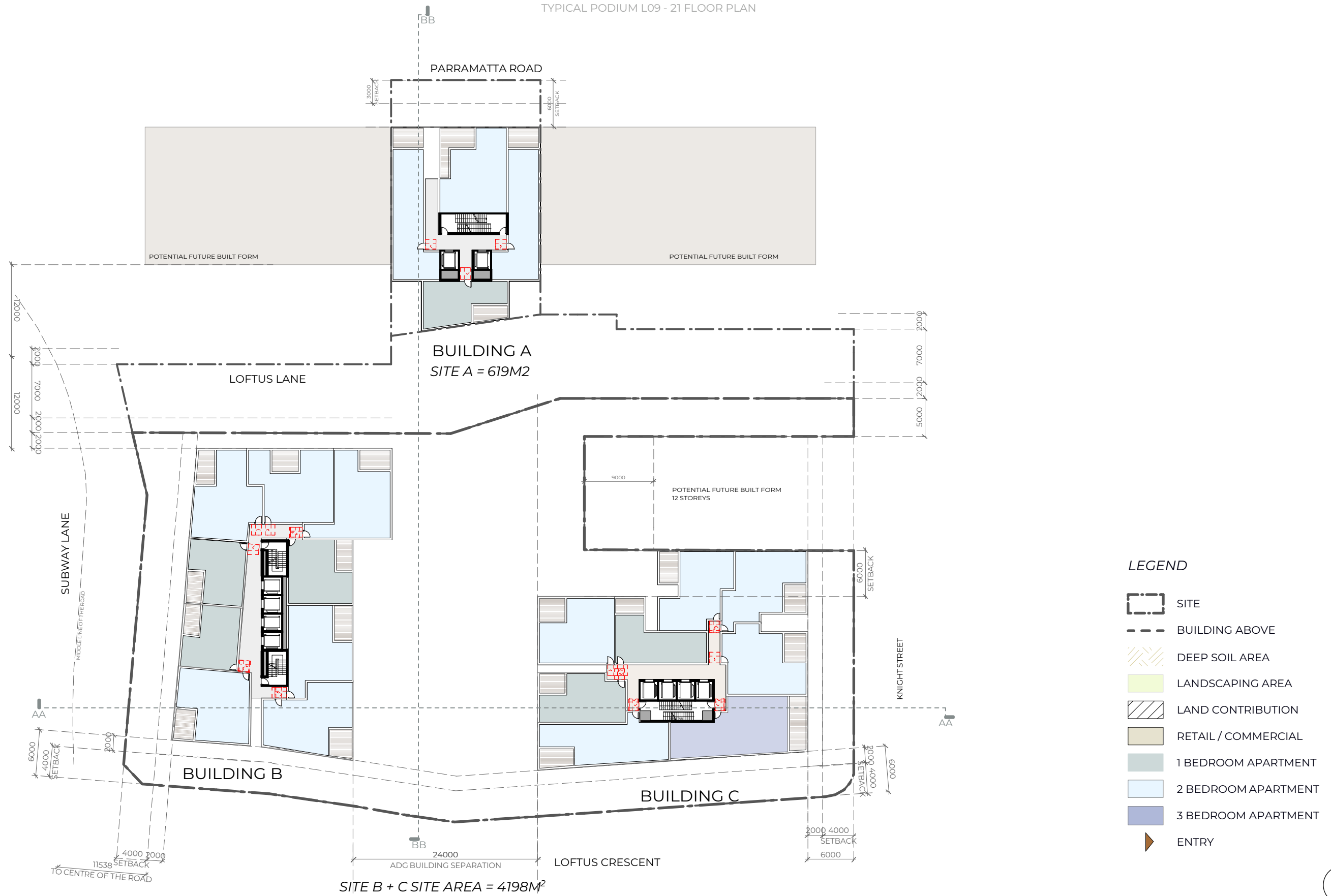
SCALE 1:500

15
REV F

URBAN DESIGN REPORT
11-16 LOFTUS CRST, 2 SUBWAY LN, 88-92 PARRAMATTA RD, HOME BUSH

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NOMINATED ARCHITECT: ALEKSANDAR JELICIC REGISTRATION NO. 7167

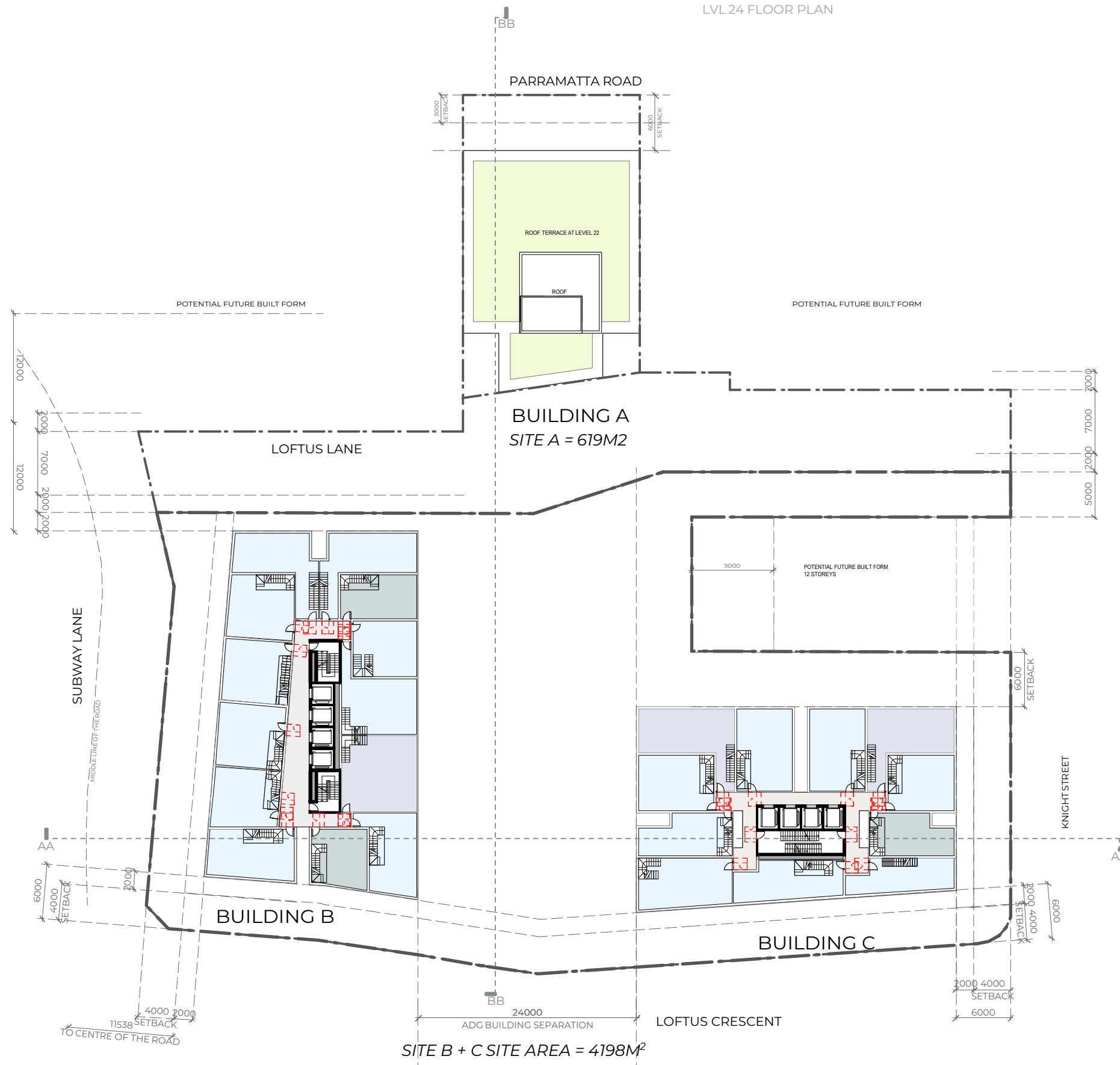
PROPOSAL TYPICAL PODIUM L09 - 21 FLOOR PLAN



SCALE 1:500

17
REV F

PROPOSAL LVL 24 FLOOR PLAN



LEGEND

- SITE
- BUILDING ABOVE
- DEEP SOIL AREA
- LANDSCAPING AREA
- LAND CONTRIBUTION
- RETAIL / COMMERCIAL
- 1 BEDROOM APARTMENT
- 2 BEDROOM APARTMENT
- 3 BEDROOM APARTMENT
- ENTRY



SCALE 1:500

18
REV F

URBAN DESIGN REPORT
11-16 LOFTUS CRST, 2 SUBWAY LN, 88-92 PARRAMATTA RD, HOME BUSH

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NOMINATED ARCHITECT: ALEKSANDAR JELICIC REGISTRATION NO. 7167



-
-  SITE
 BUILDING ABOVE
 DEEP SOIL AREA
 LANDSCAPING AREA
 LAND CONTRIBUTION
 RETAIL / COMMERCIAL
 1 BEDROOM APARTMENT
 2 BEDROOM APARTMENT
 3 BEDROOM APARTMENT
 ENTRY

19
REV F

PROPOSAL
YIELD

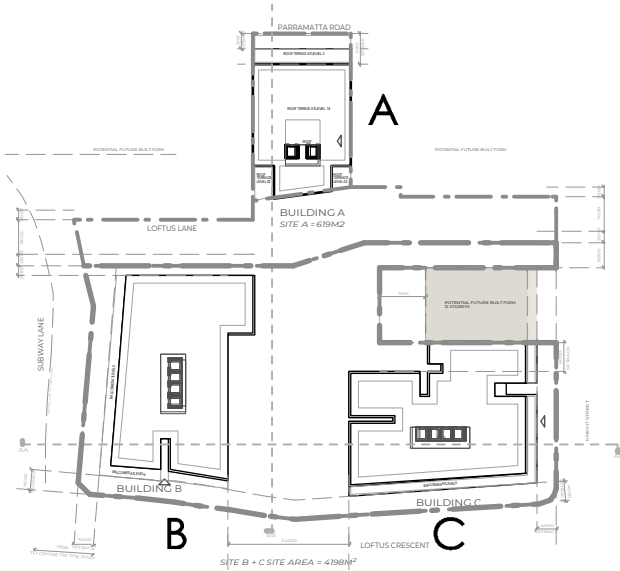
TOTAL SITE AREA	5765 M ²			
YIELD SUMMARY				

BUILDING A	NO. OF STOREY	GFA/LEVEL (M2)	UNITS/LEVEL	TOTAL GFA (M2)	1 BED	2BED	3 BED	TOTAL UNITS
LEVEL 1 COMMERCIAL + RES LOBBY	1	210	NA	210				NA
TYPICAL LEVEL 2 - 4 RESIDENTIAL	3	320	4	960	3	9		12
TYPICAL LEVEL 5 - 8 RESIDENTIAL	4	320	4	1280	4	12		16
TYPICAL LEVEL 9 - 22 RESIDENTIAL	13	320	4	4160	13	39		52
SUB TOTAL	21			6610	20	60		80
					25%	75%		
				TOTAL COM. GFA				210
				TOTAL RES. GFA				6400
				TOTAL NO. OF UNITS				80
				TOTAL GFA				6610

BUILDING B	NO. OF STOREY	GFA/LEVEL (M2)	UNITS/LEVEL	TOTAL GFA (M2)	1 BED	2BED	3 BED	TOTAL UNITS
LEVEL 1 COMMERCIAL + RES LOBBY	1	546	NA	546				NA
TYPICAL LEVEL 2 - 4 RESIDENTIAL	3	816	9	2448	3	18	6	27
TYPICAL LEVEL 5 - 23 RESIDENTIAL	19	712	9	13528	57	114		171
LEVEL 24 RESIDENTIAL	1	740	13	740	2	10	1	13
LEVEL 25 RESIDENTIAL	1	390		390				
SUB TOTAL	25			17652	62	142	7	211
					29%	67%	3%	
				TOTAL COM. GFA				546 M ²
				TOTAL RES. GFA				17106 M ²
				TOTAL NO. OF UNITS				211
				TOTAL GFA				17652 M ²

BUILDING C	NO. OF STOREY	GFA/LEVEL (M2)	UNITS/LEVEL	TOTAL GFA (M2)	1 BED	2BED	3 BED	TOTAL UNITS
LEVEL 1 COMMERCIAL + RES LOBBY	1	522	NA	522				NA
TYPICAL LEVEL 2 - 4 RESIDENTIAL	3	740	9	2220	9	15	3	27
TYPICAL LEVEL 5 - 8 RESIDENTIAL	4	648	8	2592	8	20	4	32
TYPICAL LEVEL 9 - 12 RESIDENTIAL	4	648	8	2592	8	20	4	32
TYPICAL LEVEL 13 - 23 RESIDENTIAL	11	648	8	7128	22	55	11	88
LEVEL 24 RESIDENTIAL	1	625	11	625	1	8	2	11
LEVEL 25 RESIDENTIAL	1	365		365				
SUB TOTAL	25			16044	48	118	24	190
					25%	62%	13%	
				TOTAL COM. GFA				522 M ²
				TOTAL RES. GFA				15522 M ²
				TOTAL NO. OF UNITS				190
				TOTAL GFA				16044 M ²
				OVERALL	27%	67%	6%	

BUILDINGS A, B, C		
TOTAL SITE AREA	5765	
TOTAL COM. GFA	1278	M ²
TOTAL RES. GFA	39028	M ²
TOTAL NO. OF UNITS	481	
TOTAL GFA	40306	M ²
TOTAL FSR	7.0	:1



11-16 Loftus Crst, 2 Subway Ln, 88-92 Parramatta Rd

Planning Proposal



Drawing Register

Dwg No.	Drawing Name
LPP-000	Cover Sheet
LPP-101	Landscape Masterplan - North
LPP-102	Landscape Masterplan - South
LPP-201	Terrace Masterplans - TBC
LPP-301	Landscape Sections TBC
LPP-401	Precedent Images

Drawing Title:
COVER SHEET

DWG No:

LPP-000



Suite 215, 284 Victoria Av, Chatswood NSW 2067 Ph. (02) 9411 1485
www.geoscapes.com.au
ABN 84 620 205 781 ACN 620 205 781

Architect:



Client:

Demian Property Group

Scale:	Date:	Job Number:	North:	Revision					Planning Proposal	
	17.08.18	180802		Rev	Date	Description	Drawn	Checked		
Project: 11-16 Loftus Crst, 2 Subway Ln, 88-92 Parramatta Rd, Homebush, NSW 2140				C	17.08.18	DRAFT FOR COMMENT	CL	BG		
				B	09.08.18	DRAFT FOR COMMENT	CL	BG		
				A	08.08.18	DRAFT FOR COMMENT	CL	BG		



Legend

- ① Parramatta Road frontage, set-backs and landscaping in accordance with Parramatta Road Corridor Urban Transformation Planning and Design Guidelines
- ② Subway Ln and Knight St frontage, set-backs and landscaping in accordance with Parramatta Road Corridor Urban Transformation Planning and Design Guidelines
- ③ Tree lined avenue to guide pedestrians from Parramatta Rd. Limited amenities within zone to encourage circulation
- ④ Horizontal paving bands denotes primary pedestrian path and street connection
- ⑤ Distinctive ground treatment (herringbone granite) to define no kerb two way (5.8m wide) shared zone for pedestrians, car + bikes. 10 kph speed limit. Tree line avenue planting
- ⑥ Feature furniture and amenities along shared zone to include bike racks, bins, seating, drinking fountain
- ⑦ Vertical paving bands to help define space
- ⑧ Intimate gathering zones with recycled timber sleeper seating (reference to railway line) and recycled brick paving
- ⑨ Outdoor gym equipment over softfall
- ⑩ Large turf area for passive and active recreation
- ⑪ Fixed bollards for pedestrian safety and vehicular control
- ⑫ Sydney Turpentine Ironbark Forest native planting to garden bed areas



Legend

- | | | | |
|---|---|--|---|
| <p>① In-situ concrete platform edge seating to border grass area</p> <p>② Feature seating along primary path</p> <p>③ Park amenities including bins, seating, drinking fountain and bike racks</p> <p>④ Raised grass mounds to focus on internal views and provide passive spaces</p> | <p>⑤ Multi purpose sports field (synthetic turf) to accommodate track, basketball and ball games</p> <p>⑥ Recycled timber sleeper 'grandstand' seating</p> <p>⑦ Cafe breakout space to retail units</p> <p>⑧ Subway Ln, Knight St and Loftus crst frontage, set-backs and landscaping in accordance with Parramatta Road Corridor Urban Transformation Planning and Design Guidelines i.e. large canopy trees</p> | <p>⑨ Sydney Turpentine Ironbark Forest native planting to garden bed areas</p> <p>⑩ Large turf area for passive and active recreation</p> <p>⑪ Feature deciduous park trees</p> <p>⑫ All abilities primary access path with horizontal paving bands</p> <p>⑬ Make good verge and plant with large canopy trees</p> | <p>⑭ Minimum 2.5m wide pedestrian walkway</p> <p>⑮ Avenue trees in metal tree grate to soften edge</p> <p>⑯ Open retail/commercial breakout space to accommodate high pedestrian traffic and gathering</p> <p>⑰ Outdoor gym equipment over softfall</p> |
|---|---|--|---|

Drawing Title:

LANDSCAPE MASTERPLAN - SOUTH

DWG No:

LPP-102

GEOSCAPES
LANDSCAPE ARCHITECTS

Suite 215, 284 Victoria Av, Chatswood NSW 2067 Ph. (02) 9411 1485
www.geoscapes.com.au
ABN 84 620 205 781 ACN 620 205 781

Architect:



Client:

Demian Property Group

Scale:

1:150 @ A1
1:300 @ A3

Date:

17.08.18

Job Number:

180802

North:



Project:

11-16 Loftus Crst, 2 Subway Ln,
88-92 Parramatta Rd,

Homebush, NSW 2140

Revision			Planning Proposal	
Rev	Date	Description	Drawn	Checked
C	17.08.18	DRAFT FOR COMMENT	CL	BG
B	09.08.18	DRAFT FOR COMMENT	CL	BG
A	08.08.18	DRAFT FOR COMMENT	CL	BG



Timber 'grandstand' seating



Shared zone with paving bands + avenue tree planting



Mound seating options



Synthetic turf multi purpose sports field



Outdoor gym equipment over softfall



Gathering zones adjacent to shared zone



Sydney Turpentine Ironbark Forest



Paving treatment



Primary path with grass mounds



Passive recreation in open grass



Shared zone

Drawing Title:
PRECEDENT IMAGES

DWG No:

LPP-401

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LANDSCAPE ARCHITECTS

Suite 215, 284 Victoria Av, Chatswood NSW 2067 Ph. (02) 9411 1485
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ABN 84 620 205 781 ACN 620 205 781

Architect:



Client:

Demian Property Group

Scale: Date: 17.08.18 Job Number: 180802 North:
Project: 11-16 Loftus Crst, 2 Subway Ln, 88-92 Parramatta Rd, Homebush, NSW 2140

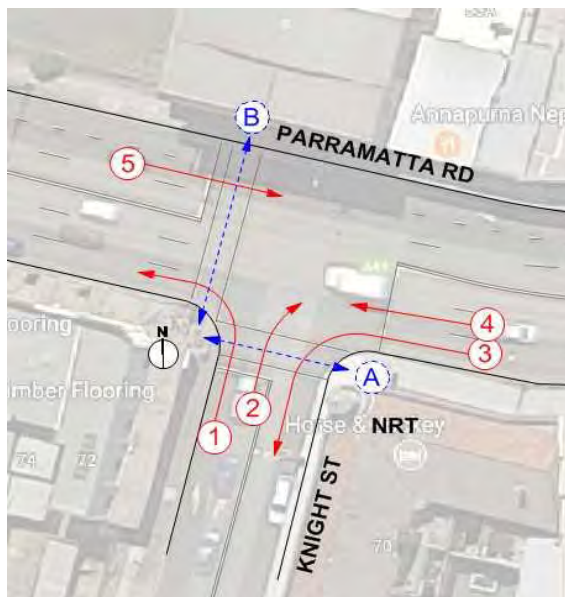
Revision		Planning Proposal	
Rev	Date	Description	Drawn
C	17.08.18	DRAFT FOR COMMENT	CL
B	09.08.18	DRAFT FOR COMMENT	CL
A	08.08.18	DRAFT FOR COMMENT	CL
			BG
			BG
			BG

APPENDIX B

INTERSECTION: KNIGHT ST/ PARRAMATTA RD, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....HP.....



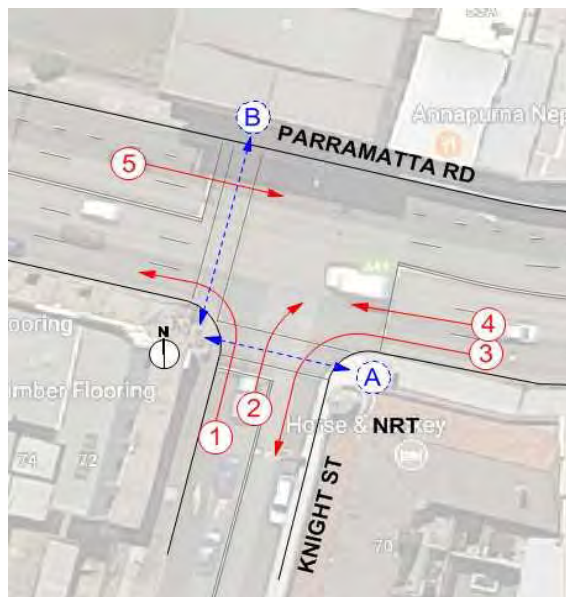
Time AM	MOVEMENT NUMBER					PEDESTRIANS	
	1	2	3	4	5	A	B
7:00AM TO 7:15AM	45	41	41	285	180	2	4
7:15AM TO 7:30AM	38	55	45	310	185	0	6
7:30AM TO 7:45AM	35	56	35	315	175	2	4
7:45AM TO 8:00AM	24	65	41	341	195	1	7
8:00AM TO 8:15AM	31	51	41	401	183	1	3
8:15AM TO 8:30AM	28	57	46	400	215	2	4
8:30AM TO 8:45AM	25	65	31	395	201	3	2
8:45AM TO 9:00AM	24	59	41	425	192	0	5

7:00 - 8:00	142	217	162	1251	735	5	21
7:15 - 8:15	128	227	162	1367	738	4	20
7:30 - 8:30	118	229	163	1457	768	6	18
7:45 - 8:45	108	238	159	1537	794	7	16
8:00 - 9:00	108	232	159	1621	791	6	14

INTERSECTION: KNIGHT ST/ PARRAMATTA RD, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....HP.....



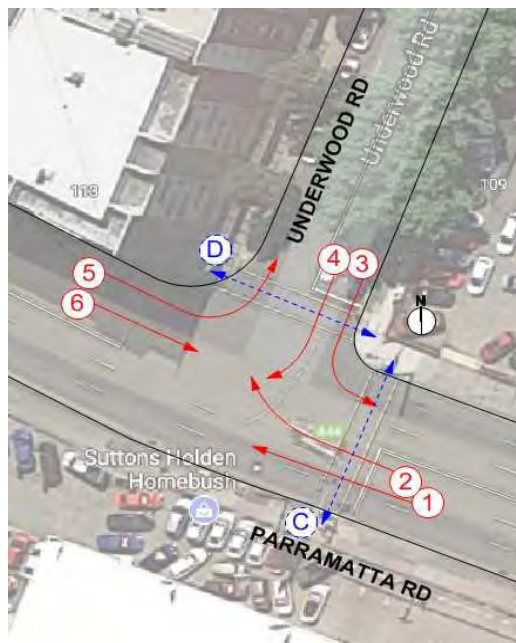
Time PM	MOVEMENT NUMBER					PEDESTRIANS	
	1	2	3	4	5	A	B
4.00PM TO 4.15PM	22	12	62	295	175	2	5
4.15PM TO 4.30PM	19	16	51	330	182	3	6
4.30PM TO 4.45PM	14	20	58	341	175	0	5
4.45PM TO 5.00PM	16	23	53	278	252	1	4
5.00PM TO 5.15PM	19	25	85	302	210	6	11
5.15PM TO 5.30PM	25	20	61	310	201	3	9
5.30PM TO 5.45PM	20	24	85	295	165	4	10
5.45PM TO 6.00PM	25	32	65	402	121	2	8

16:00 - 17:00	71	71	224	1244	784	6	20
16:15 - 17:15	68	84	247	1251	819	10	26
16:30 - 17:30	74	88	257	1231	838	10	29
16:45 - 17:45	80	92	284	1185	828	14	34
17:00 - 18:00	89	101	296	1309	697	15	38

INTERSECTION: UNDERWOOD RD/ PARRAMATTA RD, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....MC.....



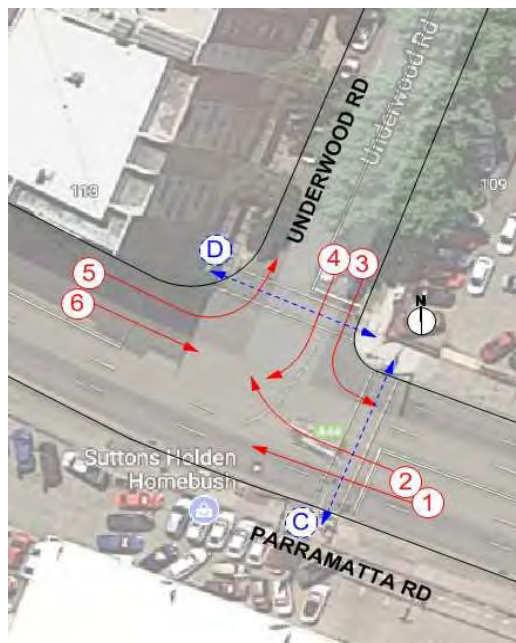
Time AM	MOVEMENT NUMBER						PEDESTRIANS	
	1	2	3	4	5	6	C	D
7:00AM TO 7.15AM	259	71	12	31	10	165	6	5
7:15AM TO 7.30AM	274	75	15	28	12	175	12	6
7:30AM TO 7.45AM	285	75	13	30	18	159	12	8
7:45AM TO 8.00AM	295	84	12	33	17	188	13	7
8:00AM TO 8.15AM	310	75	18	32	22	195	8	5
8:15AM TO 8:30AM	351	89	25	25	24	184	7	4
8:30AM TO 8:45AM	326	95	19	24	26	175	6	2
8:45AM TO 9:00AM	372	111	23	26	29	166	5	2

7:00 - 8:00	1113	305	52	122	57	687	43	26
7:15 - 8:15	1164	309	58	123	69	717	45	26
7:30 - 8:30	1241	323	68	120	81	726	40	24
7:45 - 8:45	1282	343	74	114	89	742	34	18
8:00 - 9:00	1359	370	85	107	101	720	26	13

INTERSECTION: UNDERWOOD RD/ PARRAMATTA RD, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....MC.....



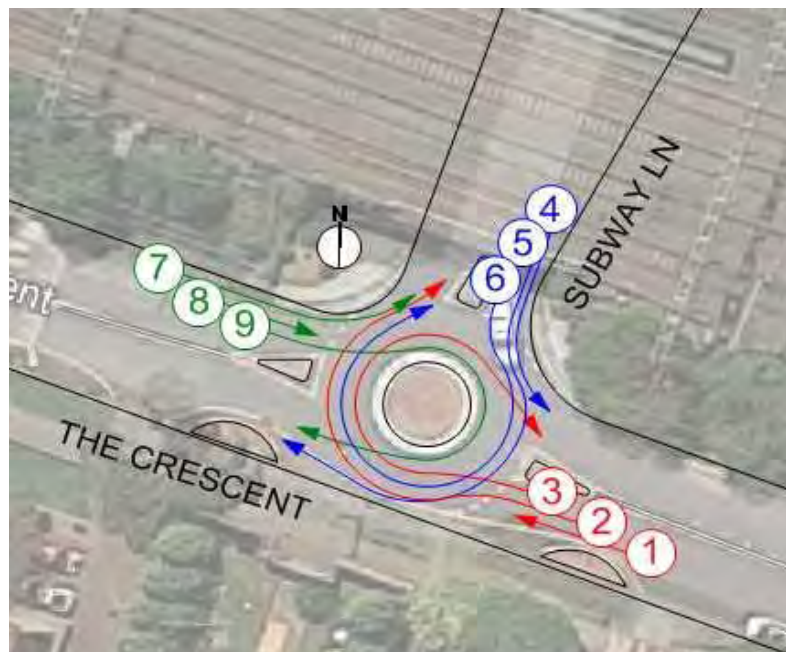
Time PM	MOVEMENT NUMBER						PEDESTRIANS	
	1	2	3	4	5	6	C	D
4.00PM TO 4.15PM	269	33	28	57	16	152	9	4
4.15PM TO 4.30PM	305	41	35	72	21	146	16	10
4.30PM TO 4.45PM	305	47	44	89	27	130	12	6
4.45PM TO 5.00PM	251	42	45	90	18	189	16	10
5.00PM TO 5.15PM	269	49	42	84	10	159	10	5
5.15PM TO 5.30PM	275	54	32	65	16	162	9	7
5.30PM TO 5.45PM	259	50	28	71	5	140	15	8
5.45PM TO 6.00PM	352	46	24	59	9	101	12	6

16:00 - 17:00	1130	163	152	308	82	617	53	30
16:15 - 17:15	1130	179	166	335	76	624	54	31
16:30 - 17:30	1100	192	163	328	71	640	47	28
16:45 - 17:45	1054	195	147	310	49	650	50	30
17:00 - 18:00	1155	199	126	279	40	562	46	26

INTERSECTION: THE CRESCENT/ SUBWAY LN, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Wednesday..... DATE:15/11/17.....WEATHER.....Fine.....OBSERVER.....PF.....



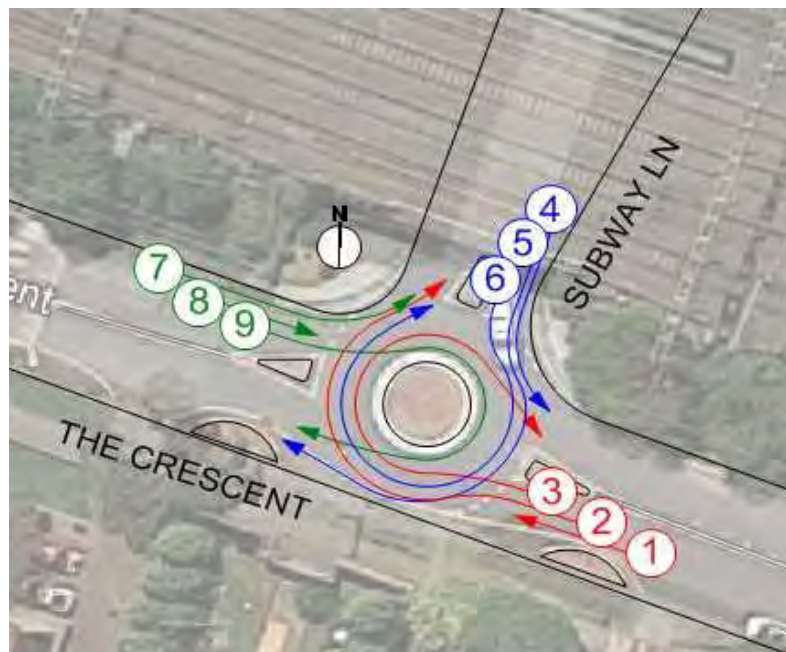
Time AM	MOVEMENT NUMBER								
	1	2	3	4	5	6	7	8	9
7:00AM TO 7.15AM	59	86	0	55	12	0	8	56	0
7:15AM TO 7.30AM	61	89	0	54	15	0	10	54	1
7:30AM TO 7.45AM	48	94	1	59	10	0	12	61	0
7:45AM TO 8.00AM	46	75	0	65	14	0	13	52	1
8:00AM TO 8.15AM	39	65	0	45	13	0	15	47	0
8:15AM TO 8.30AM	48	102	0	64	20	0	18	49	0
8:30AM TO 8.45AM	51	89	0	54	21	0	13	39	0
8:45AM TO 9:00AM	41	91	1	51	18	0	10	42	0

7:00 - 8:00	214	344	1	233	51	0	43	223	2
7:15 - 8:15	194	323	1	223	52	0	50	214	2
7:30 - 8:30	181	336	1	233	57	0	58	209	1
7:45 - 8:45	184	331	0	228	68	0	59	187	1
8:00 - 9:00	179	347	1	214	72	0	56	177	0

INTERSECTION: THE CRESCENT/ SUBWAY LN, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Wednesday..... DATE:15/11/17.....WEATHER.....Fine.....OBSERVER.....PF.....



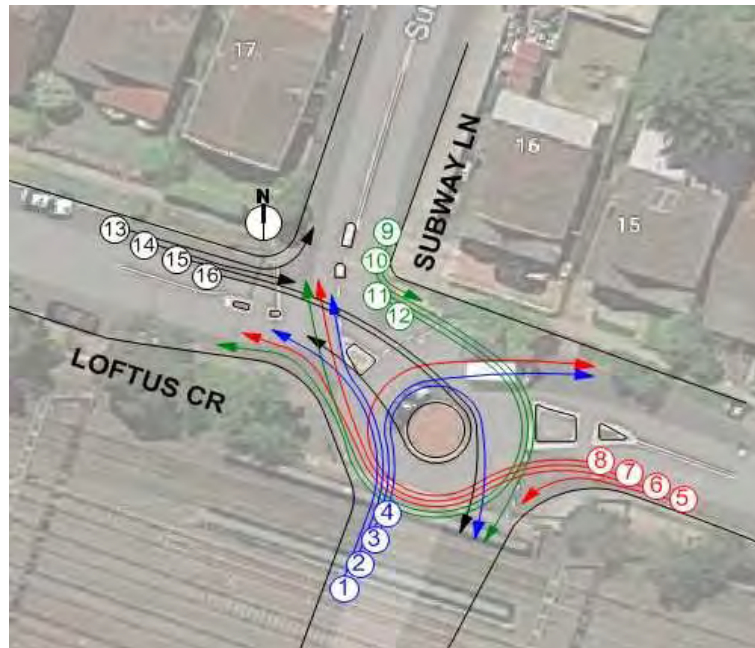
Time PM	MOVEMENT NUMBER								
	1	2	3	4	5	6	7	8	9
4.00PM TO 4.15PM	38	38	0	110	10	0	15	42	0
4.15PM TO 4.30PM	45	42	1	95	12	0	10	38	1
4.30PM TO 4.45PM	51	52	0	120	15	0	9	43	0
4.45PM TO 5.00PM	43	51	1	130	10	0	8	51	0
5.00PM TO 5.15PM	46	62	1	121	9	0	10	36	1
5.15PM TO 5.30PM	39	54	0	105	8	0	12	51	0
5.30PM TO 5.45PM	47	45	2	95	15	0	10	42	0
5.45PM TO 6.00PM	53	54	1	105	16	0	15	66	0

16:00 - 17:00	177	183	2	455	47	0	42	174	1
16:15 - 17:15	185	207	3	466	46	0	37	168	2
16:30 - 17:30	179	219	2	476	42	0	39	181	1
16:45 - 17:45	175	212	4	451	42	0	40	180	1
17:00 - 18:00	185	215	4	426	48	0	47	195	1

INTERSECTION: LOFTUS CR/ SUBWAY LN, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Wednesday..... DATE:15/11/17.....WEATHER.....Fine.....OBSERVER.....MC.....



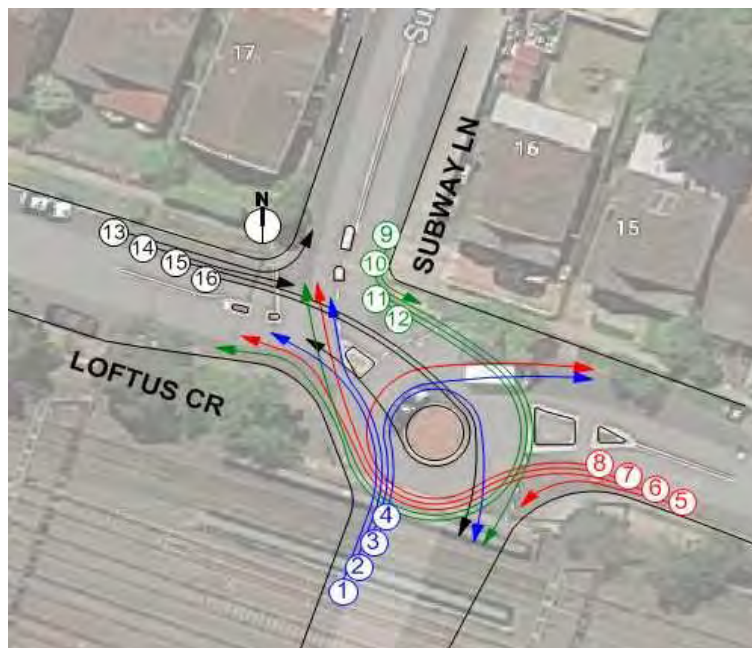
Time AM	MOVEMENT NUMBER							
	1	2	3	4	5	6	7	8
7:00AM TO 7.15AM	20	0	74	0	51	1	0	0
7:15AM TO 7.30AM	15	0	85	0	52	2	0	1
7:30AM TO 7.45AM	16	0	91	0	52	1	0	0
7:45AM TO 8.00AM	12	0	78	1	59	3	0	1
8:00AM TO 8.15AM	9	0	81	0	54	1	0	0
8:15AM TO 8:30AM	8	0	91	0	68	1	0	0
8:30AM TO 8:45AM	6	0	91	0	60	0	0	0
8:45AM TO 9:00AM	5	0	89	0	55	2	0	0

7:00 - 8:00	63	0	328	1	214	7	0	2
7:15 - 8:15	52	0	335	1	217	7	0	2
7:30 - 8:30	45	0	341	1	233	6	0	1
7:45 - 8:45	35	0	341	1	241	5	0	1
8:00 - 9:00	28	0	352	0	237	4	0	0

INTERSECTION: LOFTUS CR/ SUBWAY LN, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Wednesday..... DATE:15/11/17.....WEATHER.....Fine.....OBSERVER.....MC.....



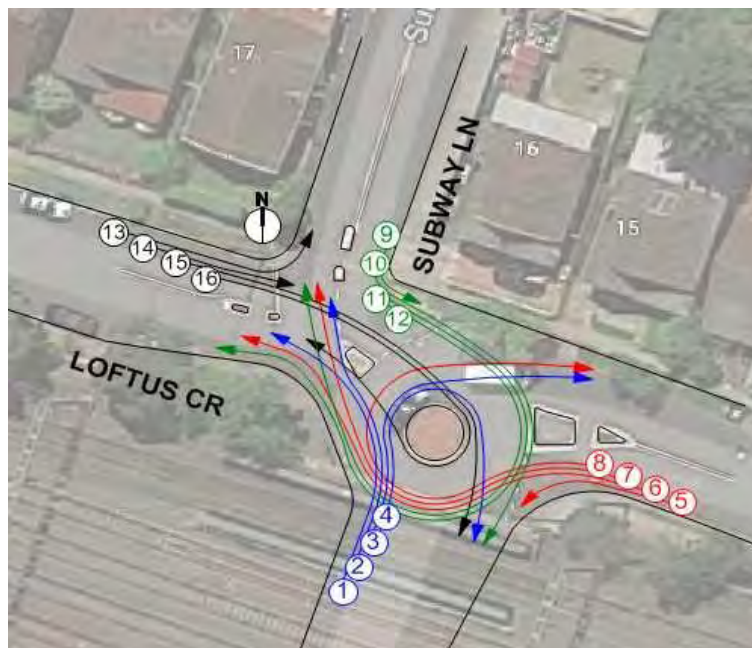
Time AM	MOVEMENT NUMBER							
	9	10	11	12	13	14	15	16
7:00AM TO 7.15AM	4	6	2	0	0	5	6	1
7:15AM TO 7.30AM	2	5	2	0	0	6	7	1
7:30AM TO 7.45AM	0	7	1	0	0	6	8	0
7:45AM TO 8.00AM	3	6	1	0	0	5	6	1
8:00AM TO 8.15AM	1	5	0	0	0	4	15	1
8:15AM TO 8:30AM	2	6	2	0	0	3	15	2
8:30AM TO 8:45AM	2	7	1	0	0	2	9	0
8:45AM TO 9:00AM	3	4	2	0	0	1	10	0

7:00 - 8:00	9	24	6	0	0	22	27	3
7:15 - 8:15	6	23	4	0	0	21	36	3
7:30 - 8:30	6	24	4	0	0	18	44	4
7:45 - 8:45	8	24	4	0	0	14	45	4
8:00 - 9:00	8	22	5	0	0	10	49	3

INTERSECTION: LOFTUS CR/ SUBWAY LN, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Wednesday..... DATE:15/11/17.....WEATHER.....Fine.....OBSERVER.....MC.....



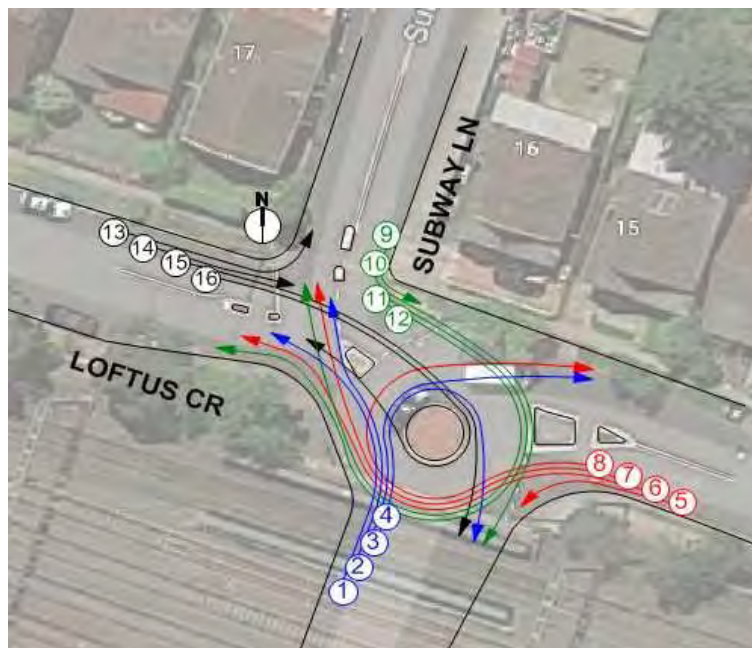
Time PM	MOVEMENT NUMBER							
	1	2	3	4	5	6	7	8
4.00PM TO 4.15PM	18	0	41	0	95	3	0	0
4.15PM TO 4.30PM	12	0	40	0	75	4	0	0
4.30PM TO 4.45PM	11	0	48	0	98	3	0	1
4.45PM TO 5.00PM	16	0	42	0	103	2	0	0
5.00PM TO 5.15PM	18	0	52	0	110	4	0	0
5.15PM TO 5.30PM	14	0	52	1	89	2	0	0
5.30PM TO 5.45PM	11	0	53	0	125	0	0	0
5.45PM TO 6.00PM	12	0	56	0	110	2	0	0

16:00 - 17:00	57	0	171	0	371	12	0	1
16:15 - 17:15	57	0	182	0	386	13	0	1
16:30 - 17:30	59	0	194	1	400	11	0	1
16:45 - 17:45	59	0	199	1	427	8	0	0
17:00 - 18:00	55	0	213	1	434	8	0	0

INTERSECTION: LOFTUS CR/ SUBWAY LN, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Wednesday..... DATE:15/11/17.....WEATHER.....Fine.....OBSERVER.....MC.....

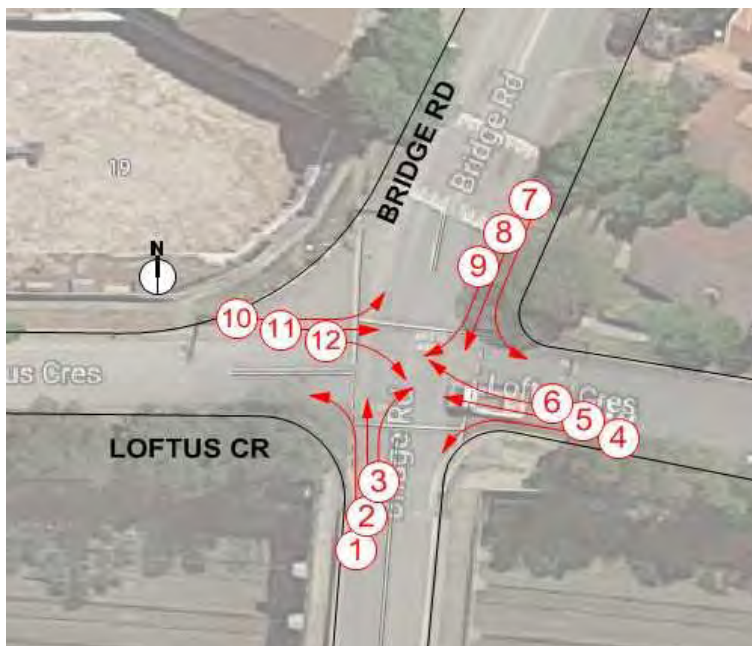


Time PM	MOVEMENT NUMBER							
	9	10	11	12	13	14	15	16
4.00PM TO 4.15PM	3	21	1	0	0	1	18	0
4.15PM TO 4.30PM	2	16	1	0	0	0	19	1
4.30PM TO 4.45PM	1	14	2	0	0	2	20	1
4.45PM TO 5.00PM	0	12	0	0	0	3	14	1
5.00PM TO 5.15PM	1	8	1	0	0	5	13	0
5.15PM TO 5.30PM	2	9	2	0	0	4	15	0
5.30PM TO 5.45PM	0	11	4	0	0	6	17	0
5.45PM TO 6.00PM	1	7	1	0	0	3	12	0
16:00 - 17:00	6	63	4	0	0	6	71	3
16:15 - 17:15	4	50	4	0	0	10	66	3
16:30 - 17:30	4	43	5	0	0	14	62	2
16:45 - 17:45	3	40	7	0	0	18	59	1
17:00 - 18:00	4	35	8	0	0	18	57	0

INTERSECTION: BRIDGE RD/ LOFTUS CR, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....KG.....



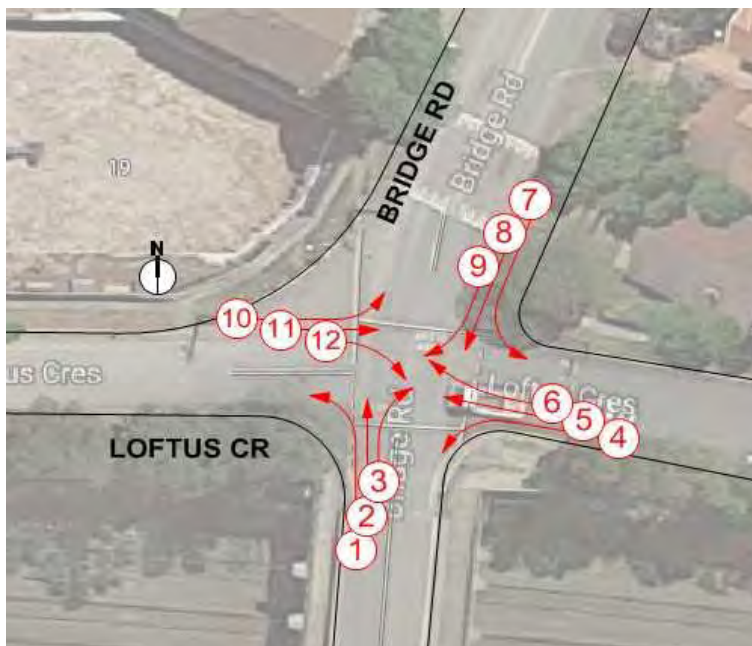
Time AM	MOVEMENT NUMBER					
	1	2	3	4	5	6
7:00AM TO 7.15AM	2	57	5	0	0	4
7:15AM TO 7.30AM	1	57	4	2	1	2
7:30AM TO 7.45AM	2	87	4	1	3	2
7:45AM TO 8.00AM	3	82	3	3	2	2
8:00AM TO 8.15AM	2	121	5	4	1	1
8:15AM TO 8.30AM	3	135	6	2	2	3
8:30AM TO 8.45AM	2	167	4	3	1	3
8:45AM TO 9.00AM	2	154	0	2	1	2

7:00 - 8:00	8	283	16	6	6	10
7:15 - 8:15	8	347	16	10	7	7
7:30 - 8:30	10	425	18	10	8	8
7:45 - 8:45	10	505	18	12	6	9
8:00 - 9:00	9	577	15	11	5	9

INTERSECTION: BRIDGE RD/ LOFTUS CR, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....KG.....



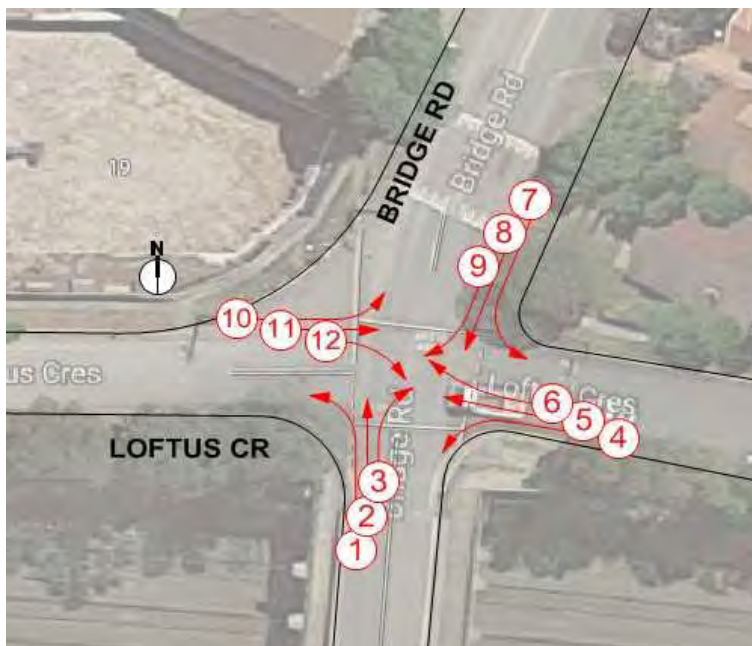
Time AM	MOVEMENT NUMBER					
	7	8	9	10	11	12
7:00AM TO 7.15AM	4	89	0	1	1	2
7:15AM TO 7.30AM	5	79	1	2	3	3
7:30AM TO 7.45AM	6	102	4	0	5	1
7:45AM TO 8.00AM	7	106	3	2	4	3
8:00AM TO 8.15AM	6	95	2	6	3	2
8:15AM TO 8:30AM	8	112	2	9	2	2
8:30AM TO 8:45AM	5	95	1	5	2	2
8:45AM TO 9:00AM	3	93	3	7	0	4

7:00 - 8:00	22	376	8	5	13	9
7:15 - 8:15	24	382	10	10	15	9
7:30 - 8:30	27	415	11	17	14	8
7:45 - 8:45	26	408	8	22	11	9
8:00 - 9:00	22	395	8	27	7	10

INTERSECTION: BRIDGE RD/ LOFTUS CR, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....KG.....



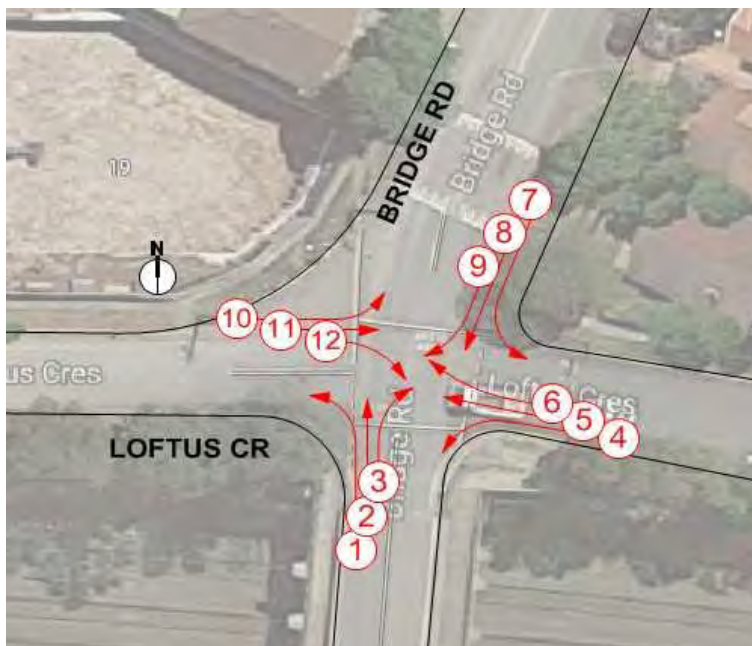
Time PM	MOVEMENT NUMBER					
	1	2	3	4	5	6
4.00PM TO 4.15PM	2	105	5	2	0	3
4.15PM TO 4.30PM	1	95	4	5	0	4
4.30PM TO 4.45PM	3	92	3	6	1	5
4.45PM TO 5.00PM	5	75	2	4	2	6
5.00PM TO 5.15PM	3	56	3	5	1	2
5.15PM TO 5.30PM	4	89	2	4	1	4
5.30PM TO 5.45PM	5	85	0	6	0	3
5.45PM TO 6.00PM	3	62	1	4	1	2

16:00 - 17:00	11	367	14	17	3	18
16:15 - 17:15	12	318	12	20	4	17
16:30 - 17:30	15	312	10	19	5	17
16:45 - 17:45	17	305	7	19	4	15
17:00 - 18:00	15	292	6	19	3	11

INTERSECTION: BRIDGE RD/ LOFTUS CR, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....KG.....



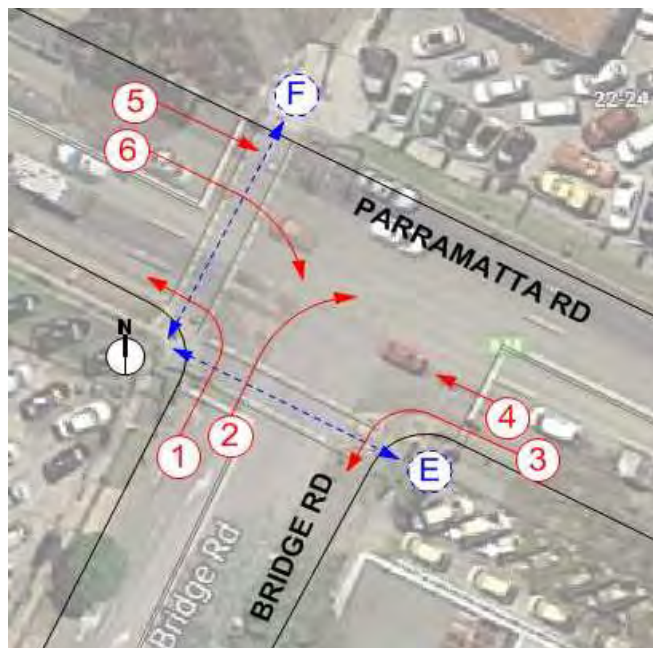
Time PM	MOVEMENT NUMBER					
	7	8	9	10	11	12
4.00PM TO 4.15PM	5	95	2	1	1	2
4.15PM TO 4.30PM	4	110	2	2	0	0
4.30PM TO 4.45PM	6	128	0	0	0	1
4.45PM TO 5.00PM	5	146	3	2	1	2
5.00PM TO 5.15PM	2	150	1	3	2	1
5.15PM TO 5.30PM	6	178	2	3	2	1
5.30PM TO 5.45PM	4	215	3	2	2	2
5.45PM TO 6.00PM	2	178	2	0	0	0

16:00 - 17:00	20	479	7	5	2	5
16:15 - 17:15	17	534	6	7	3	4
16:30 - 17:30	19	602	6	8	5	5
16:45 - 17:45	17	689	9	10	7	6
17:00 - 18:00	14	721	8	8	6	4

INTERSECTION: BRIDGE RD/ PARRAMATTA RD, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....SG.....



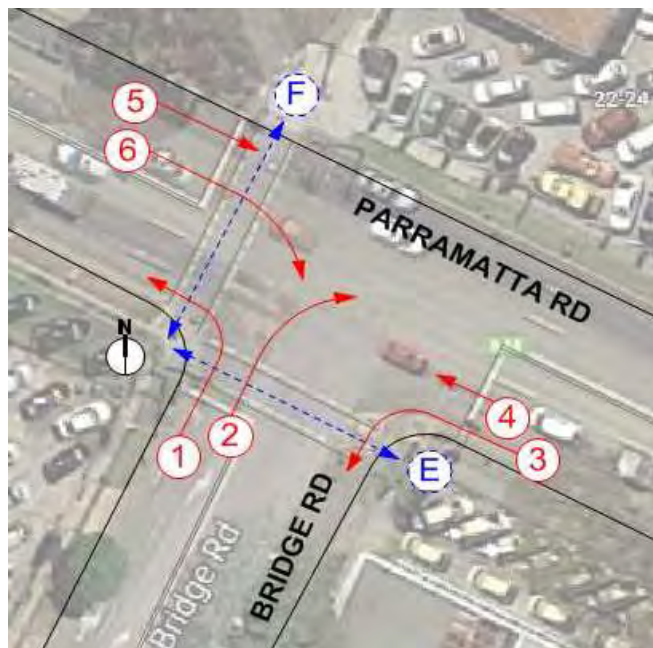
Time AM	MOVEMENT NUMBER						PEDESTRIANS	
	1	2	3	4	5	6	E	F
7:00AM TO 7.15AM	37	25	22	264	135	65	1	1
7:15AM TO 7.30AM	44	20	20	254	151	65	0	2
7:30AM TO 7.45AM	41	35	26	279	141	74	2	3
7:45AM TO 8.00AM	52	45	34	295	152	79	4	2
8:00AM TO 8.15AM	75	62	34	304	163	75	2	0
8:15AM TO 8.30AM	87	75	35	321	136	82	3	2
8:30AM TO 8.45AM	108	89	32	301	141	84	1	1
8:45AM TO 9.00AM	100	59	32	342	136	81	2	2

7:00 - 8:00	174	125	102	1092	579	283	7	8
7:15 - 8:15	212	162	114	1132	607	293	8	7
7:30 - 8:30	255	217	129	1199	592	310	11	7
7:45 - 8:45	322	271	135	1221	592	320	10	5
8:00 - 9:00	370	285	133	1268	576	322	8	5

INTERSECTION: BRIDGE RD/ PARRAMATTA RD, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Tuesday..... DATE:14/11/17.....WEATHER.....Fine.....OBSERVER.....SG.....



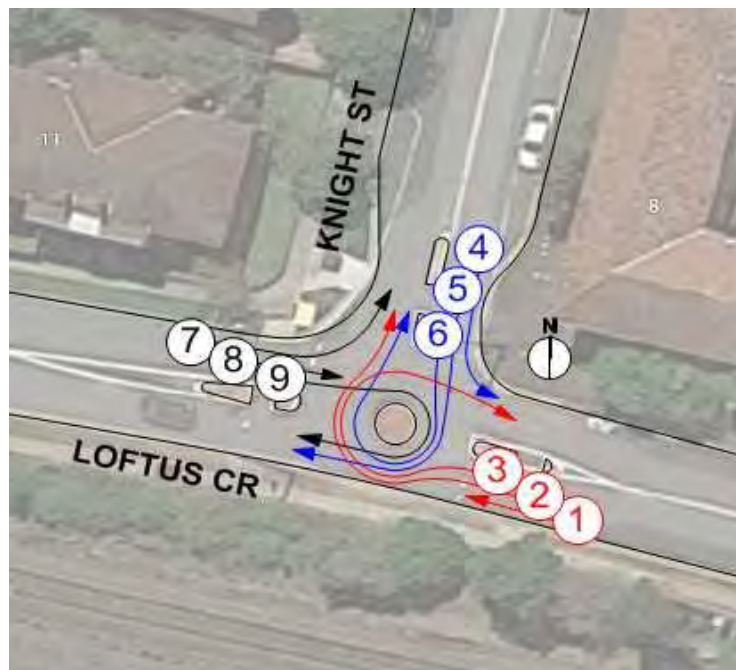
Time PM	MOVEMENT NUMBER						PEDESTRIANS	
	1	2	3	4	5	6	E	F
4.00PM TO 4.15PM	81	38	15	317	161	89	2	0
4.15PM TO 4.30PM	65	31	32	315	132	95	2	3
4.30PM TO 4.45PM	50	51	52	325	110	84	0	3
4.45PM TO 5.00PM	42	40	50	325	156	112	2	1
5.00PM TO 5.15PM	41	25	61	301	154	102	2	3
5.15PM TO 5.30PM	59	54	68	301	141	124	3	0
5.30PM TO 5.45PM	46	36	59	286	120	175	0	2
5.45PM TO 6.00PM	39	28	42	356	105	150	0	4

16:00 - 17:00	238	160	149	1282	559	380	6	7
16:15 - 17:15	198	147	195	1266	552	393	6	10
16:30 - 17:30	192	170	231	1252	561	422	7	7
16:45 - 17:45	188	155	238	1213	571	513	7	6
17:00 - 18:00	185	143	230	1244	520	551	5	9

INTERSECTION: BRIDGE RD/ PARRAMATTA RD, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Wednesday..... DATE:15/11/17.....WEATHER.....Fine.....OBSERVER.....HP.....



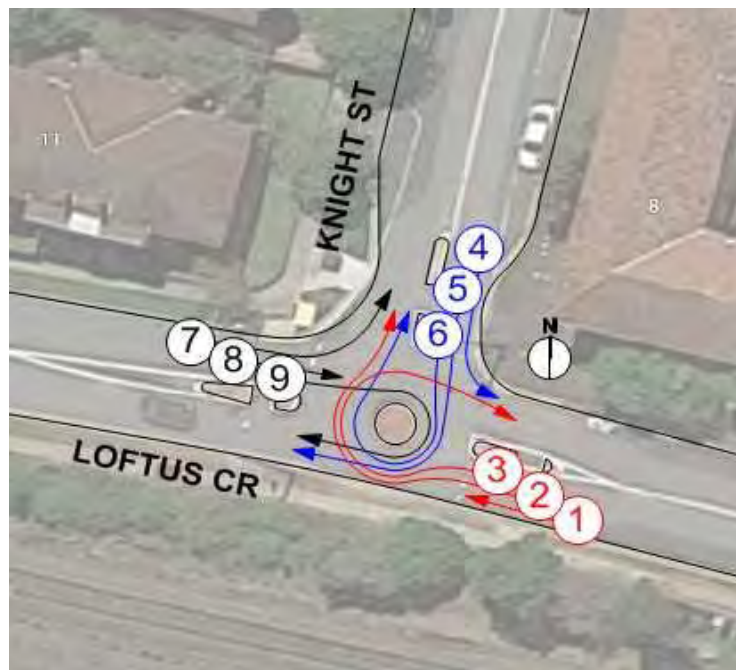
Time AM	MOVEMENT NUMBER								
	1	2	3	4	5	6	7	8	9
7:00AM TO 7.15AM	6	1	0	1	45	0	72	4	0
7:15AM TO 7.30AM	8	2	0	1	46	1	81	3	0
7:30AM TO 7.45AM	16	0	0	2	35	3	92	8	0
7:45AM TO 8.00AM	15	1	1	2	45	0	85	5	0
8:00AM TO 8.15AM	21	2	0	2	45	1	79	6	0
8:15AM TO 8.30AM	19	0	0	1	48	0	91	4	0
8:30AM TO 8.45AM	32	4	0	0	33	0	92	3	0
8:45AM TO 9:00AM	15	2	0	3	42	0	87	2	0

7:00 - 8:00	45	4	1	6	171	4	330	20	0
7:15 - 8:15	60	5	1	7	171	5	337	22	0
7:30 - 8:30	71	3	1	7	173	4	347	23	0
7:45 - 8:45	87	7	1	5	171	1	347	18	0
8:00 - 9:00	87	8	0	6	168	1	349	15	0

INTERSECTION: BRIDGE RD/ PARRAMATTA RD, HOMEBUSH

TRAFFIC VOLUME COUNT

DAY: ...Wednesday..... DATE:15/11/17.....WEATHER.....Fine.....OBSERVER.....HP.....



Time PM	MOVEMENT NUMBER								
	1	2	3	4	5	6	7	8	9
4.00PM TO 4.15PM	31	0	0	0	62	0	36	9	0
4.15PM TO 4.30PM	32	2	0	2	45	1	30	12	1
4.30PM TO 4.45PM	42	2	0	1	62	0	32	15	0
4.45PM TO 5.00PM	32	3	0	1	65	0	32	10	0
5.00PM TO 5.15PM	25	2	0	2	84	0	42	13	0
5.15PM TO 5.30PM	30	4	0	0	56	0	42	11	0
5.30PM TO 5.45PM	30	2	0	1	89	0	47	9	0
5.45PM TO 6.00PM	28	3	0	1	75	0	49	10	1

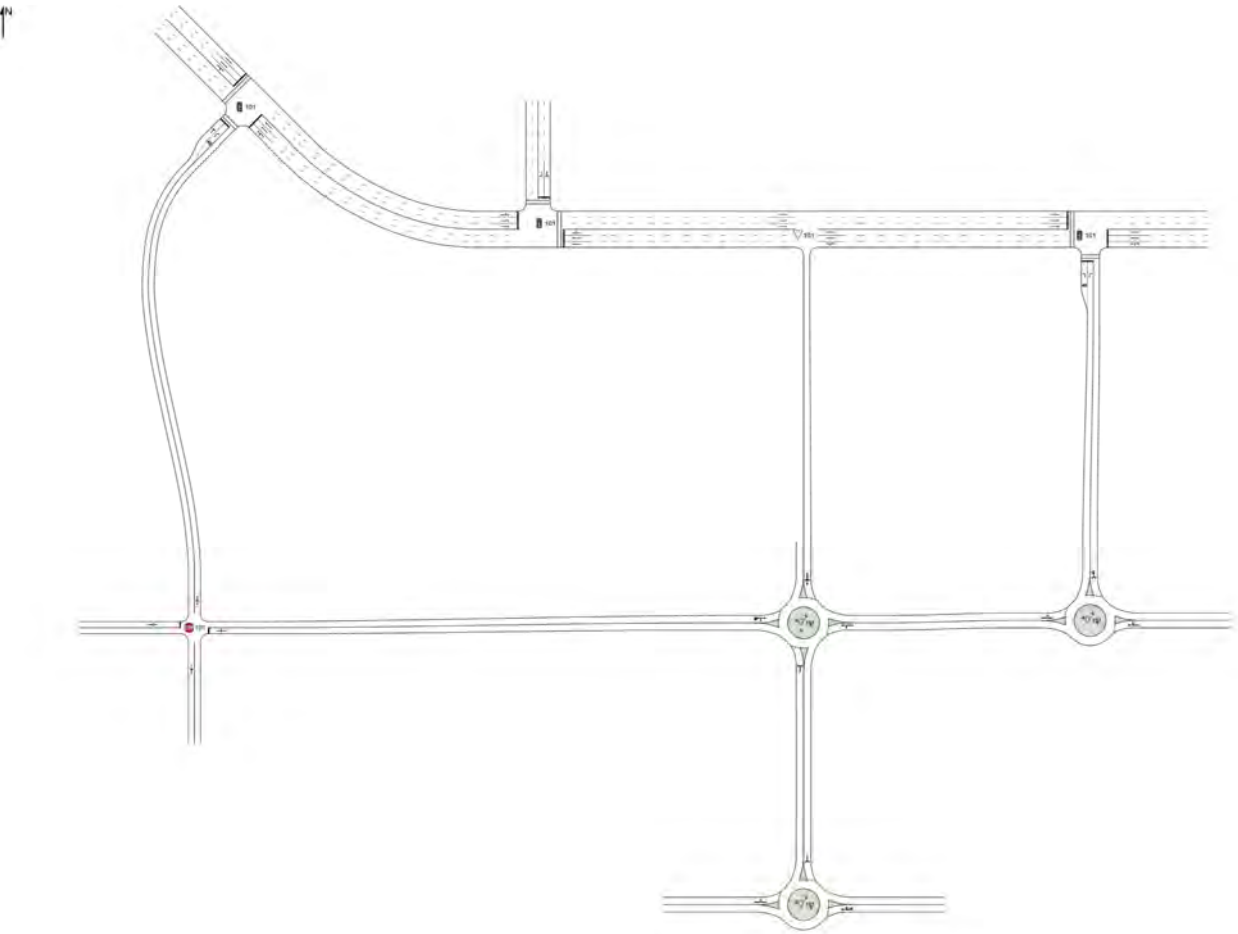
16:00 - 17:00	137	7	0	4	234	1	130	46	1
16:15 - 17:15	131	9	0	6	256	1	136	50	1
16:30 - 17:30	129	11	0	4	267	0	148	49	0
16:45 - 17:45	117	11	0	4	294	0	163	43	0
17:00 - 18:00	113	11	0	4	304	0	180	43	1

APPENDIX C

NETWORK LAYOUT

Network: N101 [Existing AM]

New Network



SITES IN NETWORK

Site ID	Site Name
 101	1. Parramatta Rd/ Bridge Rd, Homebush AM Exisitng
 101	2. Bridge Rd/ Loftus Cr, Homebush AM Exisitng
 101	3. Parramatta Rd/ Underwood Rd, Homebush AM Exisitng
 101	4. Parramatta Rd/ Knight St, Homebush AM Exisitng
 101	5. Knight St/ Loftus Cr, Homebush AM Exisitng
 101	6. Loftus Cr/ Subway Ln, Homebush AM Exisitng
 101	7. The Crescent/ Subway Ln, Homebush AM Exisitng
 101	8. Additional Intersection Existing AM

MOVEMENT SUMMARY

 **Site: 101 [1. Parramatta Rd/ Bridge Rd, Homebush AM**
Exisitng]

 **Network: N101 [Existing AM]**

AM Peak Hour: 8:00 - 9:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
SouthEast: Parramatta Rd SE													
21	L2	133	0.0	133	0.0	0.891	55.9	LOS D	26.2	183.7	1.00	1.08	19.1
22	T1	1268	0.0	1268	0.0	0.891	50.4	LOS D	26.7	187.1	1.00	1.08	31.0
Approach		1401	0.0	1401	0.0	0.891	50.9	LOS D	26.7	187.1	1.00	1.08	30.1
NorthWest: Parramatta Rd NW													
28	T1	576	0.0	576	0.0	0.197	3.9	LOS A	4.0	28.2	0.31	0.27	53.3
29	R2	322	0.0	322	0.0	0.374	24.6	LOS B	9.3	64.9	0.69	0.84	33.5
Approach		898	0.0	898	0.0	0.374	11.3	LOS A	9.3	64.9	0.45	0.48	43.9
SouthWest: Bridge Rd													
30	L2	370	0.0	370	0.0	0.506	57.7	LOS E	27.5	192.4	1.00	0.89	23.1
32	R2	285	0.0	285	0.0	0.506	54.5	LOS D	27.5	192.4	0.99	0.85	10.3
Approach		655	0.0	655	0.0	0.506	56.3	LOS D	27.5	192.4	0.99	0.88	18.9
All Vehicles		2954	0.0	2954	0.0	0.891	40.1	LOS C	27.5	192.4	0.83	0.85	29.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P7	NorthWest Full Crossing	5	44.2	LOS E	0.0	0.0	0.94	0.94
P8	SouthWest Full Crossing	8	32.0	LOS D	0.0	0.0	0.80	0.80
All Pedestrians		13	36.7	LOS D			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Organisation: MCLAREN TRAFFIC ENGINEERING | Processed: 30 November 2017 11:37:20

Project: C:\Users\IMTE\Desktop\1111-17_Homebush.sip7

INTERSECTION SUMMARY

 **Site: 101 [1. Parramatta Rd/ Bridge Rd, Homebush AM**
Exisitng]

 **Network: N101 [Existing AM]**

AM Peak Hour: 8:00 - 9:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	29.5 km/h	2.0 km/h	29.4 km/h
Travel Distance (Total)	1975.1 veh-km/h	0.5 ped-km/h	2370.6 pers-km/h
Travel Time (Total)	66.9 veh-h/h	0.2 ped-h/h	80.5 pers-h/h
Demand Flows (Total)	2954 veh/h	13 ped/h	3545 pers/h
Arrival Flows (Total)	2954 veh/h		3545 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.891	0.007	
Practical Spare Capacity	1.0 %		
Effective Intersection Capacity	3315 veh/h		
Control Delay (Total)	32.87 veh-h/h	0.13 ped-h/h	39.58 pers-h/h
Control Delay (Average)	40.1 sec	36.7 sec	40.2 sec
Control Delay (Worst Lane)	57.7 sec		
Control Delay (Worst Movement)	57.7 sec	44.2 sec	57.7 sec
Geometric Delay (Average)	1.9 sec		
Stop-Line Delay (Average)	38.2 sec		
Idling Time (Average)	33.2 sec		
Intersection Level of Service (LOS)	LOS C	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	27.5 veh		
95% Back of Queue - Distance (Worst Lane)	192.4 m		
Queue Storage Ratio (Worst Lane)	0.66		
Total Effective Stops	2511 veh/h	11 ped/h	3024 pers/h
Effective Stop Rate	0.85 per veh	0.85 per ped	0.85 per pers
Proportion Queued	0.83	0.85	0.83
Performance Index	149.6	0.3	149.9
Cost (Total)	2178.52 \$/h	5.84 \$/h	2184.36 \$/h
Fuel Consumption (Total)	213.1 L/h		
Carbon Dioxide (Total)	500.7 kg/h		
Hydrocarbons (Total)	0.047 kg/h		
Carbon Monoxide (Total)	0.515 kg/h		
NOx (Total)	0.150 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,417,920 veh/y	6,240 ped/y	1,701,504 pers/y
Arrival Flows (Total)	1,417,920 veh/y		
Delay	15,778 veh-h/y	64 ped-h/y	18,997 pers-h/y
Effective Stops	1,205,333 veh/y	5,329 ped/y	1,451,729 pers/y
Travel Distance	948,050 veh-km/y	223 ped-km/y	1,137,883 pers-km/y
Travel Time	32,116 veh-h/y	111 ped-h/y	38,650 pers-h/y
Cost	1,045,692 \$/y	2,803 \$/y	1,048,494 \$/y
Fuel Consumption	102,279 L/y		
Carbon Dioxide	240,355 kg/y		
Hydrocarbons	22 kg/y		

MOVEMENT SUMMARY



Site: 101 [2. Bridge Rd/ Loftus Cr, Homebush AM Existing]



Network: N101 [Existing AM]

AM Peak Hour: 8:00 - 9:00AM

Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Bridge Rd S													
1	L2	9	0.0	9	0.0	0.350	6.3	LOS A	0.2	1.7	0.05	0.02	49.3
2	T1	577	0.0	577	0.0	0.350	0.1	LOS A	0.2	1.7	0.05	0.02	49.5
3	R2	15	0.0	15	0.0	0.350	6.8	LOS A	0.2	1.7	0.05	0.02	49.5
Approach		601	0.0	601	0.0	0.350	0.4	NA	0.2	1.7	0.05	0.02	49.5
East: Loftus Cr E													
4	L2	11	0.0	11	0.0	0.062	9.1	LOS A	0.2	1.4	0.56	0.93	42.2
5	T1	5	0.0	5	0.0	0.062	16.2	LOS B	0.2	1.4	0.56	0.93	42.0
6	R2	9	0.0	9	0.0	0.062	18.4	LOS B	0.2	1.4	0.56	0.93	37.3
Approach		25	0.0	25	0.0	0.062	13.9	LOS A	0.2	1.4	0.56	0.93	41.0
North: Bridge Rd N													
7	L2	22	0.0	22	0.0	0.223	5.7	LOS A	0.1	0.9	0.04	0.04	48.1
8	T1	395	0.0	395	0.0	0.223	0.1	LOS A	0.1	0.9	0.04	0.04	49.5
9	R2	8	0.0	8	0.0	0.223	7.8	LOS A	0.1	0.9	0.04	0.04	48.1
Approach		425	0.0	425	0.0	0.223	0.6	NA	0.1	0.9	0.04	0.04	49.4
West: Loftus W													
10	L2	27	0.0	27	0.0	0.100	10.7	LOS A	0.3	2.2	0.62	0.98	37.7
11	T1	7	0.0	7	0.0	0.100	16.5	LOS B	0.3	2.2	0.62	0.98	37.7
12	R2	10	0.0	10	0.0	0.100	18.3	LOS B	0.3	2.2	0.62	0.98	42.2
Approach		44	0.0	44	0.0	0.100	13.3	LOS A	0.3	2.2	0.62	0.98	39.3
All Vehicles		1095	0.0	1095	0.0	0.350	1.3	NA	0.3	2.2	0.08	0.09	48.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY



Site: 101 [2. Bridge Rd/ Loftus Cr, Homebush AM Exisitng]



Network: N101 [Existing AM]

AM Peak Hour: 8:00 - 9:00AM
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	48.6 km/h	48.6 km/h
Travel Distance (Total)	642.0 veh-km/h	770.4 pers-km/h
Travel Time (Total)	13.2 veh-h/h	15.9 pers-h/h
Demand Flows (Total)	1095 veh/h	1314 pers/h
Arrival Flows (Total)	1095 veh/h	1314 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.350	
Practical Spare Capacity	179.7 %	
Effective Intersection Capacity	3125 veh/h	
Control Delay (Total)	0.38 veh-h/h	0.46 pers-h/h
Control Delay (Average)	1.3 sec	1.3 sec
Control Delay (Worst Lane)	13.9 sec	
Control Delay (Worst Movement)	18.4 sec	18.4 sec
Geometric Delay (Average)	0.7 sec	
Stop-Line Delay (Average)	0.6 sec	
Idling Time (Average)	0.3 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.3 veh	
95% Back of Queue - Distance (Worst Lane)	2.2 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	96 veh/h	115 pers/h
Effective Stop Rate	0.09 per veh	0.09 per pers
Proportion Queued	0.08	0.08
Performance Index	14.8	14.8
Cost (Total)	346.56 \$/h	346.56 \$/h
Fuel Consumption (Total)	40.2 L/h	
Carbon Dioxide (Total)	94.4 kg/h	
Hydrocarbons (Total)	0.006 kg/h	
Carbon Monoxide (Total)	0.073 kg/h	
NOx (Total)	0.018 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	525,600 veh/y	630,720 pers/y
Arrival Flows (Total)	525,600 veh/y	
Delay	185 veh-h/y	222 pers-h/y
Effective Stops	45,959 veh/y	55,151 pers/y
Travel Distance	308,152 veh-km/y	369,783 pers-km/y
Travel Time	6,344 veh-h/y	7,613 pers-h/y
Cost	166,350 \$/y	166,350 \$/y
Fuel Consumption	19,290 L/y	
Carbon Dioxide	45,331 kg/y	
Hydrocarbons	3 kg/y	
Carbon Monoxide	35 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 **Site: 101 [3. Parramatta Rd/ Underwood Rd, Homebush AM**
Exisitng]

 **Network: N101 [Existing AM]**

AM Peak Hour : 8:00 - 9:00AM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Parramatta Rd E													
5	T1	1359	0.0	1359	0.0	0.419	3.1	LOS A	9.3	65.3	0.27	0.25	30.9
6	R2	370	0.0	370	0.0	0.419	13.7	LOS A	9.3	65.3	0.54	0.73	41.7
Approach		1729	0.0	1729	0.0	0.419	5.3	LOS A	9.3	65.3	0.33	0.35	38.1
North: Underwood Rd													
7	L2	85	0.0	85	0.0	0.495	49.8	LOS D	5.6	39.1	0.98	0.79	21.4
9	R2	107	0.0	107	0.0	0.495	53.3	LOS D	5.6	39.1	0.99	0.77	20.6
Approach		192	0.0	192	0.0	0.495	51.7	LOS D	5.6	39.1	0.98	0.78	20.9
West: Parramatta Rd W													
10	L2	101	0.0	101	0.0	0.471	36.3	LOS C	10.3	72.2	0.83	0.74	36.7
11	T1	720	0.0	720	0.0	0.471	33.6	LOS C	12.4	86.7	0.92	0.78	25.0
Approach		821	0.0	821	0.0	0.471	33.9	LOS C	12.4	86.7	0.91	0.78	27.1
All Vehicles		2742	0.0	2742	0.0	0.495	17.1	LOS B	12.4	86.7	0.55	0.51	29.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	26	44.2	LOS E	0.1	0.1	0.94	0.94	
P3	North Full Crossing	13	32.0	LOS D	0.0	0.0	0.80	0.80	
All Pedestrians		39	40.2	LOS E			0.89	0.89	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [3. Parramatta Rd/ Underwood Rd, Homebush AM**
Exisitng]

 **Network: N101 [Existing AM]**

AM Peak Hour : 8:00 - 9:00AM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	29.1 km/h	2.0 km/h	28.4 km/h
Travel Distance (Total)	766.8 veh-km/h	1.5 ped-km/h	921.7 pers-km/h
Travel Time (Total)	26.4 veh-h/h	0.8 ped-h/h	32.4 pers-h/h
Demand Flows (Total)	2742 veh/h	39 ped/h	3290 pers/h
Arrival Flows (Total)	2742 veh/h		3290 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.495	0.036	
Practical Spare Capacity	82.0 %		
Effective Intersection Capacity	5545 veh/h		
Control Delay (Total)	13.06 veh-h/h	0.44 ped-h/h	16.11 pers-h/h
Control Delay (Average)	17.1 sec	40.2 sec	17.6 sec
Control Delay (Worst Lane)	54.9 sec		
Control Delay (Worst Movement)	53.3 sec	44.2 sec	53.3 sec
Geometric Delay (Average)	1.0 sec		
Stop-Line Delay (Average)	16.1 sec		
Idling Time (Average)	14.0 sec		
Intersection Level of Service (LOS)	LOS B	LOS E	
95% Back of Queue - Vehicles (Worst Lane)	12.4 veh		
95% Back of Queue - Distance (Worst Lane)	86.7 m		
Queue Storage Ratio (Worst Lane)	1.00		
Total Effective Stops	1401 veh/h	35 ped/h	1716 pers/h
Effective Stop Rate	0.51 per veh	0.89 per ped	0.52 per pers
Proportion Queued	0.55	0.89	0.56
Performance Index	63.7	1.0	64.7
Cost (Total)	1014.16 \$/h	19.28 \$/h	1033.43 \$/h
Fuel Consumption (Total)	99.7 L/h		
Carbon Dioxide (Total)	234.3 kg/h		
Hydrocarbons (Total)	0.022 kg/h		
Carbon Monoxide (Total)	0.243 kg/h		
NOx (Total)	0.078 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,316,160 veh/y	18,720 ped/y	1,579,392 pers/y
Arrival Flows (Total)	1,316,160 veh/y		
Delay	6,270 veh-h/y	209 ped-h/y	7,732 pers-h/y
Effective Stops	672,577 veh/y	16,739 ped/y	823,831 pers/y
Travel Distance	368,072 veh-km/y	741 ped-km/y	442,428 pers-km/y
Travel Time	12,655 veh-h/y	367 ped-h/y	15,553 pers-h/y
Cost	486,795 \$/y	9,254 \$/y	496,049 \$/y
Fuel Consumption	47,848 L/y		
Carbon Dioxide	112,442 kg/y		
Hydrocarbons	11 kg/y		

MOVEMENT SUMMARY

 **Site: 101 [4. Parramatta Rd/ Knight St, Homebush AM Exisitng]**

 **Network: N101 [Existing AM]**

AM Peak Hour: 8:00 - 9:00AM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Knight St													
1	L2	108	0.0	108	0.0	0.264	41.0	LOS C	4.4	30.9	0.85	0.76	8.1
3	R2	232	0.0	232	0.0	0.569	44.1	LOS D	10.3	71.9	0.92	0.81	24.8
Approach		340	0.0	340	0.0	0.569	43.2	LOS D	10.3	71.9	0.90	0.79	21.4
East: Parramatta Rd E													
4	L2	159	0.0	159	0.0	0.463	14.7	LOS B	13.8	96.8	0.52	0.54	44.6
5	T1	1621	0.0	1621	0.0	0.463	9.2	LOS A	14.0	98.1	0.52	0.49	45.8
Approach		1780	0.0	1780	0.0	0.463	9.7	LOS A	14.0	98.1	0.52	0.49	45.7
West: Parramatta Rd W													
11	T1	791	0.0	791	0.0	0.205	3.4	LOS A	4.7	32.8	0.19	0.16	55.1
Approach		791	0.0	791	0.0	0.205	3.4	LOS A	4.7	32.8	0.19	0.16	55.1
All Vehicles		2911	0.0	2911	0.0	0.569	11.9	LOS A	14.0	98.1	0.47	0.44	43.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	6	8.4	LOS A	0.0	0.0	0.41	0.41
P4	West Full Crossing	14	44.2	LOS E	0.0	0.0	0.94	0.94
All Pedestrians		20	33.5	LOS D			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [4. Parramatta Rd/ Knight St, Homebush AM**
Exisitng]

 **Network: N101 [Existing AM]**

AM Peak Hour: 8:00 - 9:00AM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	43.3 km/h	2.2 km/h	42.9 km/h
Travel Distance (Total)	1576.5 veh-km/h	0.8 ped-km/h	1892.5 pers-km/h
Travel Time (Total)	36.4 veh-h/h	0.4 ped-h/h	44.1 pers-h/h
Demand Flows (Total)	2911 veh/h	20 ped/h	3493 pers/h
Arrival Flows (Total)	2911 veh/h		3493 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.569	0.019	
Practical Spare Capacity	58.1 %		
Effective Intersection Capacity	5113 veh/h		
Control Delay (Total)	9.61 veh-h/h	0.19 ped-h/h	11.71 pers-h/h
Control Delay (Average)	11.9 sec	33.5 sec	12.1 sec
Control Delay (Worst Lane)	44.1 sec		
Control Delay (Worst Movement)	44.1 sec	44.2 sec	44.2 sec
Geometric Delay (Average)	0.8 sec		
Stop-Line Delay (Average)	11.0 sec		
Idling Time (Average)	8.9 sec		
Intersection Level of Service (LOS)	LOS A	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	14.0 veh		
95% Back of Queue - Distance (Worst Lane)	98.1 m		
Queue Storage Ratio (Worst Lane)	0.46		
Total Effective Stops	1270 veh/h	16 ped/h	1539 pers/h
Effective Stop Rate	0.44 per veh	0.78 per ped	0.44 per pers
Proportion Queued	0.47	0.78	0.48
Performance Index	70.9	0.4	71.3
Cost (Total)	1191.32 \$/h	8.87 \$/h	1200.19 \$/h
Fuel Consumption (Total)	134.9 L/h		
Carbon Dioxide (Total)	317.1 kg/h		
Hydrocarbons (Total)	0.027 kg/h		
Carbon Monoxide (Total)	0.359 kg/h		
NOx (Total)	0.092 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,397,280 veh/y	9,600 ped/y	1,676,736 pers/y
Arrival Flows (Total)	1,397,280 veh/y		
Delay	4,610 veh-h/y	89 ped-h/y	5,622 pers-h/y
Effective Stops	609,411 veh/y	7,502 ped/y	738,795 pers/y
Travel Distance	756,703 veh-km/y	373 ped-km/y	908,417 pers-km/y
Travel Time	17,488 veh-h/y	169 ped-h/y	21,154 pers-h/y
Cost	571,833 \$/y	4,256 \$/y	576,089 \$/y
Fuel Consumption	64,770 L/y		
Carbon Dioxide	152,209 kg/y		
Hydrocarbons	13 kg/y		

MOVEMENT SUMMARY

 Site: 101 [5. Knight St/ Loftus Cr, Homebush AM Exisitng]

 Network: N101 [Existing AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Loftus Cr W													
5	T1	87	0.0	87	0.0	0.086	4.7	LOS A	0.5	3.2	0.33	0.50	43.6
6	R2	8	0.0	8	0.0	0.086	7.4	LOS A	0.5	3.2	0.33	0.50	43.6
Approach		95	0.0	95	0.0	0.086	4.9	LOS A	0.5	3.2	0.33	0.50	43.6
North: Knight St													
7	L2	6	0.0	6	0.0	0.120	4.6	LOS A	0.5	3.7	0.07	0.63	42.2
9	R2	168	0.0	168	0.0	0.120	6.5	LOS A	0.5	3.7	0.07	0.63	27.8
9u	U	1	0.0	1	0.0	0.120	7.8	LOS A	0.5	3.7	0.07	0.63	27.8
Approach		175	0.0	175	0.0	0.120	6.5	LOS A	0.5	3.7	0.07	0.63	29.4
West: Loftus Cr W													
10	L2	349	0.0	349	0.0	0.231	4.6	LOS A	1.4	10.0	0.07	0.53	28.8
11	T1	15	0.0	15	0.0	0.231	3.8	LOS A	1.4	10.0	0.07	0.53	44.5
Approach		364	0.0	364	0.0	0.231	4.6	LOS A	1.4	10.0	0.07	0.53	31.2
All Vehicles		634	0.0	634	0.0	0.231	5.2	LOS A	1.4	10.0	0.11	0.55	35.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

 Site: 101 [5. Knight St/ Loftus Cr, Homebush AM Exisitng]

 Network: N101 [Existing AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	35.1 km/h	35.1 km/h
Travel Distance (Total)	112.4 veh-km/h	134.8 pers-km/h
Travel Time (Total)	3.2 veh-h/h	3.8 pers-h/h
Demand Flows (Total)	634 veh/h	761 pers/h
Arrival Flows (Total)	634 veh/h	761 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.231	
Practical Spare Capacity	268.4 %	
Effective Intersection Capacity	2748 veh/h	
Control Delay (Total)	0.91 veh-h/h	1.09 pers-h/h
Control Delay (Average)	5.2 sec	5.2 sec
Control Delay (Worst Lane)	6.5 sec	
Control Delay (Worst Movement)	7.8 sec	7.8 sec
Geometric Delay (Average)	5.0 sec	
Stop-Line Delay (Average)	0.2 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.4 veh	
95% Back of Queue - Distance (Worst Lane)	10.0 m	
Queue Storage Ratio (Worst Lane)	0.05	
Total Effective Stops	351 veh/h	422 pers/h
Effective Stop Rate	0.55 per veh	0.55 per pers
Proportion Queued	0.11	0.11
Performance Index	7.3	7.3
Cost (Total)	163.65 \$/h	163.65 \$/h
Fuel Consumption (Total)	18.4 L/h	
Carbon Dioxide (Total)	43.3 kg/h	
Hydrocarbons (Total)	0.004 kg/h	
Carbon Monoxide (Total)	0.039 kg/h	
NOx (Total)	0.018 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	304,320 veh/y	365,184 pers/y
Arrival Flows (Total)	304,320 veh/y	
Delay	436 veh-h/y	523 pers-h/y
Effective Stops	168,613 veh/y	202,335 pers/y
Travel Distance	53,932 veh-km/y	64,719 pers-km/y
Travel Time	1,537 veh-h/y	1,844 pers-h/y
Cost	78,552 \$/y	78,552 \$/y
Fuel Consumption	8,844 L/y	
Carbon Dioxide	20,783 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	19 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY



Site: 101 [6. Loftus Cr/ Subway Ln, Homebush AM Exisitng]



Network: N101 [Existing AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Subway Ln S													
1	L2	28	0.0	28	0.0	0.243	2.4	LOS A	1.5	10.2	0.08	0.63	22.4
3	R2	352	0.0	352	0.0	0.243	4.9	LOS A	1.5	10.2	0.08	0.63	22.4
Approach		380	0.0	380	0.0	0.243	4.7	LOS A	1.5	10.2	0.08	0.63	22.4
East: Loftus Cr E													
4	L2	237	0.0	237	0.0	0.190	5.1	LOS A	1.1	7.6	0.25	0.54	29.6
5	T1	4	0.0	4	0.0	0.190	4.8	LOS A	1.1	7.6	0.25	0.54	29.6
Approach		241	0.0	241	0.0	0.190	5.1	LOS A	1.1	7.6	0.25	0.54	29.6
North: Subway Ln N													
7	L2	8	0.0	8	0.0	0.038	7.2	LOS A	0.2	1.3	0.50	0.61	28.9
8	T1	22	0.0	22	0.0	0.038	7.0	LOS A	0.2	1.3	0.50	0.61	28.9
9	R2	5	0.0	5	0.0	0.038	9.9	LOS A	0.2	1.3	0.50	0.61	28.9
Approach		35	0.0	35	0.0	0.038	7.4	LOS A	0.2	1.3	0.50	0.61	28.9
West: Loftus Cr W													
11	T1	10	0.0	10	0.0	0.065	6.7	LOS A	0.3	2.2	0.47	0.67	46.5
12	R2	49	0.0	49	0.0	0.065	9.6	LOS A	0.3	2.2	0.47	0.67	46.5
12u	U	3	0.0	3	0.0	0.065	11.1	LOS A	0.3	2.2	0.47	0.67	46.5
Approach		62	0.0	62	0.0	0.065	9.2	LOS A	0.3	2.2	0.47	0.67	46.5
All Vehicles		718	0.0	718	0.0	0.243	5.4	LOS A	1.5	10.2	0.19	0.60	32.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Roundabout Capacity Model: SIDRA Standard.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %
 Number of Iterations: 10 (maximum specified: 10)

INTERSECTION SUMMARY

 Site: 101 [6. Loftus Cr/ Subway Ln, Homebush AM Exisitng]

 Network: N101 [Existing AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	32.0 km/h	32.0 km/h
Travel Distance (Total)	76.9 veh-km/h	92.3 pers-km/h
Travel Time (Total)	2.4 veh-h/h	2.9 pers-h/h
Demand Flows (Total)	718 veh/h	862 pers/h
Arrival Flows (Total)	718 veh/h	862 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.243	
Practical Spare Capacity	250.1 %	
Effective Intersection Capacity	2957 veh/h	
Control Delay (Total)	1.07 veh-h/h	1.29 pers-h/h
Control Delay (Average)	5.4 sec	5.4 sec
Control Delay (Worst Lane)	9.2 sec	
Control Delay (Worst Movement)	11.1 sec	11.1 sec
Geometric Delay (Average)	4.9 sec	
Stop-Line Delay (Average)	0.4 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.5 veh	
95% Back of Queue - Distance (Worst Lane)	10.2 m	
Queue Storage Ratio (Worst Lane)	0.16	
Total Effective Stops	432 veh/h	519 pers/h
Effective Stop Rate	0.60 per veh	0.60 per pers
Proportion Queued	0.19	0.19
Performance Index	7.4	7.4
Cost (Total)	165.94 \$/h	165.94 \$/h
Fuel Consumption (Total)	17.4 L/h	
Carbon Dioxide (Total)	40.9 kg/h	
Hydrocarbons (Total)	0.004 kg/h	
Carbon Monoxide (Total)	0.038 kg/h	
NOx (Total)	0.018 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	344,640 veh/y	413,568 pers/y
Arrival Flows (Total)	344,640 veh/y	
Delay	514 veh-h/y	617 pers-h/y
Effective Stops	207,531 veh/y	249,038 pers/y
Travel Distance	36,925 veh-km/y	44,310 pers-km/y
Travel Time	1,153 veh-h/y	1,383 pers-h/y
Cost	79,649 \$/y	79,649 \$/y
Fuel Consumption	8,346 L/y	
Carbon Dioxide	19,613 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	18 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 Site: 101 [7. The Crescent/ Subway Ln, Homebush AM
Exisitng]

 Network: N101 [Existing
AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: The Crescent E													
5	T1	179	0.0	179	0.0	0.388	4.1	LOS A	2.9	20.0	0.30	0.55	45.9
6	R2	347	0.0	347	0.0	0.388	7.2	LOS A	2.9	20.0	0.30	0.55	42.3
6u	U	1	0.0	1	0.0	0.388	8.7	LOS A	2.9	20.0	0.30	0.55	49.1
Approach		527	0.0	527	0.0	0.388	6.2	LOS A	2.9	20.0	0.30	0.55	44.1
North: Subway Ln													
7	L2	214	0.0	214	0.0	0.257	3.1	LOS A	1.6	11.2	0.43	0.56	44.4
9	R2	72	0.0	72	0.0	0.257	6.0	LOS A	1.6	11.2	0.43	0.56	45.4
Approach		286	0.0	286	0.0	0.257	3.9	LOS A	1.6	11.2	0.43	0.56	44.7
West: The Crescent W													
10	L2	56	0.0	56	0.0	0.244	6.0	LOS A	1.4	9.9	0.55	0.62	42.8
11	T1	177	0.0	177	0.0	0.244	5.9	LOS A	1.4	9.9	0.55	0.62	46.2
Approach		233	0.0	233	0.0	0.244	5.9	LOS A	1.4	9.9	0.55	0.62	45.7
All Vehicles		1046	0.0	1046	0.0	0.388	5.5	LOS A	2.9	20.0	0.39	0.57	44.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

 **Site: 101 [7. The Crescent/ Subway Ln, Homebush AM**
Exisitng]

 **Network: N101 [Existing AM]**

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	44.6 km/h	44.6 km/h
Travel Distance (Total)	730.5 veh-km/h	876.6 pers-km/h
Travel Time (Total)	16.4 veh-h/h	19.6 pers-h/h
Demand Flows (Total)	1046 veh/h	1255 pers/h
Arrival Flows (Total)	1046 veh/h	1255 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.388	
Practical Spare Capacity	119.3 %	
Effective Intersection Capacity	2698 veh/h	
Control Delay (Total)	1.59 veh-h/h	1.91 pers-h/h
Control Delay (Average)	5.5 sec	5.5 sec
Control Delay (Worst Lane)	6.2 sec	
Control Delay (Worst Movement)	8.7 sec	8.7 sec
Geometric Delay (Average)	4.5 sec	
Stop-Line Delay (Average)	1.0 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	2.9 veh	
95% Back of Queue - Distance (Worst Lane)	20.0 m	
Queue Storage Ratio (Worst Lane)	0.18	
Total Effective Stops	596 veh/h	716 pers/h
Effective Stop Rate	0.57 per veh	0.57 per pers
Proportion Queued	0.39	0.39
Performance Index	25.4	25.4
Cost (Total)	456.03 \$/h	456.03 \$/h
Fuel Consumption (Total)	57.5 L/h	
Carbon Dioxide (Total)	135.2 kg/h	
Hydrocarbons (Total)	0.010 kg/h	
Carbon Monoxide (Total)	0.107 kg/h	
NOx (Total)	0.035 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	502,080 veh/y	602,496 pers/y
Arrival Flows (Total)	502,080 veh/y	
Delay	764 veh-h/y	917 pers-h/y
Effective Stops	286,207 veh/y	343,449 pers/y
Travel Distance	350,650 veh-km/y	420,780 pers-km/y
Travel Time	7,855 veh-h/y	9,426 pers-h/y
Cost	218,895 \$/y	218,895 \$/y
Fuel Consumption	27,610 L/y	
Carbon Dioxide	64,884 kg/y	
Hydrocarbons	5 kg/y	
Carbon Monoxide	51 kg/y	
NOx	17 kg/y	

MOVEMENT SUMMARY

Site: 101 [8. Additional Intersection Existing AM]

Network: N101 [Existing AM]

Additional Intersection
Existing AM
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: RoadName													
4	L2	25	0.0	25	0.0	0.292	5.5	LOS A	0.0	0.0	0.00	0.04	57.6
5	T1	1359	0.0	1359	0.0	0.292	0.0	LOS A	0.2	1.3	0.00	0.01	59.2
Approach		1384	0.0	1384	0.0	0.292	0.1	NA	0.2	1.3	0.00	0.01	59.2
West: RoadName													
11	T1	791	0.0	791	0.0	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		791	0.0	791	0.0	0.135	0.0	NA	0.0	0.0	0.00	0.00	60.0
All Vehicles		2175	0.0	2175	0.0	0.292	0.1	NA	0.2	1.3	0.00	0.01	59.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

Site: 101 [8. Additional Intersection Existing AM]

Network: N101 [Existing AM]

Additional Intersection
Existing AM
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	59.3 km/h	59.3 km/h
Travel Distance (Total)	233.5 veh-km/h	280.1 pers-km/h
Travel Time (Total)	3.9 veh-h/h	4.7 pers-h/h
Demand Flows (Total)	2175 veh/h	2610 pers/h
Arrival Flows (Total)	2175 veh/h	2610 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.292	
Practical Spare Capacity	236.1 %	
Effective Intersection Capacity	7460 veh/h	
Control Delay (Total)	0.04 veh-h/h	0.05 pers-h/h
Control Delay (Average)	0.1 sec	0.1 sec
Control Delay (Worst Lane)	0.4 sec	
Control Delay (Worst Movement)	5.5 sec	5.5 sec
Geometric Delay (Average)	0.1 sec	
Stop-Line Delay (Average)	0.0 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.2 veh	
95% Back of Queue - Distance (Worst Lane)	1.3 m	
Queue Storage Ratio (Worst Lane)	0.01	
Total Effective Stops	15 veh/h	18 pers/h
Effective Stop Rate	0.01 per veh	0.01 per pers
Proportion Queued	0.00	0.00
Performance Index	4.1	4.1
Cost (Total)	171.36 \$/h	171.36 \$/h
Fuel Consumption (Total)	16.0 L/h	
Carbon Dioxide (Total)	37.7 kg/h	
Hydrocarbons (Total)	0.003 kg/h	
Carbon Monoxide (Total)	0.049 kg/h	
NOx (Total)	0.008 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 4.1 %

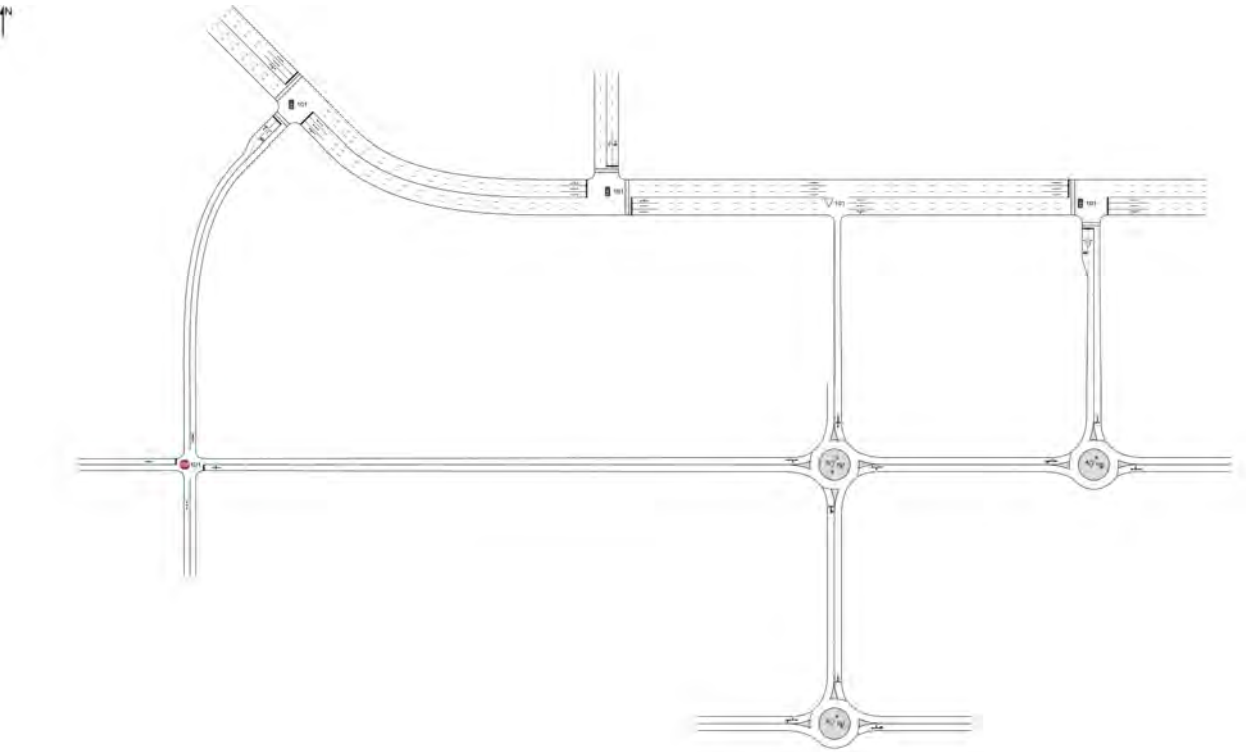
Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,044,000 veh/y	1,252,800 pers/y
Arrival Flows (Total)	1,044,000 veh/y	
Delay	21 veh-h/y	25 pers-h/y
Effective Stops	7,170 veh/y	8,604 pers/y
Travel Distance	112,057 veh-km/y	134,469 pers-km/y
Travel Time	1,888 veh-h/y	2,266 pers-h/y
Cost	82,251 \$/y	82,251 \$/y
Fuel Consumption	7,698 L/y	
Carbon Dioxide	18,090 kg/y	
Hydrocarbons	1 kg/y	
Carbon Monoxide	23 kg/y	

NETWORK LAYOUT

Network: N101 [Existing PM]

New Network



SITES IN NETWORK	
Site ID	Site Name
101	1. Parramatta Rd/ Bridge Rd, Homebush PM Exisitng
101	2. Bridge Rd/ Loftus Cr, Homebush PM Exisitng
101	3. Parramatta Rd/ Underwood Rd, Homebush PM Exisitng
101	4. Parramatta Rd/ Knight St, Homebush PM Exisitng
101	5. Knight St/ Loftus Cr, Homebush PM Exisitng
101	6. Loftus Cr/ Subway Ln, Homebush PM Exisitng
101	7. The Crescent/ Subway Ln, Homebush PM Exisitng
101	8. Additional Intersection Existing PM

MOVEMENT SUMMARY

 **Site: 101 [1. Parramatta Rd/ Bridge Rd, Homebush PM**
Exisitng]

 **Network: N101 [Existing PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
SouthEast: Parramatta Rd SE													
21	L2	230	0.0	230	0.0	0.605	23.5	LOS B	14.0	98.3	0.64	0.67	32.5
22	T1	1244	0.0	1244	0.0	0.605	22.0	LOS B	19.3	135.2	0.76	0.69	42.4
Approach		1474	0.0	1474	0.0	0.605	22.2	LOS B	19.3	135.2	0.74	0.69	41.4
NorthWest: Parramatta Rd NW													
28	T1	520	0.0	520	0.0	0.163	2.0	LOS A	2.6	18.0	0.22	0.19	56.4
29	R2	551	0.0	551	0.0	0.728	31.3	LOS C	18.2	127.3	0.91	1.01	29.9
Approach		1071	0.0	1071	0.0	0.728	17.0	LOS B	18.2	127.3	0.57	0.61	38.7
SouthWest: Bridge Rd													
30	L2	185	0.0	185	0.0	0.912	66.4	LOS E	13.5	94.3	1.00	1.09	21.4
32	R2	143	0.0	143	0.0	0.912	68.4	LOS E	13.5	94.3	1.00	1.10	8.6
Approach		328	0.0	328	0.0	0.912	67.3	LOS E	13.5	94.3	1.00	1.10	16.9
All Vehicles		2873	0.0	2873	0.0	0.912	25.4	LOS B	19.3	135.2	0.71	0.71	36.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P7	NorthWest Full Crossing	9	44.2	LOS E	0.0	0.0	0.94	0.94
P8	SouthWest Full Crossing	5	21.1	LOS C	0.0	0.0	0.65	0.65
All Pedestrians		14	36.0	LOS D			0.84	0.84

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [1. Parramatta Rd/ Bridge Rd, Homebush PM**
Exisitng]

 **Network: N101 [Existing PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	36.4 km/h	2.1 km/h	36.2 km/h
Travel Distance (Total)	1926.1 veh-km/h	0.5 ped-km/h	2311.9 pers-km/h
Travel Time (Total)	53.0 veh-h/h	0.3 ped-h/h	63.8 pers-h/h
Demand Flows (Total)	2873 veh/h	14 ped/h	3448 pers/h
Arrival Flows (Total)	2873 veh/h		3448 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.912	0.013	
Practical Spare Capacity	-1.3 %		
Effective Intersection Capacity	3151 veh/h		
Control Delay (Total)	20.30 veh-h/h	0.14 ped-h/h	24.50 pers-h/h
Control Delay (Average)	25.4 sec	36.0 sec	25.6 sec
Control Delay (Worst Lane)	69.2 sec		
Control Delay (Worst Movement)	68.4 sec	44.2 sec	68.4 sec
Geometric Delay (Average)	2.0 sec		
Stop-Line Delay (Average)	23.4 sec		
Idling Time (Average)	19.4 sec		
Intersection Level of Service (LOS)	LOS B	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	19.3 veh		
95% Back of Queue - Distance (Worst Lane)	135.2 m		
Queue Storage Ratio (Worst Lane)	0.32		
Total Effective Stops	2031 veh/h	12 ped/h	2449 pers/h
Effective Stop Rate	0.71 per veh	0.84 per ped	0.71 per pers
Proportion Queued	0.71	0.84	0.71
Performance Index	109.2	0.3	109.5
Cost (Total)	1740.00 \$/h	6.41 \$/h	1746.41 \$/h
Fuel Consumption (Total)	185.5 L/h		
Carbon Dioxide (Total)	436.0 kg/h		
Hydrocarbons (Total)	0.039 kg/h		
Carbon Monoxide (Total)	0.477 kg/h		
NOx (Total)	0.131 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,379,040 veh/y	6,720 ped/y	1,654,848 pers/y
Arrival Flows (Total)	1,379,040 veh/y		
Delay	9,743 veh-h/y	67 ped-h/y	11,759 pers-h/y
Effective Stops	974,935 veh/y	5,623 ped/y	1,175,544 pers/y
Travel Distance	924,550 veh-km/y	257 ped-km/y	1,109,717 pers-km/y
Travel Time	25,421 veh-h/y	122 ped-h/y	30,627 pers-h/y
Cost	835,200 \$/y	3,076 \$/y	838,276 \$/y
Fuel Consumption	89,058 L/y		
Carbon Dioxide	209,286 kg/y		
Hydrocarbons	19 kg/y		

MOVEMENT SUMMARY



Site: 101 [2. Bridge Rd/ Loftus Cr, Homebush PM Existing]



Network: N101 [Existing PM]

PM Peak Hour: 5:00 - 6:00PM
Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Bridge Rd S													
1	L2	15	0.0	15	0.0	0.165	6.4	LOS A	0.2	1.1	0.06	0.04	49.1
2	T1	292	0.0	292	0.0	0.165	0.2	LOS A	0.2	1.1	0.06	0.04	49.1
3	R2	6	0.0	6	0.0	0.165	8.7	LOS A	0.2	1.1	0.06	0.04	49.1
Approach		313	0.0	313	0.0	0.165	0.6	NA	0.2	1.1	0.06	0.04	49.1
East: Loftus Cr E													
4	L2	19	0.0	19	0.0	0.077	11.7	LOS A	0.3	1.9	0.65	0.96	42.1
5	T1	3	0.0	3	0.0	0.077	16.6	LOS B	0.3	1.9	0.65	0.96	41.9
6	R2	11	0.0	11	0.0	0.077	18.2	LOS B	0.3	1.9	0.65	0.96	37.1
Approach		33	0.0	33	0.0	0.077	14.3	LOS A	0.3	1.9	0.65	0.96	41.0
North: Bridge Rd N													
7	L2	14	0.0	14	0.0	0.383	5.2	LOS A	0.1	0.8	0.01	0.02	49.3
8	T1	721	0.0	721	0.0	0.383	0.0	LOS A	0.1	0.8	0.01	0.02	49.8
9	R2	8	0.0	8	0.0	0.383	6.3	LOS A	0.1	0.8	0.01	0.02	48.4
Approach		743	0.0	743	0.0	0.383	0.2	NA	0.1	0.8	0.01	0.02	49.8
West: Loftus W													
10	L2	8	0.0	8	0.0	0.040	8.6	LOS A	0.1	0.9	0.54	0.93	37.6
11	T1	6	0.0	6	0.0	0.040	16.3	LOS B	0.1	0.9	0.54	0.93	37.6
12	R2	4	0.0	4	0.0	0.040	18.0	LOS B	0.1	0.9	0.54	0.93	42.1
Approach		18	0.0	18	0.0	0.040	13.3	LOS A	0.1	0.9	0.54	0.93	39.1
All Vehicles		1107	0.0	1107	0.0	0.383	1.0	NA	0.3	1.9	0.05	0.06	49.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY



Site: 101 [2. Bridge Rd/ Loftus Cr, Homebush PM Exisitng]



Network: N101 [Existing PM]

PM Peak Hour: 5:00 - 6:00PM
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	49.0 km/h	49.0 km/h
Travel Distance (Total)	712.3 veh-km/h	854.8 pers-km/h
Travel Time (Total)	14.5 veh-h/h	17.4 pers-h/h
Demand Flows (Total)	1107 veh/h	1328 pers/h
Arrival Flows (Total)	1107 veh/h	1328 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.383	
Practical Spare Capacity	155.6 %	
Effective Intersection Capacity	2887 veh/h	
Control Delay (Total)	0.29 veh-h/h	0.35 pers-h/h
Control Delay (Average)	1.0 sec	1.0 sec
Control Delay (Worst Lane)	14.3 sec	
Control Delay (Worst Movement)	18.2 sec	18.2 sec
Geometric Delay (Average)	0.5 sec	
Stop-Line Delay (Average)	0.4 sec	
Idling Time (Average)	0.3 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.3 veh	
95% Back of Queue - Distance (Worst Lane)	1.9 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	72 veh/h	86 pers/h
Effective Stop Rate	0.06 per veh	0.06 per pers
Proportion Queued	0.05	0.05
Performance Index	15.7	15.7
Cost (Total)	282.46 \$/h	282.46 \$/h
Fuel Consumption (Total)	43.3 L/h	
Carbon Dioxide (Total)	101.9 kg/h	
Hydrocarbons (Total)	0.006 kg/h	
Carbon Monoxide (Total)	0.078 kg/h	
NOx (Total)	0.018 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	531,360 veh/y	637,632 pers/y
Arrival Flows (Total)	531,360 veh/y	
Delay	141 veh-h/y	169 pers-h/y
Effective Stops	34,495 veh/y	41,394 pers/y
Travel Distance	341,907 veh-km/y	410,288 pers-km/y
Travel Time	6,977 veh-h/y	8,372 pers-h/y
Cost	135,582 \$/y	135,582 \$/y
Fuel Consumption	20,804 L/y	
Carbon Dioxide	48,890 kg/y	
Hydrocarbons	3 kg/y	
Carbon Monoxide	38 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 **Site: 101 [3. Parramatta Rd/ Underwood Rd, Homebush PM**
Exisitng]

 **Network: N101 [Existing PM]**

PM Peak Hour : 5:00 - 6:00AM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Parramatta Rd E													
5	T1	1155	0.0	1155	0.0	0.365	3.2	LOS A	6.3	44.0	0.21	0.21	29.6
6	R2	199	0.0	199	0.0	0.365	10.1	LOS A	5.4	37.8	0.39	0.55	46.0
Approach		1354	0.0	1354	0.0	0.365	4.3	LOS A	6.3	44.0	0.24	0.26	38.2
North: Underwood Rd													
7	L2	126	0.0	126	0.0	0.629	45.7	LOS D	10.0	70.3	0.97	0.82	22.4
9	R2	279	0.0	279	0.0	0.629	47.4	LOS D	10.0	70.3	0.98	0.82	22.0
Approach		405	0.0	405	0.0	0.629	46.9	LOS D	10.0	70.3	0.98	0.82	22.1
West: Parramatta Rd W													
10	L2	40	0.0	40	0.0	0.252	27.4	LOS B	7.0	49.3	0.77	0.67	41.3
11	T1	562	0.0	562	0.0	0.252	21.0	LOS B	7.0	49.3	0.72	0.61	32.0
Approach		602	0.0	602	0.0	0.252	21.5	LOS B	7.0	49.3	0.72	0.61	33.0
All Vehicles		2361	0.0	2361	0.0	0.629	16.0	LOS B	10.0	70.3	0.49	0.45	29.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow	Average Delay	Level of Service	Average Back of Queue	Back of Queue Distance	Prop. Queued	Effective Stop Rate	
		ped/h	sec		ped	m		per ped	
P2	East Full Crossing	46	44.3	LOS E	0.1	0.1	0.94	0.94	
P3	North Full Crossing	26	23.8	LOS C	0.1	0.1	0.69	0.69	
All Pedestrians		72	36.9	LOS D			0.85	0.85	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [3. Parramatta Rd/ Underwood Rd, Homebush PM**
Exisitng]

 **Network: N101 [Existing PM]**

PM Peak Hour : 5:00 - 6:00AM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	29.4 km/h	2.1 km/h	28.1 km/h
Travel Distance (Total)	650.6 veh-km/h	2.8 ped-km/h	783.6 pers-km/h
Travel Time (Total)	22.1 veh-h/h	1.3 ped-h/h	27.9 pers-h/h
Demand Flows (Total)	2361 veh/h	72 ped/h	2833 pers/h
Arrival Flows (Total)	2361 veh/h		2833 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.629	0.064	
Practical Spare Capacity	43.0 %		
Effective Intersection Capacity	3753 veh/h		
Control Delay (Total)	10.46 veh-h/h	0.74 ped-h/h	13.30 pers-h/h
Control Delay (Average)	16.0 sec	36.9 sec	16.9 sec
Control Delay (Worst Lane)	48.3 sec		
Control Delay (Worst Movement)	47.4 sec	44.3 sec	47.4 sec
Geometric Delay (Average)	1.2 sec		
Stop-Line Delay (Average)	14.8 sec		
Idling Time (Average)	12.9 sec		
Intersection Level of Service (LOS)	LOS B	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	10.0 veh		
95% Back of Queue - Distance (Worst Lane)	70.3 m		
Queue Storage Ratio (Worst Lane)	0.67		
Total Effective Stops	1054 veh/h	61 ped/h	1326 pers/h
Effective Stop Rate	0.45 per veh	0.85 per ped	0.47 per pers
Proportion Queued	0.49	0.85	0.51
Performance Index	54.1	1.7	55.7
Cost (Total)	875.00 \$/h	33.87 \$/h	908.88 \$/h
Fuel Consumption (Total)	79.3 L/h		
Carbon Dioxide (Total)	186.3 kg/h		
Hydrocarbons (Total)	0.017 kg/h		
Carbon Monoxide (Total)	0.186 kg/h		
NOx (Total)	0.059 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,133,280 veh/y	34,560 ped/y	1,359,936 pers/y
Arrival Flows (Total)	1,133,280 veh/y		
Delay	5,023 veh-h/y	354 ped-h/y	6,382 pers-h/y
Effective Stops	505,942 veh/y	29,416 ped/y	636,546 pers/y
Travel Distance	312,306 veh-km/y	1,362 ped-km/y	376,130 pers-km/y
Travel Time	10,610 veh-h/y	645 ped-h/y	13,378 pers-h/y
Cost	420,002 \$/y	16,259 \$/y	436,261 \$/y
Fuel Consumption	38,063 L/y		
Carbon Dioxide	89,448 kg/y		
Hydrocarbons	8 kg/y		

MOVEMENT SUMMARY

 **Site: 101 [4. Parramatta Rd/ Knight St, Homebush PM Exisitng]**

 **Network: N101 [Existing PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Knight St													
1	L2	89	0.0	89	0.0	0.218	40.5	LOS C	3.6	25.2	0.84	0.74	8.2
3	R2	101	0.0	101	0.0	0.247	40.8	LOS C	4.1	28.8	0.84	0.75	25.7
Approach		190	0.0	190	0.0	0.247	40.7	LOS C	4.1	28.8	0.84	0.75	19.9
East: Parramatta Rd E													
4	L2	296	0.0	296	0.0	0.420	14.3	LOS A	11.9	83.0	0.49	0.61	43.3
5	T1	1309	0.0	1309	0.0	0.420	8.8	LOS A	12.2	85.3	0.49	0.47	46.0
Approach		1605	0.0	1605	0.0	0.420	9.8	LOS A	12.2	85.3	0.49	0.50	45.5
West: Parramatta Rd W													
11	T1	697	0.0	697	0.0	0.181	1.2	LOS A	1.5	10.4	0.06	0.05	58.1
Approach		697	0.0	697	0.0	0.181	1.2	LOS A	1.5	10.4	0.06	0.05	58.1
All Vehicles		2492	0.0	2492	0.0	0.420	9.8	LOS A	12.2	85.3	0.40	0.39	45.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	15	8.4	LOS A	0.0	0.0	0.41	0.41
P4	West Full Crossing	38	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		53	34.1	LOS D			0.79	0.79

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [4. Parramatta Rd/ Knight St, Homebush PM Exisitng]**

 **Network: N101 [Existing PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	45.7 km/h	2.2 km/h	44.5 km/h
Travel Distance (Total)	1344.3 veh-km/h	2.1 ped-km/h	1615.3 pers-km/h
Travel Time (Total)	29.4 veh-h/h	0.9 ped-h/h	36.3 pers-h/h
Demand Flows (Total)	2492 veh/h	53 ped/h	2990 pers/h
Arrival Flows (Total)	2492 veh/h		2990 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.420	0.053	
Practical Spare Capacity	114.5 %		
Effective Intersection Capacity	5940 veh/h		
Control Delay (Total)	6.77 veh-h/h	0.50 ped-h/h	8.62 pers-h/h
Control Delay (Average)	9.8 sec	34.1 sec	10.4 sec
Control Delay (Worst Lane)	40.8 sec		
Control Delay (Worst Movement)	40.8 sec	44.3 sec	44.3 sec
Geometric Delay (Average)	1.0 sec		
Stop-Line Delay (Average)	8.8 sec		
Idling Time (Average)	7.0 sec		
Intersection Level of Service (LOS)	LOS A	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	12.2 veh		
95% Back of Queue - Distance (Worst Lane)	85.3 m		
Queue Storage Ratio (Worst Lane)	0.19		
Total Effective Stops	979 veh/h	42 ped/h	1216 pers/h
Effective Stop Rate	0.39 per veh	0.79 per ped	0.41 per pers
Proportion Queued	0.40	0.79	0.41
Performance Index	54.7	1.2	55.9
Cost (Total)	976.56 \$/h	23.78 \$/h	1000.34 \$/h
Fuel Consumption (Total)	111.6 L/h		
Carbon Dioxide (Total)	262.3 kg/h		
Hydrocarbons (Total)	0.023 kg/h		
Carbon Monoxide (Total)	0.304 kg/h		
NOx (Total)	0.076 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,196,160 veh/y	25,440 ped/y	1,435,392 pers/y
Arrival Flows (Total)	1,196,160 veh/y		
Delay	3,248 veh-h/y	241 ped-h/y	4,138 pers-h/y
Effective Stops	469,734 veh/y	20,127 ped/y	583,808 pers/y
Travel Distance	645,284 veh-km/y	992 ped-km/y	775,333 pers-km/y
Travel Time	14,126 veh-h/y	453 ped-h/y	17,404 pers-h/y
Cost	468,748 \$/y	11,416 \$/y	480,164 \$/y
Fuel Consumption	53,586 L/y		
Carbon Dioxide	125,927 kg/y		
Hydrocarbons	11 kg/y		

MOVEMENT SUMMARY

 Site: 101 [5. Knight St/ Loftus Cr, Homebush PM Exisitng]

 Network: N101 [Existing PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back Vehicles	of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Loftus Cr W													
5	T1	113	0.0	113	0.0	0.125	5.6	LOS A	0.7	5.0	0.47	0.56	43.0
6	R2	11	0.0	11	0.0	0.125	8.3	LOS A	0.7	5.0	0.47	0.56	43.0
Approach		124	0.0	124	0.0	0.125	5.8	LOS A	0.7	5.0	0.47	0.56	43.0
North: Knight St													
7	L2	4	0.0	4	0.0	0.224	4.8	LOS A	1.1	7.7	0.15	0.61	42.0
9	R2	304	0.0	304	0.0	0.224	6.7	LOS A	1.1	7.7	0.15	0.61	27.2
Approach		308	0.0	308	0.0	0.224	6.7	LOS A	1.1	7.7	0.15	0.61	27.9
West: Loftus Cr W													
10	L2	180	0.0	180	0.0	0.148	4.6	LOS A	0.9	6.1	0.08	0.52	29.0
11	T1	43	0.0	43	0.0	0.148	3.8	LOS A	0.9	6.1	0.08	0.52	44.5
12u	U	1	0.0	1	0.0	0.148	7.8	LOS A	0.9	6.1	0.08	0.52	29.0
Approach		224	0.0	224	0.0	0.148	4.5	LOS A	0.9	6.1	0.08	0.52	36.8
All Vehicles		656	0.0	656	0.0	0.224	5.8	LOS A	1.1	7.7	0.19	0.57	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

 Site: 101 [5. Knight St/ Loftus Cr, Homebush PM Exisitng]

 Network: N101 [Existing PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	36.1 km/h	36.1 km/h
Travel Distance (Total)	143.2 veh-km/h	171.8 pers-km/h
Travel Time (Total)	4.0 veh-h/h	4.8 pers-h/h
Demand Flows (Total)	656 veh/h	787 pers/h
Arrival Flows (Total)	656 veh/h	787 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.224	
Practical Spare Capacity	279.3 %	
Effective Intersection Capacity	2927 veh/h	
Control Delay (Total)	1.05 veh-h/h	1.26 pers-h/h
Control Delay (Average)	5.8 sec	5.8 sec
Control Delay (Worst Lane)	6.7 sec	
Control Delay (Worst Movement)	8.3 sec	8.3 sec
Geometric Delay (Average)	5.3 sec	
Stop-Line Delay (Average)	0.5 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.1 veh	
95% Back of Queue - Distance (Worst Lane)	7.7 m	
Queue Storage Ratio (Worst Lane)	0.03	
Total Effective Stops	376 veh/h	451 pers/h
Effective Stop Rate	0.57 per veh	0.57 per pers
Proportion Queued	0.19	0.19
Performance Index	8.5	8.5
Cost (Total)	188.48 \$/h	188.48 \$/h
Fuel Consumption (Total)	21.6 L/h	
Carbon Dioxide (Total)	50.7 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.045 kg/h	
NOx (Total)	0.021 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	314,880 veh/y	377,856 pers/y
Arrival Flows (Total)	314,880 veh/y	
Delay	504 veh-h/y	605 pers-h/y
Effective Stops	180,303 veh/y	216,363 pers/y
Travel Distance	68,729 veh-km/y	82,475 pers-km/y
Travel Time	1,904 veh-h/y	2,285 pers-h/y
Cost	90,472 \$/y	90,472 \$/y
Fuel Consumption	10,363 L/y	
Carbon Dioxide	24,353 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	22 kg/y	
NOx	10 kg/y	

MOVEMENT SUMMARY

 Site: 101 [6. Loftus Cr/ Subway Ln, Homebush PM Exisitng]  Network: N101 [Existing PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Subway Ln S													
1	L2	55	0.0	55	0.0	0.179	2.4	LOS A	1.0	7.0	0.09	0.61	22.7
3	R2	213	0.0	213	0.0	0.179	4.9	LOS A	1.0	7.0	0.09	0.61	22.7
3u	U	1	0.0	1	0.0	0.179	6.4	LOS A	1.0	7.0	0.09	0.61	22.7
Approach		269	0.0	269	0.0	0.179	4.4	LOS A	1.0	7.0	0.09	0.61	22.7
East: Loftus Cr E													
4	L2	434	0.0	434	0.0	0.347	5.3	LOS A	2.3	15.8	0.33	0.55	28.9
5	T1	8	0.0	8	0.0	0.347	5.0	LOS A	2.3	15.8	0.33	0.55	28.9
Approach		442	0.0	442	0.0	0.347	5.3	LOS A	2.3	15.8	0.33	0.55	28.9
North: Subway Ln N													
7	L2	4	0.0	4	0.0	0.047	6.5	LOS A	0.2	1.6	0.42	0.58	29.8
8	T1	35	0.0	35	0.0	0.047	6.3	LOS A	0.2	1.6	0.42	0.58	29.8
9	R2	8	0.0	8	0.0	0.047	9.2	LOS A	0.2	1.6	0.42	0.58	29.8
Approach		47	0.0	47	0.0	0.047	6.8	LOS A	0.2	1.6	0.42	0.58	29.8
West: Loftus Cr W													
11	T1	18	0.0	18	0.0	0.070	5.9	LOS A	0.3	2.4	0.37	0.63	47.5
12	R2	57	0.0	57	0.0	0.070	8.8	LOS A	0.3	2.4	0.37	0.63	47.5
Approach		75	0.0	75	0.0	0.070	8.1	LOS A	0.3	2.4	0.37	0.63	47.5
All Vehicles		833	0.0	833	0.0	0.347	5.4	LOS A	2.3	15.8	0.26	0.58	33.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Roundabout Capacity Model: SIDRA Standard.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %
 Number of Iterations: 10 (maximum specified: 10)

INTERSECTION SUMMARY



Site: 101 [6. Loftus Cr/ Subway Ln, Homebush PM Exisitng]



Network: N101 [Existing PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	33.1 km/h	33.1 km/h
Travel Distance (Total)	97.4 veh-km/h	116.9 pers-km/h
Travel Time (Total)	2.9 veh-h/h	3.5 pers-h/h
Demand Flows (Total)	833 veh/h	1000 pers/h
Arrival Flows (Total)	833 veh/h	1000 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.347	
Practical Spare Capacity	144.8 %	
Effective Intersection Capacity	2399 veh/h	
Control Delay (Total)	1.24 veh-h/h	1.49 pers-h/h
Control Delay (Average)	5.4 sec	5.4 sec
Control Delay (Worst Lane)	8.1 sec	
Control Delay (Worst Movement)	9.2 sec	9.2 sec
Geometric Delay (Average)	4.8 sec	
Stop-Line Delay (Average)	0.6 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	2.3 veh	
95% Back of Queue - Distance (Worst Lane)	15.8 m	
Queue Storage Ratio (Worst Lane)	0.11	
Total Effective Stops	482 veh/h	578 pers/h
Effective Stop Rate	0.58 per veh	0.58 per pers
Proportion Queued	0.26	0.26
Performance Index	9.1	9.1
Cost (Total)	176.09 \$/h	176.09 \$/h
Fuel Consumption (Total)	17.3 L/h	
Carbon Dioxide (Total)	40.7 kg/h	
Hydrocarbons (Total)	0.004 kg/h	
Carbon Monoxide (Total)	0.038 kg/h	
NOx (Total)	0.017 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	399,840 veh/y	479,808 pers/y
Arrival Flows (Total)	399,840 veh/y	
Delay	595 veh-h/y	714 pers-h/y
Effective Stops	231,297 veh/y	277,557 pers/y
Travel Distance	46,772 veh-km/y	56,126 pers-km/y
Travel Time	1,415 veh-h/y	1,698 pers-h/y
Cost	84,523 \$/y	84,523 \$/y
Fuel Consumption	8,314 L/y	
Carbon Dioxide	19,539 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	18 kg/y	
NOx	8 kg/y	

MOVEMENT SUMMARY

 **Site: 101 [7. The Crescent/ Subway Ln, Homebush PM**
Exisitng]

 **Network: N101 [Existing PM]**

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: The Crescent E													
5	T1	185	0.0	185	0.0	0.289	4.0	LOS A	2.0	13.7	0.22	0.53	46.3
6	R2	215	0.0	215	0.0	0.289	7.1	LOS A	2.0	13.7	0.22	0.53	43.0
6u	U	4	0.0	4	0.0	0.289	8.5	LOS A	2.0	13.7	0.22	0.53	49.5
Approach		404	0.0	404	0.0	0.289	5.7	LOS A	2.0	13.7	0.22	0.53	45.0
North: Subway Ln													
7	L2	426	0.0	426	0.0	0.422	3.5	LOS A	3.0	21.0	0.51	0.58	44.5
9	R2	48	0.0	48	0.0	0.422	6.3	LOS A	3.0	21.0	0.51	0.58	45.5
Approach		474	0.0	474	0.0	0.422	3.8	LOS A	3.0	21.0	0.51	0.58	44.6
West: The Crescent W													
10	L2	47	0.0	47	0.0	0.227	5.2	LOS A	1.3	8.9	0.43	0.54	43.3
11	T1	195	0.0	195	0.0	0.227	5.0	LOS A	1.3	8.9	0.43	0.54	46.5
12u	U	1	0.0	1	0.0	0.227	9.6	LOS A	1.3	8.9	0.43	0.54	49.8
Approach		243	0.0	243	0.0	0.227	5.1	LOS A	1.3	8.9	0.43	0.54	46.2
All Vehicles		1121	0.0	1121	0.0	0.422	4.7	LOS A	3.0	21.0	0.39	0.55	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

 **Site: 101 [7. The Crescent/ Subway Ln, Homebush PM**
Exisitng]

 **Network: N101 [Existing PM]**

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	45.2 km/h	45.2 km/h
Travel Distance (Total)	785.0 veh-km/h	942.0 pers-km/h
Travel Time (Total)	17.4 veh-h/h	20.8 pers-h/h
Demand Flows (Total)	1121 veh/h	1345 pers/h
Arrival Flows (Total)	1121 veh/h	1345 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.422	
Practical Spare Capacity	101.7 %	
Effective Intersection Capacity	2659 veh/h	
Control Delay (Total)	1.47 veh-h/h	1.77 pers-h/h
Control Delay (Average)	4.7 sec	4.7 sec
Control Delay (Worst Lane)	5.7 sec	
Control Delay (Worst Movement)	9.6 sec	9.6 sec
Geometric Delay (Average)	3.7 sec	
Stop-Line Delay (Average)	1.0 sec	
Idling Time (Average)	0.1 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	3.0 veh	
95% Back of Queue - Distance (Worst Lane)	21.0 m	
Queue Storage Ratio (Worst Lane)	0.34	
Total Effective Stops	619 veh/h	743 pers/h
Effective Stop Rate	0.55 per veh	0.55 per pers
Proportion Queued	0.39	0.39
Performance Index	26.9	26.9
Cost (Total)	432.11 \$/h	432.11 \$/h
Fuel Consumption (Total)	62.9 L/h	
Carbon Dioxide (Total)	147.8 kg/h	
Hydrocarbons (Total)	0.011 kg/h	
Carbon Monoxide (Total)	0.119 kg/h	
NOx (Total)	0.040 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	538,080 veh/y	645,696 pers/y
Arrival Flows (Total)	538,080 veh/y	
Delay	707 veh-h/y	849 pers-h/y
Effective Stops	297,162 veh/y	356,595 pers/y
Travel Distance	376,795 veh-km/y	452,154 pers-km/y
Travel Time	8,337 veh-h/y	10,004 pers-h/y
Cost	207,413 \$/y	207,413 \$/y
Fuel Consumption	30,179 L/y	
Carbon Dioxide	70,921 kg/y	
Hydrocarbons	5 kg/y	
Carbon Monoxide	57 kg/y	
NOx	19 kg/y	

MOVEMENT SUMMARY

Site: 101 [8. Additional Intersection Existing PM]

Network: N101 [Existing PM]

Additional Intersection
Existing PM
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: RoadName													
4	L2	28	0.0	28	0.0	0.211	5.5	LOS A	0.0	0.0	0.00	0.05	57.0
5	T1	1155	0.0	1155	0.0	0.211	0.0	LOS A	0.0	0.0	0.00	0.01	59.1
Approach		1183	0.0	1183	0.0	0.211	0.1	NA	0.0	0.0	0.00	0.01	59.0
West: RoadName													
11	T1	697	0.0	697	0.0	0.119	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		697	0.0	697	0.0	0.119	0.0	NA	0.0	0.0	0.00	0.00	60.0
All Vehicles		1880	0.0	1880	0.0	0.211	0.1	NA	0.0	0.0	0.00	0.01	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

Site: 101 [8. Additional Intersection Existing PM]

Network: N101 [Existing PM]

Additional Intersection
Existing PM
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	59.2 km/h	59.2 km/h
Travel Distance (Total)	200.6 veh-km/h	240.8 pers-km/h
Travel Time (Total)	3.4 veh-h/h	4.1 pers-h/h
Demand Flows (Total)	1880 veh/h	2256 pers/h
Arrival Flows (Total)	1880 veh/h	2256 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.211	
Practical Spare Capacity	363.6 %	
Effective Intersection Capacity	8894 veh/h	
Control Delay (Total)	0.05 veh-h/h	0.05 pers-h/h
Control Delay (Average)	0.1 sec	0.1 sec
Control Delay (Worst Lane)	0.4 sec	
Control Delay (Worst Movement)	5.5 sec	5.5 sec
Geometric Delay (Average)	0.1 sec	
Stop-Line Delay (Average)	0.0 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.0 veh	
95% Back of Queue - Distance (Worst Lane)	0.0 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	17 veh/h	20 pers/h
Effective Stop Rate	0.01 per veh	0.01 per pers
Proportion Queued	0.00	0.00
Performance Index	3.5	3.5
Cost (Total)	148.85 \$/h	148.85 \$/h
Fuel Consumption (Total)	14.0 L/h	
Carbon Dioxide (Total)	32.9 kg/h	
Hydrocarbons (Total)	0.002 kg/h	
Carbon Monoxide (Total)	0.043 kg/h	
NOx (Total)	0.007 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.2 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	902,400 veh/y	1,082,880 pers/y
Arrival Flows (Total)	902,400 veh/y	
Delay	22 veh-h/y	26 pers-h/y
Effective Stops	8,030 veh/y	9,636 pers/y
Travel Distance	96,302 veh-km/y	115,563 pers-km/y
Travel Time	1,627 veh-h/y	1,952 pers-h/y
Cost	71,447 \$/y	71,447 \$/y
Fuel Consumption	6,723 L/y	
Carbon Dioxide	15,799 kg/y	
Hydrocarbons	1 kg/y	
Carbon Monoxide	20 kg/y	

APPENDIX D

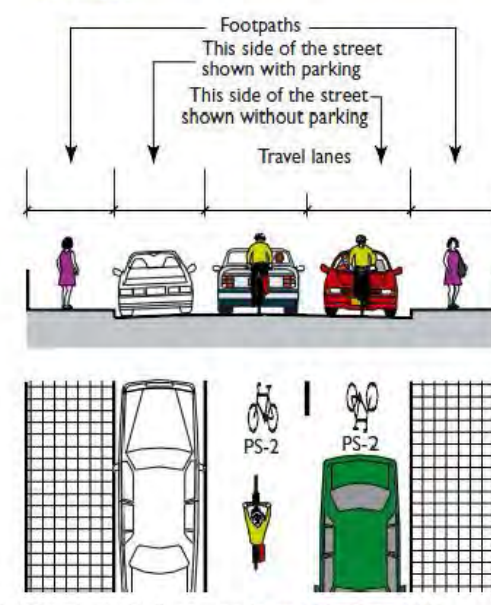
On-road Options

Figure 7-3 Separated Path Treatment 2



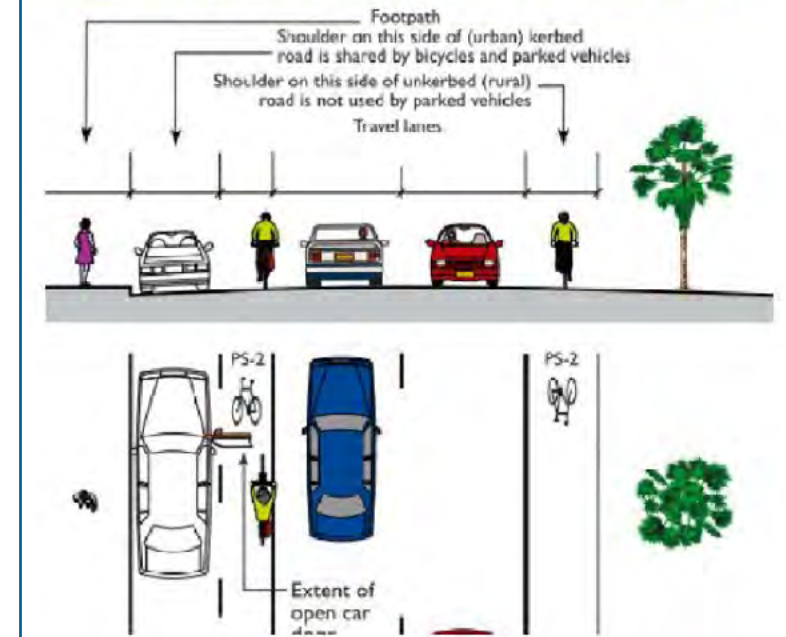
Source: City of Sydney

Figure 7-4 Typical Plan and Cross-Section for On-Road Mixed Traffic Bicycle Routes



Source: NSW Bicycle Guidelines, Roads and Maritime 2005.

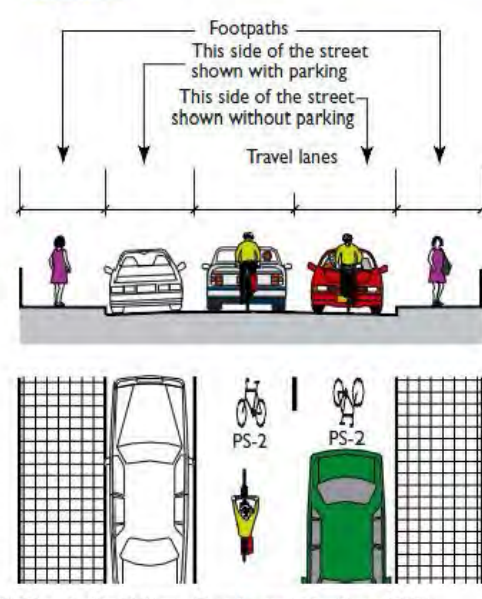
Figure 7-5 Typical Plan and Cross-Section for On-Road Bicycle Paths



Source: NSW Bicycle Guidelines, Roads and Maritime 2005.

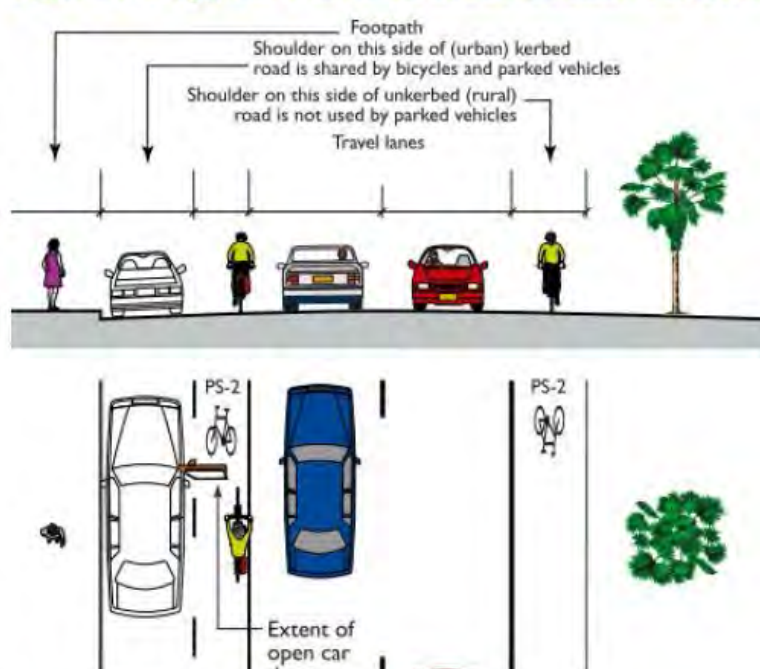
Off-road Options

Figure 7-4 Typical Plan and Cross-Section for On-Road Mixed Traffic Bicycle Routes



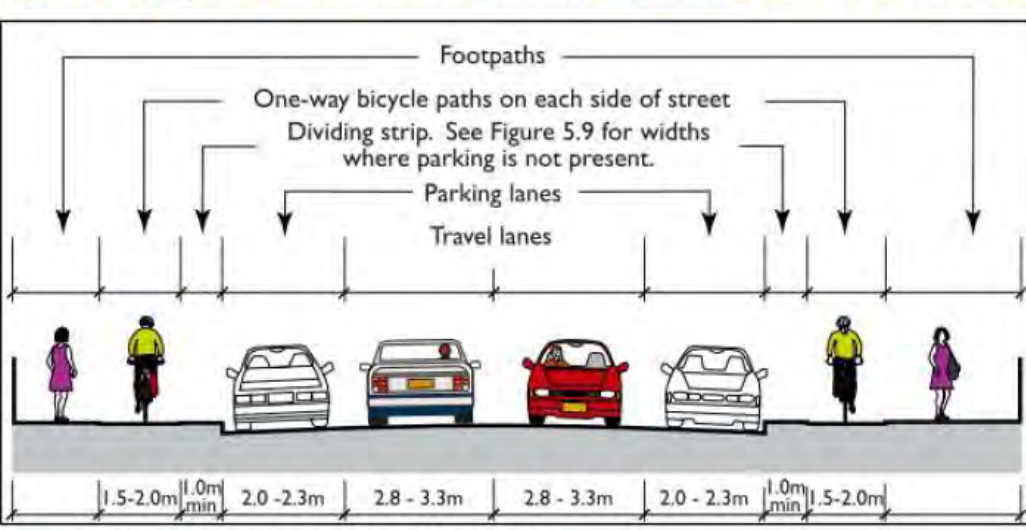
Source: NSW Bicycle Guidelines, Roads and Maritime 2005.

Figure 7-5 Typical Plan and Cross-Section for On-Road Bicycle Paths



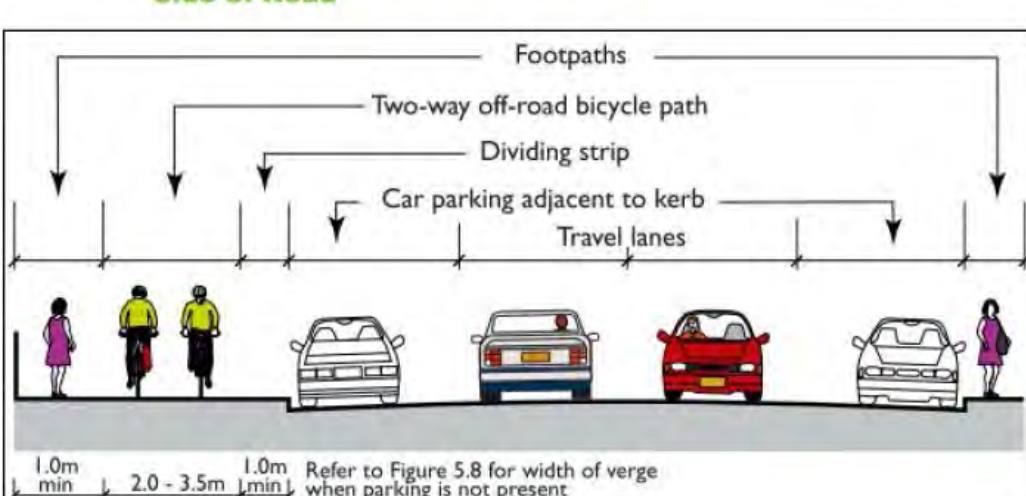
Source: NSW Bicycle Guidelines, Roads and Maritime 2005.

Figure 7-7 Typical Cross-Section - One-Way Pair of Off-Road Bicycle Paths



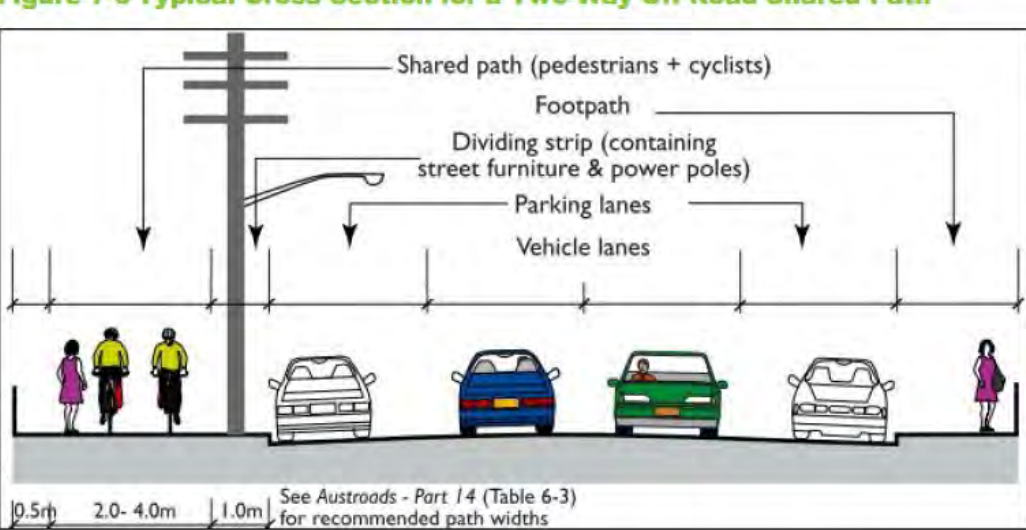
Source: NSW Bicycle Guidelines, Roads and Maritime 2005.

Figure 7-8 Typical Cross-Section - Two-Way Off-Road Bicycle Path on One Side of Road



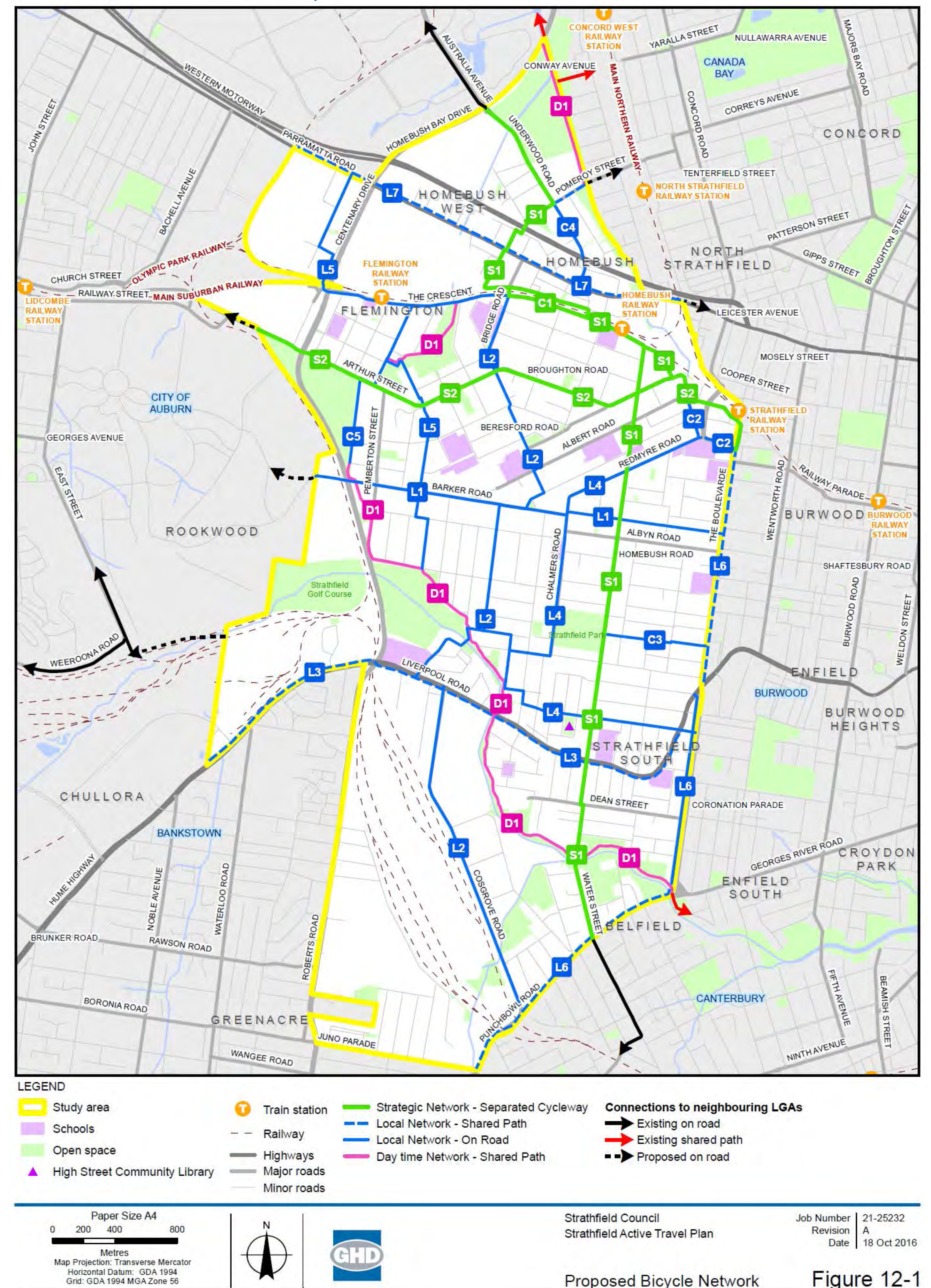
Source: NSW Bicycle Guidelines, Roads and Maritime 2005.

Figure 7-9 Typical Cross-Section for a Two-Way Off-Road Shared Path



Source: NSW Bicycle Guidelines, Roads and Maritime 2005.

Strathfield Bicycle Network



Implementation Schedule

Table 13-1 Priority Levels for Proposed Bicycle Routes

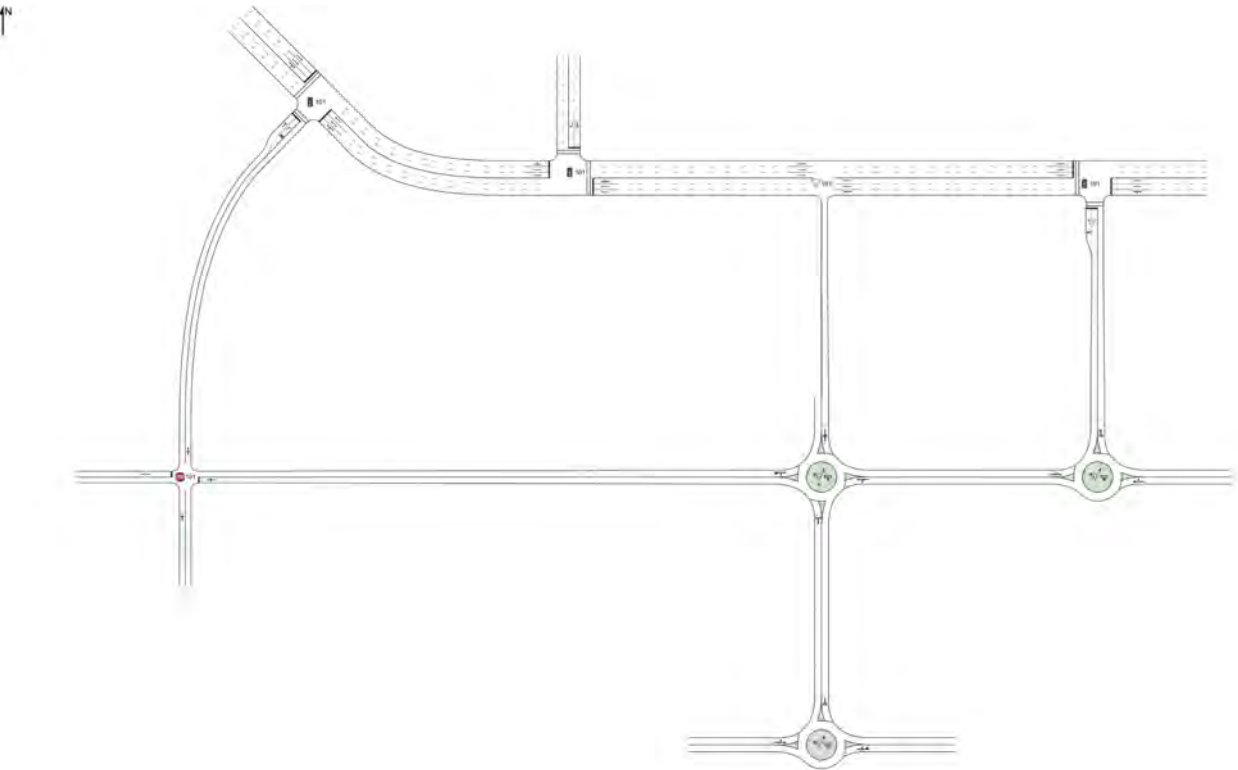
Category	Land Use		Perception					Safety	Continuity of Routes			User Groups					Score	Rank	
Weighting (%)	20		20					20	20			20							
Route ID	Proximity to Attractions / Generators	Future Development with Attractions / Generators	Road Hierarchy	Traffic volumes	Ease of use of existing roads	Attracts non-regular bicycle	Safety (perception)	Identified as Hazardous Area (from Site Audit and	Identified Pedestrian/ Bike Rider	Link existing facilities	Extension of facilities	Addition to facilities	Children	Older People	Shopping	Social	Commuting		
S1	3	2	2	2	2	3	2	2	2	2	2	3	3	3	3	3	80	2	
S2	3	3	2	2	2	3	2	2	3	3	3	3	3	3	2	3	90	1	
D1	1	2	1	1	2	3	1	1	1	3	2	2	3	2	1	3	56	13	
L1	2	1	2	2	2	2	2	1	1	1	1	2	2	2	1	1	2	50	14
L2	3	1	2	2	2	3	2	2	2	1	2	2	3	2	2	2	3	68	7
L3	2	2	3	3	3	2	3	2	1	1	1	2	2	1	1	1	3	62	9
L4	2	1	2	2	2	2	2	1	1	1	2	2	3	2	3	2	3	58	11
L5	3	2	2	2	2	3	2	2	2	2	2	2	3	2	2	3	74	4	
L6	3	2	2	2	2	3	3	2	1	2	2	2	3	2	3	3	2	73	5
L7	2	3	3	3	3	3	3	3	3	1	1	2	2	2	2	1	3	78	3
C1	3	2	2	2	2	3	2	2	2	1	1	2	2	2	2	2	3	68	8
C2	2	1	2	2	2	2	2	2	1	1	2	2	2	2	3	1	3	59	10
C3	2	1	1	1	1	2	1	1	1	1	2	2	2	2	1	1	1	45	15
C4	2	3	2	2	2	2	2	1	2	3	2	2	2	2	2	2	3	70	6
C5	1	1	1	1	2	3	1	1	1	3	3	2	3	2	1	3	2	56	12

APPENDIX E

NETWORK LAYOUT

Network: N101 [5:1 Future AM]

New Network



SITES IN NETWORK

Site ID	Site Name
 101	15. Parramatta Rd/ Bridge Rd, Homebush AM Future 5:1 FSR
 101	16. Bridge Rd/ Loftus Cr, Homebush AM Future 5:1 FSR
 101	17. Parramatta Rd/ Underwood Rd, Homebush AM Future 5:1 FSR
 101	18. Parramatta Rd/ Knight St, Homebush AM Future 5:1 FSR
 101	19. Knight St/ Loftus Cr, Homebush AM Future 5:1 FSR
 101	20. Loftus Cr/ Subway Ln, Homebush AM Future 5:1 FSR
 101	21. The Crescent/ Subway Ln, Homebush AM Future 5:1 FSR
 101	15. Additional Intersection 5:1 AM

MOVEMENT SUMMARY

 **Site: 101 [15. Parramatta Rd/ Bridge Rd, Homebush AM Future 5:1 FSR]**

 **Network: N101 [5:1 Future AM]**

AM Peak Hour: 8:00 - 9:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
SouthEast: Parramatta Rd SE													
21	L2	133	0.0	133	0.0	0.899	57.3	LOS E	26.9	188.5	1.00	1.09	18.7
22	T1	1280	0.0	1280	0.0	0.899	51.8	LOS D	27.4	191.7	1.00	1.09	30.6
Approach		1413	0.0	1413	0.0	0.899	52.3	LOS D	27.4	191.7	1.00	1.09	29.7
NorthWest: Parramatta Rd NW													
28	T1	576	0.0	576	0.0	0.197	3.9	LOS A	4.0	28.2	0.31	0.27	53.3
29	R2	344	0.0	344	0.0	0.399	25.0	LOS B	9.9	69.4	0.70	0.86	33.3
Approach		920	0.0	920	0.0	0.399	11.8	LOS A	9.9	69.4	0.46	0.49	43.5
SouthWest: Bridge Rd													
30	L2	370	0.0	370	0.0	0.506	57.7	LOS E	27.5	192.4	1.00	0.89	23.1
32	R2	285	0.0	285	0.0	0.506	54.5	LOS D	27.5	192.4	0.99	0.85	10.3
Approach		655	0.0	655	0.0	0.506	56.3	LOS D	27.5	192.4	0.99	0.88	18.9
All Vehicles		2988	0.0	2988	0.0	0.899	40.7	LOS C	27.5	192.4	0.83	0.86	29.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P7	NorthWest Full Crossing	5	44.2	LOS E	0.0	0.0	0.94	0.94
P8	SouthWest Full Crossing	8	32.0	LOS D	0.0	0.0	0.80	0.80
All Pedestrians		13	36.7	LOS D			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [15. Parramatta Rd/ Bridge Rd, Homebush AM**
Future 5:1 FSR]

 **Network: N101 [5:1 Future AM]**

AM Peak Hour: 8:00 - 9:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	29.3 km/h	2.0 km/h	29.2 km/h
Travel Distance (Total)	1997.0 veh-km/h	0.5 ped-km/h	2396.9 pers-km/h
Travel Time (Total)	68.2 veh-h/h	0.2 ped-h/h	82.0 pers-h/h
Demand Flows (Total)	2988 veh/h	13 ped/h	3585 pers/h
Arrival Flows (Total)	2988 veh/h		3585 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.899	0.007	
Practical Spare Capacity	0.2 %		
Effective Intersection Capacity	3325 veh/h		
Control Delay (Total)	33.77 veh-h/h	0.13 ped-h/h	40.66 pers-h/h
Control Delay (Average)	40.7 sec	36.7 sec	40.8 sec
Control Delay (Worst Lane)	57.7 sec		
Control Delay (Worst Movement)	57.7 sec	44.2 sec	57.7 sec
Geometric Delay (Average)	1.9 sec		
Stop-Line Delay (Average)	38.8 sec		
Idling Time (Average)	33.7 sec		
Intersection Level of Service (LOS)	LOS C	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	27.5 veh		
95% Back of Queue - Distance (Worst Lane)	192.4 m		
Queue Storage Ratio (Worst Lane)	0.66		
Total Effective Stops	2570 veh/h	11 ped/h	3096 pers/h
Effective Stop Rate	0.86 per veh	0.85 per ped	0.86 per pers
Proportion Queued	0.83	0.85	0.84
Performance Index	152.4	0.3	152.7
Cost (Total)	2223.59 \$/h	5.84 \$/h	2229.43 \$/h
Fuel Consumption (Total)	216.5 L/h		
Carbon Dioxide (Total)	508.8 kg/h		
Hydrocarbons (Total)	0.047 kg/h		
Carbon Monoxide (Total)	0.522 kg/h		
NOx (Total)	0.152 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,434,091 veh/y	6,240 ped/y	1,720,910 pers/y
Arrival Flows (Total)	1,434,091 veh/y		
Delay	16,210 veh-h/y	64 ped-h/y	19,516 pers-h/y
Effective Stops	1,233,823 veh/y	5,329 ped/y	1,485,917 pers/y
Travel Distance	958,564 veh-km/y	223 ped-km/y	1,150,500 pers-km/y
Travel Time	32,723 veh-h/y	111 ped-h/y	39,379 pers-h/y
Cost	1,067,323 \$/y	2,803 \$/y	1,070,126 \$/y
Fuel Consumption	103,933 L/y		
Carbon Dioxide	244,242 kg/y		
Hydrocarbons	23 kg/y		

MOVEMENT SUMMARY



Site: 101 [16. Bridge Rd/ Loftus Cr, Homebush AM Future 5:1 FSR]



Network: N101 [5:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM

Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Bridge Rd S													
1	L2	9	0.0	9	0.0	0.351	6.4	LOS A	0.3	1.8	0.05	0.02	49.3
2	T1	577	0.0	577	0.0	0.351	0.1	LOS A	0.3	1.8	0.05	0.02	49.5
3	R2	15	0.0	15	0.0	0.351	7.0	LOS A	0.3	1.8	0.05	0.02	49.5
Approach		601	0.0	601	0.0	0.351	0.4	NA	0.3	1.8	0.05	0.02	49.5
East: Loftus Cr E													
4	L2	11	0.0	11	0.0	0.062	9.1	LOS A	0.2	1.4	0.57	0.93	42.2
5	T1	5	0.0	5	0.0	0.062	16.4	LOS B	0.2	1.4	0.57	0.93	42.0
6	R2	9	0.0	9	0.0	0.062	18.6	LOS B	0.2	1.4	0.57	0.93	37.2
Approach		25	0.0	25	0.0	0.062	14.0	LOS A	0.2	1.4	0.57	0.93	40.9
North: Bridge Rd N													
7	L2	44	0.0	44	0.0	0.235	5.2	LOS A	0.1	1.0	0.04	0.06	47.4
8	T1	395	0.0	395	0.0	0.235	0.1	LOS A	0.1	1.0	0.04	0.06	49.2
9	R2	8	0.0	8	0.0	0.235	7.9	LOS A	0.1	1.0	0.04	0.06	47.9
Approach		447	0.0	447	0.0	0.235	0.8	NA	0.1	1.0	0.04	0.06	49.2
West: Loftus W													
10	L2	27	0.0	27	0.0	0.101	10.7	LOS A	0.3	2.2	0.62	0.98	37.7
11	T1	7	0.0	7	0.0	0.101	16.8	LOS B	0.3	2.2	0.62	0.98	37.7
12	R2	10	0.0	10	0.0	0.101	18.3	LOS B	0.3	2.2	0.62	0.98	42.2
Approach		44	0.0	44	0.0	0.101	13.4	LOS A	0.3	2.2	0.62	0.98	39.2
All Vehicles		1117	0.0	1117	0.0	0.351	1.3	NA	0.3	2.2	0.08	0.10	48.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY



Site: 101 [16. Bridge Rd/ Loftus Cr, Homebush AM Future 5:1 FSR]



Network: N101 [5:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM

Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	48.5 km/h	48.5 km/h
Travel Distance (Total)	646.3 veh-km/h	775.6 pers-km/h
Travel Time (Total)	13.3 veh-h/h	16.0 pers-h/h
Demand Flows (Total)	1117 veh/h	1341 pers/h
Arrival Flows (Total)	1117 veh/h	1341 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.351	
Practical Spare Capacity	179.5 %	
Effective Intersection Capacity	3186 veh/h	
Control Delay (Total)	0.42 veh-h/h	0.50 pers-h/h
Control Delay (Average)	1.3 sec	1.3 sec
Control Delay (Worst Lane)	14.0 sec	
Control Delay (Worst Movement)	18.6 sec	18.6 sec
Geometric Delay (Average)	0.8 sec	
Stop-Line Delay (Average)	0.6 sec	
Idling Time (Average)	0.3 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.3 veh	
95% Back of Queue - Distance (Worst Lane)	2.2 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	107 veh/h	129 pers/h
Effective Stop Rate	0.10 per veh	0.10 per pers
Proportion Queued	0.08	0.08
Performance Index	15.1	15.1
Cost (Total)	352.62 \$/h	352.62 \$/h
Fuel Consumption (Total)	40.8 L/h	
Carbon Dioxide (Total)	95.9 kg/h	
Hydrocarbons (Total)	0.006 kg/h	
Carbon Monoxide (Total)	0.074 kg/h	
NOx (Total)	0.019 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	536,232 veh/y	643,478 pers/y
Arrival Flows (Total)	536,232 veh/y	
Delay	201 veh-h/y	241 pers-h/y
Effective Stops	51,519 veh/y	61,823 pers/y
Travel Distance	310,233 veh-km/y	372,280 pers-km/y
Travel Time	6,401 veh-h/y	7,681 pers-h/y
Cost	169,259 \$/y	169,259 \$/y
Fuel Consumption	19,594 L/y	
Carbon Dioxide	46,045 kg/y	
Hydrocarbons	3 kg/y	
Carbon Monoxide	36 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 Site: 101 [17. Parramatta Rd/ Underwood Rd, Homebush
AM Future 5:1 FSR]

 Network: N101 [5:1 Future AM]

AM Peak Hour : 8:00 - 9:00AM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Parramatta Rd E													
5	T1	1371	0.0	1371	0.0	0.425	3.0	LOS A	9.3	65.3	0.27	0.25	31.1
6	R2	381	0.0	381	0.0	0.425	13.9	LOS A	9.3	65.3	0.54	0.74	41.5
Approach		1751	0.0	1751	0.0	0.425	5.4	LOS A	9.3	65.3	0.33	0.36	38.1
North: Underwood Rd													
7	L2	85	0.0	85	0.0	0.495	49.8	LOS D	5.6	39.1	0.98	0.79	21.4
9	R2	107	0.0	107	0.0	0.495	53.3	LOS D	5.6	39.1	0.99	0.77	20.6
Approach		192	0.0	192	0.0	0.495	51.7	LOS D	5.6	39.1	0.98	0.78	20.9
West: Parramatta Rd W													
10	L2	101	0.0	101	0.0	0.471	36.3	LOS C	10.3	72.2	0.83	0.74	36.7
11	T1	720	0.0	720	0.0	0.471	33.6	LOS C	12.4	86.7	0.92	0.78	25.0
Approach		821	0.0	821	0.0	0.471	33.9	LOS C	12.4	86.7	0.91	0.78	27.1
All Vehicles		2764	0.0	2764	0.0	0.495	17.1	LOS B	12.4	86.7	0.54	0.51	29.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	26	44.2	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	13	32.0	LOS D	0.0	0.0	0.80	0.80
All Pedestrians		39	40.2	LOS E			0.89	0.89

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [17. Parramatta Rd/ Underwood Rd, Homebush AM Future 5:1 FSR]**

 **Network: N101 [5:1 Future AM]**

AM Peak Hour : 8:00 - 9:00AM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	29.1 km/h	2.0 km/h	28.5 km/h
Travel Distance (Total)	773.4 veh-km/h	1.5 ped-km/h	929.6 pers-km/h
Travel Time (Total)	26.5 veh-h/h	0.8 ped-h/h	32.6 pers-h/h
Demand Flows (Total)	2764 veh/h	39 ped/h	3317 pers/h
Arrival Flows (Total)	2764 veh/h		3317 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.495	0.036	
Practical Spare Capacity	81.9 %		
Effective Intersection Capacity	5586 veh/h		
Control Delay (Total)	13.12 veh-h/h	0.44 ped-h/h	16.18 pers-h/h
Control Delay (Average)	17.1 sec	40.2 sec	17.6 sec
Control Delay (Worst Lane)	54.9 sec		
Control Delay (Worst Movement)	53.3 sec	44.2 sec	53.3 sec
Geometric Delay (Average)	1.0 sec		
Stop-Line Delay (Average)	16.1 sec		
Idling Time (Average)	13.9 sec		
Intersection Level of Service (LOS)	LOS B	LOS E	
95% Back of Queue - Vehicles (Worst Lane)	12.4 veh		
95% Back of Queue - Distance (Worst Lane)	86.7 m		
Queue Storage Ratio (Worst Lane)	1.00		
Total Effective Stops	1413 veh/h	35 ped/h	1730 pers/h
Effective Stop Rate	0.51 per veh	0.89 per ped	0.52 per pers
Proportion Queued	0.54	0.89	0.55
Performance Index	64.0	1.0	65.0
Cost (Total)	1019.41 \$/h	19.28 \$/h	1038.69 \$/h
Fuel Consumption (Total)	100.5 L/h		
Carbon Dioxide (Total)	236.2 kg/h		
Hydrocarbons (Total)	0.022 kg/h		
Carbon Monoxide (Total)	0.245 kg/h		
NOx (Total)	0.079 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,326,778 veh/y	18,720 ped/y	1,592,133 pers/y
Arrival Flows (Total)	1,326,778 veh/y		
Delay	6,297 veh-h/y	209 ped-h/y	7,765 pers-h/y
Effective Stops	678,215 veh/y	16,739 ped/y	830,597 pers/y
Travel Distance	371,221 veh-km/y	741 ped-km/y	446,206 pers-km/y
Travel Time	12,737 veh-h/y	367 ped-h/y	15,651 pers-h/y
Cost	489,317 \$/y	9,254 \$/y	498,571 \$/y
Fuel Consumption	48,244 L/y		
Carbon Dioxide	113,374 kg/y		
Hydrocarbons	11 kg/y		

MOVEMENT SUMMARY

 **Site: 101 [18. Parramatta Rd/ Knight St, Homebush AM Future 5:1 FSR]**

 **Network: N101 [5:1 Future AM]**

AM Peak Hour: 8:00 - 9:00AM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Arrival Flows HV Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h		
		veh/h	%	veh/h	%	v/c	sec	veh	m				
South: Knight St													
1	L2	130	0.0	130	0.0	0.318	41.6	LOS C	5.4	37.8	0.86	0.77	8.0
3	R2	260	0.0	260	0.0	0.679	44.9	LOS D	11.7	82.0	0.94	0.82	24.6
Approach		390	0.0	390	0.0	0.679	43.8	LOS D	11.7	82.0	0.91	0.80	21.0
East: Parramatta Rd E													
4	L2	166	0.0	166	0.0	0.466	14.7	LOS B	14.0	97.8	0.52	0.55	44.5
5	T1	1627	0.0	1627	0.0	0.466	9.2	LOS A	14.2	99.1	0.52	0.49	45.7
Approach		1792	0.0	1792	0.0	0.466	9.7	LOS A	14.2	99.1	0.52	0.49	45.6
West: Parramatta Rd W													
11	T1	791	0.0	791	0.0	0.205	3.4	LOS A	4.7	32.8	0.19	0.16	55.1
Approach		791	0.0	791	0.0	0.205	3.4	LOS A	4.7	32.8	0.19	0.16	55.1
All Vehicles		2973	0.0	2973	0.0	0.679	12.5	LOS A	14.2	99.1	0.48	0.45	42.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Prop. Queued	Effective Stop Rate per ped	
P1	South Full Crossing	6	8.4	LOS A	0.0	0.0	0.41	0.41
P4	West Full Crossing	14	44.2	LOS E	0.0	0.0	0.94	0.94
All Pedestrians		20	33.5	LOS D			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [18. Parramatta Rd/ Knight St, Homebush AM**
Future 5:1 FSR]

 **Network: N101 [5:1 Future AM]**

AM Peak Hour: 8:00 - 9:00AM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	42.6 km/h	2.2 km/h	42.2 km/h
Travel Distance (Total)	1602.1 veh-km/h	0.8 ped-km/h	1923.3 pers-km/h
Travel Time (Total)	37.6 veh-h/h	0.4 ped-h/h	45.5 pers-h/h
Demand Flows (Total)	2973 veh/h	20 ped/h	3568 pers/h
Arrival Flows (Total)	2973 veh/h		3568 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.679	0.019	
Practical Spare Capacity	32.5 %		
Effective Intersection Capacity	4378 veh/h		
Control Delay (Total)	10.33 veh-h/h	0.19 ped-h/h	12.58 pers-h/h
Control Delay (Average)	12.5 sec	33.5 sec	12.7 sec
Control Delay (Worst Lane)	44.9 sec		
Control Delay (Worst Movement)	44.9 sec	44.2 sec	44.9 sec
Geometric Delay (Average)	0.9 sec		
Stop-Line Delay (Average)	11.6 sec		
Idling Time (Average)	9.5 sec		
Intersection Level of Service (LOS)	LOS A	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	14.2 veh		
95% Back of Queue - Distance (Worst Lane)	99.1 m		
Queue Storage Ratio (Worst Lane)	0.53		
Total Effective Stops	1323 veh/h	16 ped/h	1603 pers/h
Effective Stop Rate	0.45 per veh	0.78 per ped	0.45 per pers
Proportion Queued	0.48	0.78	0.49
Performance Index	74.0	0.4	74.5
Cost (Total)	1230.00 \$/h	8.87 \$/h	1238.86 \$/h
Fuel Consumption (Total)	138.5 L/h		
Carbon Dioxide (Total)	325.4 kg/h		
Hydrocarbons (Total)	0.028 kg/h		
Carbon Monoxide (Total)	0.366 kg/h		
NOx (Total)	0.095 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,427,002 veh/y	9,600 ped/y	1,712,402 pers/y
Arrival Flows (Total)	1,427,002 veh/y		
Delay	4,956 veh-h/y	89 ped-h/y	6,037 pers-h/y
Effective Stops	635,084 veh/y	7,502 ped/y	769,602 pers/y
Travel Distance	768,997 veh-km/y	373 ped-km/y	923,170 pers-km/y
Travel Time	18,072 veh-h/y	169 ped-h/y	21,855 pers-h/y
Cost	590,398 \$/y	4,256 \$/y	594,654 \$/y
Fuel Consumption	66,457 L/y		
Carbon Dioxide	156,174 kg/y		
Hydrocarbons	14 kg/y		

MOVEMENT SUMMARY

 Site: 101 [19. Knight St/ Loftus Cr, Homebush AM Future 5:1 FSR]

 Network: N101 [5:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Loftus Cr W													
5	T1	87	0.0	87	0.0	0.092	4.8	LOS A	0.5	3.5	0.35	0.52	43.5
6	R2	14	0.0	14	0.0	0.092	7.5	LOS A	0.5	3.5	0.35	0.52	43.5
Approach		101	0.0	101	0.0	0.092	5.2	LOS A	0.5	3.5	0.35	0.52	43.5
North: Knight St													
7	L2	6	0.0	6	0.0	0.129	4.6	LOS A	0.6	4.1	0.07	0.63	42.2
9	R2	183	0.0	183	0.0	0.129	6.5	LOS A	0.6	4.1	0.07	0.63	27.7
9u	U	1	0.0	1	0.0	0.129	7.8	LOS A	0.6	4.1	0.07	0.63	27.7
Approach		190	0.0	190	0.0	0.129	6.5	LOS A	0.6	4.1	0.07	0.63	29.2
West: Loftus Cr W													
10	L2	411	0.0	411	0.0	0.277	4.6	LOS A	1.8	12.6	0.10	0.53	28.5
11	T1	15	0.0	15	0.0	0.277	3.9	LOS A	1.8	12.6	0.10	0.53	44.4
Approach		426	0.0	426	0.0	0.277	4.6	LOS A	1.8	12.6	0.10	0.53	30.6
All Vehicles		717	0.0	717	0.0	0.277	5.2	LOS A	1.8	12.6	0.13	0.55	34.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

 Site: 101 [19. Knight St/ Loftus Cr, Homebush AM Future 5:1 FSR]

 Network: N101 [5:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	34.6 km/h	34.6 km/h
Travel Distance (Total)	122.7 veh-km/h	147.2 pers-km/h
Travel Time (Total)	3.5 veh-h/h	4.3 pers-h/h
Demand Flows (Total)	717 veh/h	860 pers/h
Arrival Flows (Total)	717 veh/h	860 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.277	
Practical Spare Capacity	207.2 %	
Effective Intersection Capacity	2591 veh/h	
Control Delay (Total)	1.03 veh-h/h	1.24 pers-h/h
Control Delay (Average)	5.2 sec	5.2 sec
Control Delay (Worst Lane)	6.5 sec	
Control Delay (Worst Movement)	7.8 sec	7.8 sec
Geometric Delay (Average)	5.0 sec	
Stop-Line Delay (Average)	0.2 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.8 veh	
95% Back of Queue - Distance (Worst Lane)	12.6 m	
Queue Storage Ratio (Worst Lane)	0.06	
Total Effective Stops	395 veh/h	475 pers/h
Effective Stop Rate	0.55 per veh	0.55 per pers
Proportion Queued	0.13	0.13
Performance Index	8.2	8.2
Cost (Total)	183.42 \$/h	183.42 \$/h
Fuel Consumption (Total)	20.6 L/h	
Carbon Dioxide (Total)	48.4 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.043 kg/h	
NOx (Total)	0.021 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	344,093 veh/y	412,911 pers/y
Arrival Flows (Total)	344,093 veh/y	
Delay	496 veh-h/y	595 pers-h/y
Effective Stops	189,815 veh/y	227,778 pers/y
Travel Distance	58,894 veh-km/y	70,673 pers-km/y
Travel Time	1,703 veh-h/y	2,043 pers-h/y
Cost	88,043 \$/y	88,043 \$/y
Fuel Consumption	9,893 L/y	
Carbon Dioxide	23,248 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	21 kg/y	
NOx	10 kg/y	

MOVEMENT SUMMARY



Site: 101 [20. Loftus Cr/ Subway Ln, Homebush AM Future
5:1 FSR]

Network: N101 [5:1 Future
AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Subway Ln S													
1	L2	28	0.0	28	0.0	0.254	2.4	LOS A	1.6	10.9	0.08	0.63	22.3
3	R2	371	0.0	371	0.0	0.254	4.9	LOS A	1.6	10.9	0.08	0.63	22.3
Approach		399	0.0	399	0.0	0.254	4.8	LOS A	1.6	10.9	0.08	0.63	22.3
East: Loftus Cr E													
4	L2	252	0.0	252	0.0	0.208	5.2	LOS A	1.2	8.3	0.29	0.55	29.2
5	T1	4	0.0	4	0.0	0.208	4.9	LOS A	1.2	8.3	0.29	0.55	29.2
Approach		256	0.0	256	0.0	0.208	5.2	LOS A	1.2	8.3	0.29	0.55	29.2
North: Subway Ln N													
7	L2	30	0.0	30	0.0	0.089	7.6	LOS A	0.4	3.1	0.54	0.65	28.5
8	T1	44	0.0	44	0.0	0.089	7.3	LOS A	0.4	3.1	0.54	0.65	28.5
9	R2	5	0.0	5	0.0	0.089	10.3	LOS A	0.4	3.1	0.54	0.65	28.5
Approach		79	0.0	79	0.0	0.089	7.6	LOS A	0.4	3.1	0.54	0.65	28.5
West: Loftus Cr W													
11	T1	32	0.0	32	0.0	0.089	6.8	LOS A	0.4	3.1	0.49	0.67	47.0
12	R2	49	0.0	49	0.0	0.089	9.7	LOS A	0.4	3.1	0.49	0.67	47.0
12u	U	3	0.0	3	0.0	0.089	11.2	LOS A	0.4	3.1	0.49	0.67	47.0
Approach		84	0.0	84	0.0	0.089	8.7	LOS A	0.4	3.1	0.49	0.67	47.0
All Vehicles		817	0.0	817	0.0	0.254	5.6	LOS A	1.6	10.9	0.23	0.61	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Roundabout Capacity Model: SIDRA Standard.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %
 Number of Iterations: 10 (maximum specified: 10)

INTERSECTION SUMMARY



Site: 101 [20. Loftus Cr/ Subway Ln, Homebush AM Future
5:1 FSR]

Network: N101 [5:1 Future
AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	32.9 km/h	32.9 km/h
Travel Distance (Total)	95.7 veh-km/h	114.8 pers-km/h
Travel Time (Total)	2.9 veh-h/h	3.5 pers-h/h
Demand Flows (Total)	817 veh/h	981 pers/h
Arrival Flows (Total)	817 veh/h	981 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.254	
Practical Spare Capacity	234.5 %	
Effective Intersection Capacity	3215 veh/h	
Control Delay (Total)	1.27 veh-h/h	1.52 pers-h/h
Control Delay (Average)	5.6 sec	5.6 sec
Control Delay (Worst Lane)	8.7 sec	
Control Delay (Worst Movement)	11.2 sec	11.2 sec
Geometric Delay (Average)	4.9 sec	
Stop-Line Delay (Average)	0.7 sec	
Idling Time (Average)	0.1 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.6 veh	
95% Back of Queue - Distance (Worst Lane)	10.9 m	
Queue Storage Ratio (Worst Lane)	0.17	
Total Effective Stops	499 veh/h	599 pers/h
Effective Stop Rate	0.61 per veh	0.61 per pers
Proportion Queued	0.23	0.23
Performance Index	8.9	8.9
Cost (Total)	192.97 \$/h	192.97 \$/h
Fuel Consumption (Total)	20.2 L/h	
Carbon Dioxide (Total)	47.6 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.045 kg/h	
NOx (Total)	0.021 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	392,213 veh/y	470,655 pers/y
Arrival Flows (Total)	392,213 veh/y	
Delay	608 veh-h/y	730 pers-h/y
Effective Stops	239,603 veh/y	287,524 pers/y
Travel Distance	45,931 veh-km/y	55,118 pers-km/y
Travel Time	1,398 veh-h/y	1,678 pers-h/y
Cost	92,627 \$/y	92,627 \$/y
Fuel Consumption	9,719 L/y	
Carbon Dioxide	22,839 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	22 kg/y	
NOx	10 kg/y	

MOVEMENT SUMMARY

 Site: 101 [21. The Crescent/ Subway Ln, Homebush AM
Future 5:1 FSR]

 Network: N101 [5:1 Future
AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: The Crescent E													
5	T1	179	0.0	179	0.0	0.413	4.3	LOS A	3.1	21.8	0.35	0.56	45.8
6	R2	366	0.0	366	0.0	0.413	7.4	LOS A	3.1	21.8	0.35	0.56	42.1
6u	U	1	0.0	1	0.0	0.413	8.8	LOS A	3.1	21.8	0.35	0.56	48.9
Approach		546	0.0	546	0.0	0.413	6.4	LOS A	3.1	21.8	0.35	0.56	43.9
North: Subway Ln													
7	L2	234	0.0	234	0.0	0.288	3.2	LOS A	1.9	13.0	0.44	0.57	44.3
9	R2	89	0.0	89	0.0	0.288	6.0	LOS A	1.9	13.0	0.44	0.57	45.3
Approach		323	0.0	323	0.0	0.288	3.9	LOS A	1.9	13.0	0.44	0.57	44.6
West: The Crescent W													
10	L2	56	0.0	56	0.0	0.249	6.1	LOS A	1.5	10.2	0.57	0.63	42.7
11	T1	177	0.0	177	0.0	0.249	6.0	LOS A	1.5	10.2	0.57	0.63	46.1
Approach		233	0.0	233	0.0	0.249	6.0	LOS A	1.5	10.2	0.57	0.63	45.6
All Vehicles		1101	0.0	1101	0.0	0.413	5.6	LOS A	3.1	21.8	0.42	0.58	44.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

 Site: 101 [21. The Crescent/ Subway Ln, Homebush AM
Future 5:1 FSR]

 Network: N101 [5:1 Future
AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	44.5 km/h	44.5 km/h
Travel Distance (Total)	760.4 veh-km/h	912.4 pers-km/h
Travel Time (Total)	17.1 veh-h/h	20.5 pers-h/h
Demand Flows (Total)	1101 veh/h	1322 pers/h
Arrival Flows (Total)	1101 veh/h	1322 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.413	
Practical Spare Capacity	105.8 %	
Effective Intersection Capacity	2667 veh/h	
Control Delay (Total)	1.71 veh-h/h	2.05 pers-h/h
Control Delay (Average)	5.6 sec	5.6 sec
Control Delay (Worst Lane)	6.4 sec	
Control Delay (Worst Movement)	8.8 sec	8.8 sec
Geometric Delay (Average)	4.5 sec	
Stop-Line Delay (Average)	1.1 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	3.1 veh	
95% Back of Queue - Distance (Worst Lane)	21.8 m	
Queue Storage Ratio (Worst Lane)	0.21	
Total Effective Stops	638 veh/h	765 pers/h
Effective Stop Rate	0.58 per veh	0.58 per pers
Proportion Queued	0.42	0.42
Performance Index	26.9	26.9
Cost (Total)	476.68 \$/h	476.68 \$/h
Fuel Consumption (Total)	60.4 L/h	
Carbon Dioxide (Total)	142.0 kg/h	
Hydrocarbons (Total)	0.010 kg/h	
Carbon Monoxide (Total)	0.113 kg/h	
NOx (Total)	0.037 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	528,696 veh/y	634,435 pers/y
Arrival Flows (Total)	528,696 veh/y	
Delay	819 veh-h/y	983 pers-h/y
Effective Stops	306,115 veh/y	367,338 pers/y
Travel Distance	364,979 veh-km/y	437,975 pers-km/y
Travel Time	8,203 veh-h/y	9,843 pers-h/y
Cost	228,805 \$/y	228,805 \$/y
Fuel Consumption	29,009 L/y	
Carbon Dioxide	68,172 kg/y	
Hydrocarbons	5 kg/y	
Carbon Monoxide	54 kg/y	
NOx	18 kg/y	

MOVEMENT SUMMARY

Site: 101 [15. Additional Intersection 5:1 AM]

Network: N101 [5:1 Future AM]

Additional Intersection
5:1 AM
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: RoadName													
4	L2	31	0.0	31	0.0	0.298	5.5	LOS A	0.0	0.0	0.00	0.04	57.2
5	T1	1371	0.0	1371	0.0	0.298	0.0	LOS A	0.3	2.1	0.00	0.01	59.1
Approach		1401	0.0	1401	0.0	0.298	0.1	NA	0.3	2.1	0.00	0.01	59.1
West: RoadName													
11	T1	791	0.0	791	0.0	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		791	0.0	791	0.0	0.135	0.0	NA	0.0	0.0	0.00	0.00	60.0
All Vehicles		2192	0.0	2192	0.0	0.298	0.1	NA	0.3	2.1	0.00	0.01	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

Site: 101 [15. Additional Intersection 5:1 AM]

Network: N101 [5:1 Future AM]

Additional Intersection
5:1 AM
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	59.2 km/h	59.2 km/h
Travel Distance (Total)	235.9 veh-km/h	283.0 pers-km/h
Travel Time (Total)	4.0 veh-h/h	4.8 pers-h/h
Demand Flows (Total)	2192 veh/h	2630 pers/h
Arrival Flows (Total)	2192 veh/h	2630 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.298	
Practical Spare Capacity	228.7 %	
Effective Intersection Capacity	7353 veh/h	
Control Delay (Total)	0.05 veh-h/h	0.06 pers-h/h
Control Delay (Average)	0.1 sec	0.1 sec
Control Delay (Worst Lane)	0.4 sec	
Control Delay (Worst Movement)	5.5 sec	5.5 sec
Geometric Delay (Average)	0.1 sec	
Stop-Line Delay (Average)	0.0 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.3 veh	
95% Back of Queue - Distance (Worst Lane)	2.1 m	
Queue Storage Ratio (Worst Lane)	0.01	
Total Effective Stops	18 veh/h	22 pers/h
Effective Stop Rate	0.01 per veh	0.01 per pers
Proportion Queued	0.00	0.00
Performance Index	4.2	4.2
Cost (Total)	173.80 \$/h	173.80 \$/h
Fuel Consumption (Total)	16.3 L/h	
Carbon Dioxide (Total)	38.4 kg/h	
Hydrocarbons (Total)	0.003 kg/h	
Carbon Monoxide (Total)	0.050 kg/h	
NOx (Total)	0.008 kg/h	

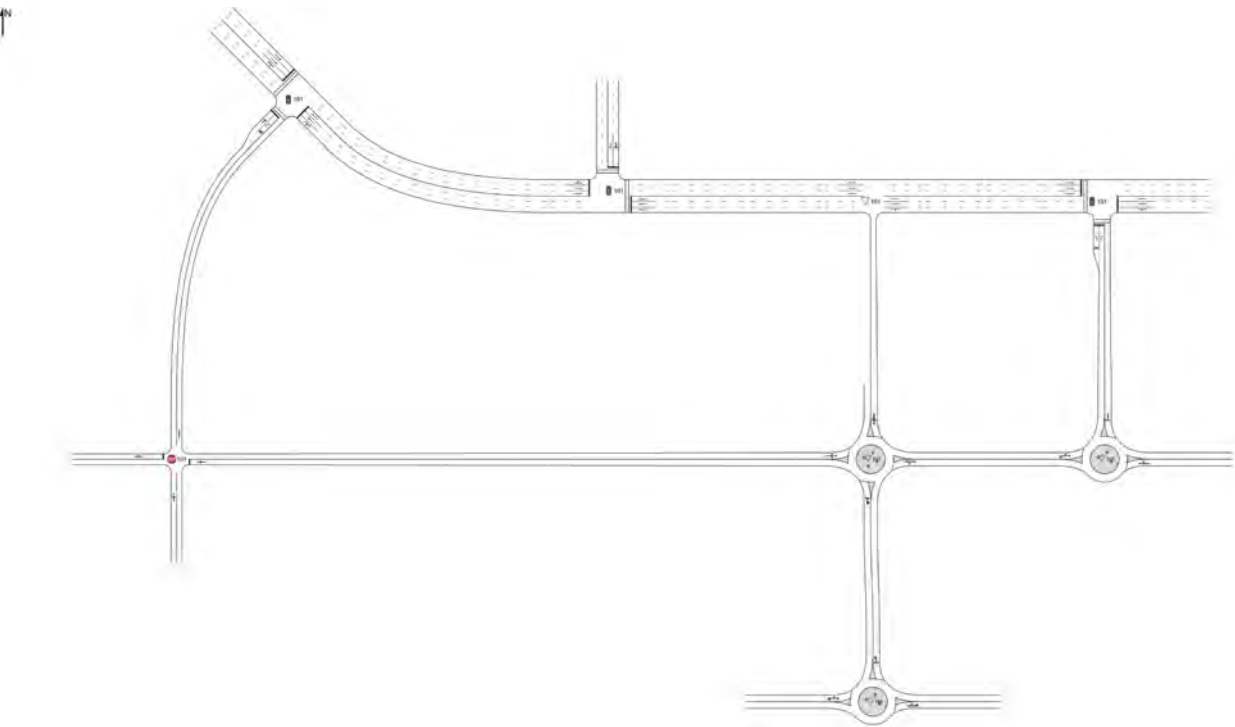
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.8 %
 Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,052,194 veh/y	1,262,632 pers/y
Arrival Flows (Total)	1,052,194 veh/y	
Delay	25 veh-h/y	30 pers-h/y
Effective Stops	8,753 veh/y	10,504 pers/y
Travel Distance	113,220 veh-km/y	135,864 pers-km/y
Travel Time	1,912 veh-h/y	2,294 pers-h/y
Cost	83,425 \$/y	83,425 \$/y
Fuel Consumption	7,835 L/y	
Carbon Dioxide	18,413 kg/y	
Hydrocarbons	1 kg/y	
Carbon Monoxide	24 kg/y	

NETWORK LAYOUT

Network: N101 [5:1 Future PM]

New Network



SITES IN NETWORK	
Site ID	Site Name
 101	15. Parramatta Rd/ Bridge Rd, Homebush PM Future 5:1 FSR
 101	16. Bridge Rd/ Loftus Cr, Homebush PM Future 5:1 FSR
 101	17. Parramatta Rd/ Underwood Rd, Homebush PM Future 5:1 FSR
 101	18. Parramatta Rd/ Knight St, Homebush PM Future 5:1 FSR
 101	19. Knight St/ Loftus Cr, Homebush PM Future 5:1 FSR
 101	20. Loftus Cr/ Subway Ln, Homebush PM Future 5:1 FSR
 101	21. The Crescent/ Subway Ln, Homebush PM Future 5:1 FSR
 101	15. Additional Intersection 5:1 PM

MOVEMENT SUMMARY

 **Site: 101 [15. Parramatta Rd/ Bridge Rd, Homebush PM Future 5:1 FSR]**

 **Network: N101 [5:1 Future PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
SouthEast: Parramatta Rd SE													
21	L2	230	0.0	230	0.0	0.732	31.8	LOS C	18.4	129.0	0.82	0.78	27.4
22	T1	1257	0.0	1257	0.0	0.732	28.9	LOS C	21.4	149.8	0.88	0.79	38.9
Approach		1487	0.0	1487	0.0	0.732	29.4	LOS C	21.4	149.8	0.87	0.79	37.7
NorthWest: Parramatta Rd NW													
28	T1	520	0.0	520	0.0	0.163	2.0	LOS A	2.6	18.0	0.22	0.19	56.4
29	R2	564	0.0	564	0.0	0.652	27.7	LOS B	16.6	116.5	0.82	0.96	31.7
Approach		1084	0.0	1084	0.0	0.652	15.4	LOS B	16.6	116.5	0.54	0.59	40.1
SouthWest: Bridge Rd													
30	L2	185	0.0	185	0.0	0.932	71.6	LOS F	13.9	97.5	1.00	1.15	20.5
32	R2	143	0.0	143	0.0	0.932	72.4	LOS F	13.9	97.5	1.00	1.15	8.2
Approach		328	0.0	328	0.0	0.932	71.9	LOS F	13.9	97.5	1.00	1.15	16.1
All Vehicles		2899	0.0	2899	0.0	0.932	28.9	LOS C	21.4	149.8	0.76	0.76	34.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P7	NorthWest Full Crossing	9	44.2	LOS E	0.0	0.0	0.94	0.94
P8	SouthWest Full Crossing	5	25.9	LOS C	0.0	0.0	0.72	0.72
All Pedestrians		14	37.7	LOS D			0.86	0.86

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 Site: 101 [15. Parramatta Rd/ Bridge Rd, Homebush PM
Future 5:1 FSR]

 Network: N101 [5:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	34.6 km/h	2.1 km/h	34.4 km/h
Travel Distance (Total)	1944.7 veh-km/h	0.5 ped-km/h	2334.1 pers-km/h
Travel Time (Total)	56.3 veh-h/h	0.3 ped-h/h	67.8 pers-h/h
Demand Flows (Total)	2899 veh/h	14 ped/h	3479 pers/h
Arrival Flows (Total)	2899 veh/h		3479 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.932	0.013	
Practical Spare Capacity	-3.5 %		
Effective Intersection Capacity	3109 veh/h		
Control Delay (Total)	23.31 veh-h/h	0.15 ped-h/h	28.12 pers-h/h
Control Delay (Average)	28.9 sec	37.7 sec	29.1 sec
Control Delay (Worst Lane)	72.7 sec		
Control Delay (Worst Movement)	72.4 sec	44.2 sec	72.4 sec
Geometric Delay (Average)	2.0 sec		
Stop-Line Delay (Average)	26.9 sec		
Idling Time (Average)	22.7 sec		
Intersection Level of Service (LOS)	LOS C	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	21.4 veh		
95% Back of Queue - Distance (Worst Lane)	149.8 m		
Queue Storage Ratio (Worst Lane)	0.33		
Total Effective Stops	2191 veh/h	12 ped/h	2641 pers/h
Effective Stop Rate	0.76 per veh	0.86 per ped	0.76 per pers
Proportion Queued	0.76	0.86	0.76
Performance Index	117.5	0.3	117.8
Cost (Total)	1870.04 \$/h	6.58 \$/h	1876.62 \$/h
Fuel Consumption (Total)	194.5 L/h		
Carbon Dioxide (Total)	457.1 kg/h		
Hydrocarbons (Total)	0.042 kg/h		
Carbon Monoxide (Total)	0.495 kg/h		
NOx (Total)	0.138 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,391,491 veh/y	6,720 ped/y	1,669,790 pers/y
Arrival Flows (Total)	1,391,491 veh/y		
Delay	11,190 veh-h/y	70 ped-h/y	13,498 pers-h/y
Effective Stops	1,051,578 veh/y	5,791 ped/y	1,267,684 pers/y
Travel Distance	933,437 veh-km/y	257 ped-km/y	1,120,381 pers-km/y
Travel Time	27,016 veh-h/y	125 ped-h/y	32,544 pers-h/y
Cost	897,620 \$/y	3,157 \$/y	900,776 \$/y
Fuel Consumption	93,355 L/y		
Carbon Dioxide	219,385 kg/y		
Hydrocarbons	20 kg/y		

MOVEMENT SUMMARY



Site: 101 [16. Bridge Rd/ Loftus Cr, Homebush PM Future 5:1 FSR]

Network: N101 [5:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM

Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Bridge Rd S													
1	L2	15	0.0	15	0.0	0.165	6.5	LOS A	0.2	1.1	0.06	0.04	49.1
2	T1	292	0.0	292	0.0	0.165	0.2	LOS A	0.2	1.1	0.06	0.04	49.1
3	R2	6	0.0	6	0.0	0.165	8.9	LOS A	0.2	1.1	0.06	0.04	49.1
Approach		313	0.0	313	0.0	0.165	0.7	NA	0.2	1.1	0.06	0.04	49.1
East: Loftus Cr E													
4	L2	19	0.0	19	0.0	0.077	11.7	LOS A	0.3	1.9	0.65	0.96	42.1
5	T1	3	0.0	3	0.0	0.077	16.7	LOS B	0.3	1.9	0.65	0.96	41.9
6	R2	11	0.0	11	0.0	0.077	18.4	LOS B	0.3	1.9	0.65	0.96	37.0
Approach		33	0.0	33	0.0	0.077	14.4	LOS A	0.3	1.9	0.65	0.96	40.9
North: Bridge Rd N													
7	L2	27	0.0	27	0.0	0.390	5.0	LOS A	0.1	0.8	0.01	0.03	49.0
8	T1	721	0.0	721	0.0	0.390	0.0	LOS A	0.1	0.8	0.01	0.03	49.7
9	R2	8	0.0	8	0.0	0.390	6.3	LOS A	0.1	0.8	0.01	0.03	48.3
Approach		756	0.0	756	0.0	0.390	0.3	NA	0.1	0.8	0.01	0.03	49.7
West: Loftus W													
10	L2	8	0.0	8	0.0	0.040	8.6	LOS A	0.1	0.9	0.54	0.93	37.6
11	T1	6	0.0	6	0.0	0.040	16.6	LOS B	0.1	0.9	0.54	0.93	37.6
12	R2	4	0.0	4	0.0	0.040	18.1	LOS B	0.1	0.9	0.54	0.93	42.1
Approach		18	0.0	18	0.0	0.040	13.4	LOS A	0.1	0.9	0.54	0.93	39.1
All Vehicles		1120	0.0	1120	0.0	0.390	1.0	NA	0.3	1.9	0.05	0.07	48.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY



Site: 101 [16. Bridge Rd/ Loftus Cr, Homebush PM Future
5:1 FSR]



Network: N101 [5:1 Future
PM]

PM Peak Hour: 5:00 - 6:00PM

Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	48.9 km/h	48.9 km/h
Travel Distance (Total)	714.8 veh-km/h	857.8 pers-km/h
Travel Time (Total)	14.6 veh-h/h	17.5 pers-h/h
Demand Flows (Total)	1120 veh/h	1344 pers/h
Arrival Flows (Total)	1120 veh/h	1344 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.390	
Practical Spare Capacity	151.1 %	
Effective Intersection Capacity	2869 veh/h	
Control Delay (Total)	0.31 veh-h/h	0.38 pers-h/h
Control Delay (Average)	1.0 sec	1.0 sec
Control Delay (Worst Lane)	14.4 sec	
Control Delay (Worst Movement)	18.4 sec	18.4 sec
Geometric Delay (Average)	0.6 sec	
Stop-Line Delay (Average)	0.4 sec	
Idling Time (Average)	0.3 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.3 veh	
95% Back of Queue - Distance (Worst Lane)	1.9 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	79 veh/h	94 pers/h
Effective Stop Rate	0.07 per veh	0.07 per pers
Proportion Queued	0.05	0.05
Performance Index	15.9	15.9
Cost (Total)	285.97 \$/h	285.97 \$/h
Fuel Consumption (Total)	43.7 L/h	
Carbon Dioxide (Total)	102.7 kg/h	
Hydrocarbons (Total)	0.006 kg/h	
Carbon Monoxide (Total)	0.079 kg/h	
NOx (Total)	0.019 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	537,490 veh/y	644,988 pers/y
Arrival Flows (Total)	537,490 veh/y	
Delay	150 veh-h/y	180 pers-h/y
Effective Stops	37,797 veh/y	45,357 pers/y
Travel Distance	343,106 veh-km/y	411,727 pers-km/y
Travel Time	7,010 veh-h/y	8,412 pers-h/y
Cost	137,266 \$/y	137,266 \$/y
Fuel Consumption	20,979 L/y	
Carbon Dioxide	49,301 kg/y	
Hydrocarbons	3 kg/y	
Carbon Monoxide	38 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 **Site: 101 [17. Parramatta Rd/ Underwood Rd, Homebush PM Future 5:1 FSR]**

 **Network: N101 [5:1 Future PM]**

PM Peak Hour : 5:00 - 6:00PM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Parramatta Rd E													
5	T1	1168	0.0	1168	0.0	0.349	3.1	LOS A	7.3	51.1	0.21	0.21	30.0
6	R2	204	0.0	204	0.0	0.349	11.8	LOS A	7.3	51.1	0.46	0.57	44.5
Approach		1372	0.0	1372	0.0	0.349	4.4	LOS A	7.3	51.1	0.25	0.26	37.8
North: Underwood Rd													
7	L2	126	0.0	126	0.0	0.713	49.4	LOS D	10.7	74.9	1.00	0.87	21.5
9	R2	279	0.0	279	0.0	0.713	51.0	LOS D	10.7	74.9	1.00	0.86	21.1
Approach		405	0.0	405	0.0	0.713	50.5	LOS D	10.7	74.9	1.00	0.86	21.2
West: Parramatta Rd W													
10	L2	40	0.0	40	0.0	0.369	36.8	LOS C	7.8	54.9	0.85	0.72	36.9
11	T1	562	0.0	562	0.0	0.369	32.5	LOS C	8.9	62.6	0.89	0.74	25.6
Approach		602	0.0	602	0.0	0.369	32.8	LOS C	8.9	62.6	0.89	0.74	26.7
All Vehicles		2379	0.0	2379	0.0	0.713	19.4	LOS B	10.7	74.9	0.54	0.49	26.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	46	44.3	LOS E	0.1	0.1	0.94	0.94	
P3	North Full Crossing	26	33.7	LOS D	0.1	0.1	0.82	0.82	
All Pedestrians		72	40.4	LOS E			0.90	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [17. Parramatta Rd/ Underwood Rd, Homebush PM Future 5:1 FSR]**

 **Network: N101 [5:1 Future PM]**

PM Peak Hour : 5:00 - 6:00PM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	26.6 km/h	2.0 km/h	25.5 km/h
Travel Distance (Total)	654.2 veh-km/h	2.8 ped-km/h	787.8 pers-km/h
Travel Time (Total)	24.6 veh-h/h	1.4 ped-h/h	30.9 pers-h/h
Demand Flows (Total)	2379 veh/h	72 ped/h	2855 pers/h
Arrival Flows (Total)	2379 veh/h		2855 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.713	0.064	
Practical Spare Capacity	26.3 %		
Effective Intersection Capacity	3338 veh/h		
Control Delay (Total)	12.85 veh-h/h	0.81 ped-h/h	16.23 pers-h/h
Control Delay (Average)	19.4 sec	40.4 sec	20.5 sec
Control Delay (Worst Lane)	51.9 sec		
Control Delay (Worst Movement)	51.0 sec	44.3 sec	51.0 sec
Geometric Delay (Average)	1.2 sec		
Stop-Line Delay (Average)	18.3 sec		
Idling Time (Average)	16.1 sec		
Intersection Level of Service (LOS)	LOS B	LOS E	
95% Back of Queue - Vehicles (Worst Lane)	10.7 veh		
95% Back of Queue - Distance (Worst Lane)	74.9 m		
Queue Storage Ratio (Worst Lane)	0.78		
Total Effective Stops	1156 veh/h	65 ped/h	1451 pers/h
Effective Stop Rate	0.49 per veh	0.90 per ped	0.51 per pers
Proportion Queued	0.54	0.90	0.56
Performance Index	60.3	1.8	62.1
Cost (Total)	967.55 \$/h	35.66 \$/h	1003.21 \$/h
Fuel Consumption (Total)	84.7 L/h		
Carbon Dioxide (Total)	199.1 kg/h		
Hydrocarbons (Total)	0.019 kg/h		
Carbon Monoxide (Total)	0.196 kg/h		
NOx (Total)	0.063 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,141,997 veh/y	34,560 ped/y	1,370,396 pers/y
Arrival Flows (Total)	1,141,997 veh/y		
Delay	6,168 veh-h/y	388 ped-h/y	7,790 pers-h/y
Effective Stops	554,724 veh/y	31,040 ped/y	696,708 pers/y
Travel Distance	314,001 veh-km/y	1,362 ped-km/y	378,163 pers-km/y
Travel Time	11,785 veh-h/y	679 ped-h/y	14,821 pers-h/y
Cost	464,426 \$/y	17,117 \$/y	481,543 \$/y
Fuel Consumption	40,660 L/y		
Carbon Dioxide	95,552 kg/y		
Hydrocarbons	9 kg/y		

MOVEMENT SUMMARY

 **Site: 101 [18. Parramatta Rd/ Knight St, Homebush PM Future 5:1 FSR]**

 **Network: N101 [5:1 Future PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Knight St													
1	L2	107	0.0	107	0.0	0.262	41.0	LOS C	4.4	30.7	0.85	0.75	8.1
3	R2	111	0.0	111	0.0	0.271	41.1	LOS C	4.5	31.8	0.85	0.76	25.7
Approach		218	0.0	218	0.0	0.271	41.0	LOS C	4.5	31.8	0.85	0.76	19.4
East: Parramatta Rd E													
4	L2	304	0.0	304	0.0	0.423	14.4	LOS A	12.0	84.0	0.50	0.62	43.2
5	T1	1315	0.0	1315	0.0	0.423	8.8	LOS A	12.3	86.4	0.50	0.47	46.0
Approach		1619	0.0	1619	0.0	0.423	9.9	LOS A	12.3	86.4	0.50	0.50	45.4
West: Parramatta Rd W													
11	T1	697	0.0	697	0.0	0.181	0.5	LOS A	0.3	1.9	0.03	0.02	59.3
Approach		697	0.0	697	0.0	0.181	0.5	LOS A	0.3	1.9	0.03	0.02	59.3
All Vehicles		2534	0.0	2534	0.0	0.423	10.0	LOS A	12.3	86.4	0.40	0.39	45.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	15	8.4	LOS A	0.0	0.0	0.41	0.41
P4	West Full Crossing	38	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		53	34.1	LOS D			0.79	0.79

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [18. Parramatta Rd/ Knight St, Homebush PM**
Future 5:1 FSR]

 **Network: N101 [5:1 Future PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	45.4 km/h	2.2 km/h	44.3 km/h
Travel Distance (Total)	1359.7 veh-km/h	2.1 ped-km/h	1633.7 pers-km/h
Travel Time (Total)	30.0 veh-h/h	0.9 ped-h/h	36.9 pers-h/h
Demand Flows (Total)	2534 veh/h	53 ped/h	3041 pers/h
Arrival Flows (Total)	2534 veh/h		3041 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.423	0.053	
Practical Spare Capacity	112.6 %		
Effective Intersection Capacity	5987 veh/h		
Control Delay (Total)	7.02 veh-h/h	0.50 ped-h/h	8.93 pers-h/h
Control Delay (Average)	10.0 sec	34.1 sec	10.6 sec
Control Delay (Worst Lane)	41.1 sec		
Control Delay (Worst Movement)	41.1 sec	44.3 sec	44.3 sec
Geometric Delay (Average)	1.1 sec		
Stop-Line Delay (Average)	8.9 sec		
Idling Time (Average)	7.2 sec		
Intersection Level of Service (LOS)	LOS A	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	12.3 veh		
95% Back of Queue - Distance (Worst Lane)	86.4 m		
Queue Storage Ratio (Worst Lane)	0.21		
Total Effective Stops	990 veh/h	42 ped/h	1230 pers/h
Effective Stop Rate	0.39 per veh	0.79 per ped	0.40 per pers
Proportion Queued	0.40	0.79	0.41
Performance Index	56.0	1.2	57.1
Cost (Total)	992.60 \$/h	23.78 \$/h	1016.38 \$/h
Fuel Consumption (Total)	113.0 L/h		
Carbon Dioxide (Total)	265.5 kg/h		
Hydrocarbons (Total)	0.023 kg/h		
Carbon Monoxide (Total)	0.307 kg/h		
NOx (Total)	0.077 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,216,435 veh/y	25,440 ped/y	1,459,722 pers/y
Arrival Flows (Total)	1,216,435 veh/y		
Delay	3,369 veh-h/y	241 ped-h/y	4,284 pers-h/y
Effective Stops	475,248 veh/y	20,127 ped/y	590,424 pers/y
Travel Distance	652,654 veh-km/y	992 ped-km/y	784,177 pers-km/y
Travel Time	14,384 veh-h/y	453 ped-h/y	17,713 pers-h/y
Cost	476,448 \$/y	11,416 \$/y	487,864 \$/y
Fuel Consumption	54,229 L/y		
Carbon Dioxide	127,439 kg/y		
Hydrocarbons	11 kg/y		

MOVEMENT SUMMARY

 Site: 101 [19. Knight St/ Loftus Cr, Homebush PM Future 5:1 FSR]  Network: N101 [5:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Loftus Cr W													
5	T1	113	0.0	113	0.0	0.131	5.6	LOS A	0.8	5.3	0.48	0.57	42.9
6	R2	17	0.0	17	0.0	0.131	8.3	LOS A	0.8	5.3	0.48	0.57	42.9
Approach		130	0.0	130	0.0	0.131	6.0	LOS A	0.8	5.3	0.48	0.57	42.9
North: Knight St													
7	L2	4	0.0	4	0.0	0.230	4.8	LOS A	1.1	8.0	0.15	0.61	42.0
9	R2	312	0.0	312	0.0	0.230	6.7	LOS A	1.1	8.0	0.15	0.61	27.2
Approach		316	0.0	316	0.0	0.230	6.7	LOS A	1.1	8.0	0.15	0.61	27.8
West: Loftus Cr W													
10	L2	222	0.0	222	0.0	0.179	4.7	LOS A	1.1	7.6	0.10	0.52	28.7
11	T1	43	0.0	43	0.0	0.179	3.9	LOS A	1.1	7.6	0.10	0.52	44.4
12u	U	1	0.0	1	0.0	0.179	7.8	LOS A	1.1	7.6	0.10	0.52	28.7
Approach		266	0.0	266	0.0	0.179	4.5	LOS A	1.1	7.6	0.10	0.52	35.8
All Vehicles		712	0.0	712	0.0	0.230	5.8	LOS A	1.1	8.0	0.19	0.57	35.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

 Site: 101 [19. Knight St/ Loftus Cr, Homebush PM Future 5:1  Network: N101 [5:1 Future PM] **FSR]**

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	35.8 km/h	35.8 km/h
Travel Distance (Total)	150.8 veh-km/h	181.0 pers-km/h
Travel Time (Total)	4.2 veh-h/h	5.1 pers-h/h
Demand Flows (Total)	712 veh/h	854 pers/h
Arrival Flows (Total)	712 veh/h	854 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.230	
Practical Spare Capacity	269.6 %	
Effective Intersection Capacity	3096 veh/h	
Control Delay (Total)	1.14 veh-h/h	1.37 pers-h/h
Control Delay (Average)	5.8 sec	5.8 sec
Control Delay (Worst Lane)	6.7 sec	
Control Delay (Worst Movement)	8.3 sec	8.3 sec
Geometric Delay (Average)	5.3 sec	
Stop-Line Delay (Average)	0.5 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.1 veh	
95% Back of Queue - Distance (Worst Lane)	8.0 m	
Queue Storage Ratio (Worst Lane)	0.04	
Total Effective Stops	406 veh/h	487 pers/h
Effective Stop Rate	0.57 per veh	0.57 per pers
Proportion Queued	0.19	0.19
Performance Index	9.3	9.3
Cost (Total)	202.39 \$/h	202.39 \$/h
Fuel Consumption (Total)	23.1 L/h	
Carbon Dioxide (Total)	54.3 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.048 kg/h	
NOx (Total)	0.022 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	341,678 veh/y	410,014 pers/y
Arrival Flows (Total)	341,678 veh/y	
Delay	546 veh-h/y	655 pers-h/y
Effective Stops	194,985 veh/y	233,982 pers/y
Travel Distance	72,401 veh-km/y	86,882 pers-km/y
Travel Time	2,023 veh-h/y	2,427 pers-h/y
Cost	97,146 \$/y	97,146 \$/y
Fuel Consumption	11,090 L/y	
Carbon Dioxide	26,061 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	23 kg/y	
NOx	11 kg/y	

MOVEMENT SUMMARY

 Site: 101 [20. Loftus Cr/ Subway Ln, Homebush PM Future 5:1 FSR]  Network: N101 [5:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Subway Ln S													
1	L2	55	0.0	55	0.0	0.188	2.4	LOS A	1.1	7.5	0.09	0.61	22.7
3	R2	228	0.0	228	0.0	0.188	4.9	LOS A	1.1	7.5	0.09	0.61	22.7
3u	U	1	0.0	1	0.0	0.188	6.4	LOS A	1.1	7.5	0.09	0.61	22.7
Approach		284	0.0	284	0.0	0.188	4.5	LOS A	1.1	7.5	0.09	0.61	22.7
East: Loftus Cr E													
4	L2	442	0.0	442	0.0	0.370	5.4	LOS A	2.4	16.7	0.36	0.56	28.6
5	T1	8	0.0	8	0.0	0.370	5.1	LOS A	2.4	16.7	0.36	0.56	28.6
Approach		450	0.0	450	0.0	0.370	5.4	LOS A	2.4	16.7	0.36	0.56	28.6
North: Subway Ln N													
7	L2	18	0.0	18	0.0	0.080	6.7	LOS A	0.4	2.7	0.45	0.60	29.7
8	T1	51	0.0	51	0.0	0.080	6.5	LOS A	0.4	2.7	0.45	0.60	29.7
9	R2	8	0.0	8	0.0	0.080	9.4	LOS A	0.4	2.7	0.45	0.60	29.7
Approach		77	0.0	77	0.0	0.080	6.8	LOS A	0.4	2.7	0.45	0.60	29.7
West: Loftus Cr W													
10	L2	1	0.0	1	0.0	0.086	6.3	LOS A	0.4	2.9	0.39	0.63	47.8
11	T1	31	0.0	31	0.0	0.086	6.0	LOS A	0.4	2.9	0.39	0.63	47.8
12	R2	57	0.0	57	0.0	0.086	8.9	LOS A	0.4	2.9	0.39	0.63	47.8
Approach		89	0.0	89	0.0	0.086	7.9	LOS A	0.4	2.9	0.39	0.63	47.8
All Vehicles		900	0.0	900	0.0	0.370	5.5	LOS A	2.4	16.7	0.29	0.59	33.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Roundabout Capacity Model: SIDRA Standard.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %
 Number of Iterations: 10 (maximum specified: 10)

INTERSECTION SUMMARY

 Site: 101 [20. Loftus Cr/ Subway Ln, Homebush PM Future 5:1 FSR]

 Network: N101 [5:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	33.4 km/h	33.4 km/h
Travel Distance (Total)	109.5 veh-km/h	131.4 pers-km/h
Travel Time (Total)	3.3 veh-h/h	3.9 pers-h/h
Demand Flows (Total)	900 veh/h	1080 pers/h
Arrival Flows (Total)	900 veh/h	1080 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.370	
Practical Spare Capacity	129.8 %	
Effective Intersection Capacity	2433 veh/h	
Control Delay (Total)	1.37 veh-h/h	1.65 pers-h/h
Control Delay (Average)	5.5 sec	5.5 sec
Control Delay (Worst Lane)	7.9 sec	
Control Delay (Worst Movement)	9.4 sec	9.4 sec
Geometric Delay (Average)	4.8 sec	
Stop-Line Delay (Average)	0.7 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	2.4 veh	
95% Back of Queue - Distance (Worst Lane)	16.7 m	
Queue Storage Ratio (Worst Lane)	0.12	
Total Effective Stops	528 veh/h	633 pers/h
Effective Stop Rate	0.59 per veh	0.59 per pers
Proportion Queued	0.29	0.29
Performance Index	10.3	10.3
Cost (Total)	194.20 \$/h	194.20 \$/h
Fuel Consumption (Total)	19.3 L/h	
Carbon Dioxide (Total)	45.2 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.042 kg/h	
NOx (Total)	0.019 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	431,976 veh/y	518,371 pers/y
Arrival Flows (Total)	431,976 veh/y	
Delay	658 veh-h/y	790 pers-h/y
Effective Stops	253,380 veh/y	304,056 pers/y
Travel Distance	52,571 veh-km/y	63,085 pers-km/y
Travel Time	1,576 veh-h/y	1,891 pers-h/y
Cost	93,216 \$/y	93,216 \$/y
Fuel Consumption	9,241 L/y	
Carbon Dioxide	21,716 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	20 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 Site: 101 [21. The Crescent/ Subway Ln, Homebush PM
Future 5:1 FSR]

 Network: N101 [5:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: The Crescent E													
5	T1	185	0.0	185	0.0	0.309	4.1	LOS A	2.1	14.9	0.26	0.54	46.2
6	R2	230	0.0	230	0.0	0.309	7.2	LOS A	2.1	14.9	0.26	0.54	42.8
6u	U	4	0.0	4	0.0	0.309	8.6	LOS A	2.1	14.9	0.26	0.54	49.4
Approach		419	0.0	419	0.0	0.309	5.8	LOS A	2.1	14.9	0.26	0.54	44.8
North: Subway Ln													
7	L2	436	0.0	436	0.0	0.443	3.5	LOS A	3.2	22.7	0.53	0.59	44.4
9	R2	62	0.0	62	0.0	0.443	6.3	LOS A	3.2	22.7	0.53	0.59	45.3
9u	U	1	0.0	1	0.0	0.443	7.8	LOS A	3.2	22.7	0.53	0.59	20.5
Approach		499	0.0	499	0.0	0.443	3.9	LOS A	3.2	22.7	0.53	0.59	44.5
West: The Crescent W													
10	L2	47	0.0	47	0.0	0.231	5.3	LOS A	1.3	9.2	0.45	0.55	43.2
11	T1	195	0.0	195	0.0	0.231	5.1	LOS A	1.3	9.2	0.45	0.55	46.5
12u	U	1	0.0	1	0.0	0.231	9.7	LOS A	1.3	9.2	0.45	0.55	49.7
Approach		243	0.0	243	0.0	0.231	5.2	LOS A	1.3	9.2	0.45	0.55	46.1
All Vehicles		1161	0.0	1161	0.0	0.443	4.8	LOS A	3.2	22.7	0.42	0.56	45.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

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Organisation: MCLAREN TRAFFIC ENGINEERING | Processed: 30 November 2017 11:40:50

Project: C:\Users\MTEDesktop\1111-17_Homebush.sip7

INTERSECTION SUMMARY

 Site: 101 [21. The Crescent/ Subway Ln, Homebush PM
Future 5:1 FSR]

 Network: N101 [5:1 Future
PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	45.1 km/h	45.1 km/h
Travel Distance (Total)	806.1 veh-km/h	967.3 pers-km/h
Travel Time (Total)	17.9 veh-h/h	21.5 pers-h/h
Demand Flows (Total)	1161 veh/h	1393 pers/h
Arrival Flows (Total)	1161 veh/h	1393 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.443	
Practical Spare Capacity	91.9 %	
Effective Intersection Capacity	2621 veh/h	
Control Delay (Total)	1.56 veh-h/h	1.87 pers-h/h
Control Delay (Average)	4.8 sec	4.8 sec
Control Delay (Worst Lane)	5.8 sec	
Control Delay (Worst Movement)	9.7 sec	9.7 sec
Geometric Delay (Average)	3.8 sec	
Stop-Line Delay (Average)	1.1 sec	
Idling Time (Average)	0.1 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	3.2 veh	
95% Back of Queue - Distance (Worst Lane)	22.7 m	
Queue Storage Ratio (Worst Lane)	0.37	
Total Effective Stops	650 veh/h	781 pers/h
Effective Stop Rate	0.56 per veh	0.56 per pers
Proportion Queued	0.42	0.42
Performance Index	29.4	29.4
Cost (Total)	447.38 \$/h	447.38 \$/h
Fuel Consumption (Total)	64.9 L/h	
Carbon Dioxide (Total)	152.6 kg/h	
Hydrocarbons (Total)	0.011 kg/h	
Carbon Monoxide (Total)	0.123 kg/h	
NOx (Total)	0.041 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	557,261 veh/y	668,713 pers/y
Arrival Flows (Total)	557,261 veh/y	
Delay	750 veh-h/y	900 pers-h/y
Effective Stops	312,238 veh/y	374,686 pers/y
Travel Distance	386,909 veh-km/y	464,291 pers-km/y
Travel Time	8,588 veh-h/y	10,305 pers-h/y
Cost	214,740 \$/y	214,740 \$/y
Fuel Consumption	31,173 L/y	
Carbon Dioxide	73,255 kg/y	
Hydrocarbons	5 kg/y	
Carbon Monoxide	59 kg/y	
NOx	20 kg/y	

MOVEMENT SUMMARY

Site: 101 [15. Additional Intersection 5:1 PM]

Network: N101 [5:1 Future PM]

Additional Intersection
5:1 PM
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: RoadName													
4	L2	34	0.0	34	0.0	0.226	5.5	LOS A	0.0	0.0	0.00	0.05	57.0
5	T1	1168	0.0	1168	0.0	0.226	0.0	LOS A	0.0	0.0	0.00	0.02	58.9
Approach		1202	0.0	1202	0.0	0.226	0.2	NA	0.0	0.0	0.00	0.02	58.9
West: RoadName													
11	T1	697	0.0	697	0.0	0.119	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		697	0.0	697	0.0	0.119	0.0	NA	0.0	0.0	0.00	0.00	60.0
All Vehicles		1899	0.0	1899	0.0	0.226	0.1	NA	0.0	0.0	0.00	0.01	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %
 Number of Iterations: 10 (maximum specified: 10)

INTERSECTION SUMMARY

Site: 101 [15. Additional Intersection 5:1 PM]

Network: N101 [5:1 Future PM]

Additional Intersection
5:1 PM
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	59.0 km/h	59.0 km/h
Travel Distance (Total)	203.4 veh-km/h	244.0 pers-km/h
Travel Time (Total)	3.4 veh-h/h	4.1 pers-h/h
Demand Flows (Total)	1899 veh/h	2279 pers/h
Arrival Flows (Total)	1899 veh/h	2279 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.226	
Practical Spare Capacity	332.8 %	
Effective Intersection Capacity	8387 veh/h	
Control Delay (Total)	0.06 veh-h/h	0.07 pers-h/h
Control Delay (Average)	0.1 sec	0.1 sec
Control Delay (Worst Lane)	0.4 sec	
Control Delay (Worst Movement)	5.5 sec	5.5 sec
Geometric Delay (Average)	0.1 sec	
Stop-Line Delay (Average)	0.0 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.0 veh	
95% Back of Queue - Distance (Worst Lane)	0.0 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	20 veh/h	24 pers/h
Effective Stop Rate	0.01 per veh	0.01 per pers
Proportion Queued	0.00	0.00
Performance Index	3.6	3.6
Cost (Total)	151.58 \$/h	151.58 \$/h
Fuel Consumption (Total)	14.3 L/h	
Carbon Dioxide (Total)	33.7 kg/h	
Hydrocarbons (Total)	0.003 kg/h	
Carbon Monoxide (Total)	0.043 kg/h	
NOx (Total)	0.007 kg/h	

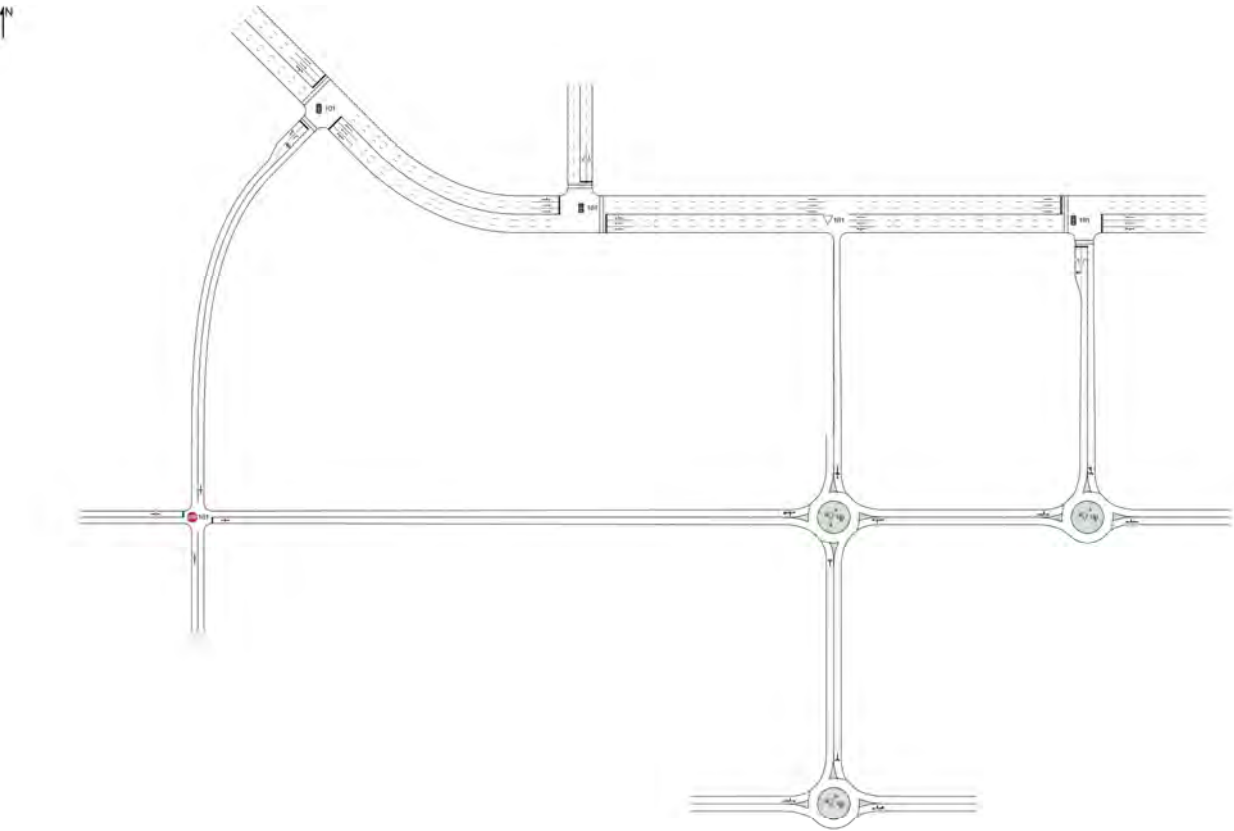
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection delay is not a good LOS measure due to zero delays associated with major road movements.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.8 %
 Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	911,645 veh/y	1,093,974 pers/y
Arrival Flows (Total)	911,645 veh/y	
Delay	26 veh-h/y	32 pers-h/y
Effective Stops	9,777 veh/y	11,732 pers/y
Travel Distance	97,613 veh-km/y	117,136 pers-km/y
Travel Time	1,653 veh-h/y	1,984 pers-h/y
Cost	72,759 \$/y	72,759 \$/y
Fuel Consumption	6,876 L/y	
Carbon Dioxide	16,159 kg/y	
Hydrocarbons	1 kg/y	
Carbon Monoxide	21 kg/y	

APPENDIX F

NETWORK LAYOUT

Network: N101 [7:1 Future AM]
New Network



SITES IN NETWORK	
Site ID	Site Name
101	8. Parramatta Rd/ Bridge Rd, Homebush AM Future 7:1 FSR
101	9. Bridge Rd/ Loftus Cr, Homebush AM Future 7:1 FSR
101	10. Parramatta Rd/ Underwood Rd, Homebush AM Future 7:1 FSR
101	11. Parramatta Rd/ Knight St, Homebush AM Future 7:1 FSR
101	12. Knight St/ Loftus Cr, Homebush AM Future 7:1 FSR
101	13. Loftus Cr/ Subway Ln, Homebush AM Future 7:1 FSR
101	14. The Crescent/ Subway Ln, Homebush AM Future 7:1 FSR
101	22. Additional Intersection 7:1 AM

MOVEMENT SUMMARY

 **Site: 101 [8. Parramatta Rd/ Bridge Rd, Homebush AM Future 7:1 FSR]**

 **Network: N101 [7:1 Future AM]**

AM Peak Hour: 8:00 - 9:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
SouthEast: Parramatta Rd SE													
21	L2	133	0.0	133	0.0	0.901	56.9	LOS E	26.8	187.9	1.00	1.08	18.8
22	T1	1283	0.0	1283	0.0	0.901	52.0	LOS D	27.6	193.3	1.00	1.10	30.5
Approach		1416	0.0	1416	0.0	0.901	52.5	LOS D	27.6	193.3	1.00	1.10	29.7
NorthWest: Parramatta Rd NW													
28	T1	576	0.0	576	0.0	0.197	3.9	LOS A	4.0	28.2	0.31	0.27	53.3
29	R2	347	0.0	347	0.0	0.402	25.0	LOS B	10.0	69.9	0.70	0.86	33.2
Approach		923	0.0	923	0.0	0.402	11.8	LOS A	10.0	69.9	0.46	0.49	43.4
SouthWest: Bridge Rd													
30	L2	370	0.0	370	0.0	0.506	57.7	LOS E	27.5	192.4	1.00	0.89	23.1
32	R2	285	0.0	285	0.0	0.506	54.5	LOS D	27.5	192.4	0.99	0.85	10.3
Approach		655	0.0	655	0.0	0.506	56.3	LOS D	27.5	192.4	0.99	0.88	18.9
All Vehicles		2994	0.0	2994	0.0	0.901	40.8	LOS C	27.6	193.3	0.83	0.86	29.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P7	NorthWest Full Crossing	5	44.2	LOS E	0.0	0.0	0.94	0.94
P8	SouthWest Full Crossing	8	32.0	LOS D	0.0	0.0	0.80	0.80
All Pedestrians		13	36.7	LOS D			0.85	0.85

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.

INTERSECTION SUMMARY

 **Site: 101 [8. Parramatta Rd/ Bridge Rd, Homebush AM**
Future 7:1 FSR]

 **Network: N101 [7:1 Future AM]**

AM Peak Hour: 8:00 - 9:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	29.3 km/h	2.0 km/h	29.2 km/h
Travel Distance (Total)	2001.6 veh-km/h	0.5 ped-km/h	2402.3 pers-km/h
Travel Time (Total)	68.4 veh-h/h	0.2 ped-h/h	82.3 pers-h/h
Demand Flows (Total)	2994 veh/h	13 ped/h	3593 pers/h
Arrival Flows (Total)	2994 veh/h		3593 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.901	0.007	
Practical Spare Capacity	-0.1 %		
Effective Intersection Capacity	3323 veh/h		
Control Delay (Total)	33.91 veh-h/h	0.13 ped-h/h	40.83 pers-h/h
Control Delay (Average)	40.8 sec	36.7 sec	40.9 sec
Control Delay (Worst Lane)	57.7 sec		
Control Delay (Worst Movement)	57.7 sec	44.2 sec	57.7 sec
Geometric Delay (Average)	1.9 sec		
Stop-Line Delay (Average)	38.9 sec		
Idling Time (Average)	33.8 sec		
Intersection Level of Service (LOS)	LOS C	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	27.6 veh		
95% Back of Queue - Distance (Worst Lane)	193.3 m		
Queue Storage Ratio (Worst Lane)	0.66		
Total Effective Stops	2579 veh/h	11 ped/h	3105 pers/h
Effective Stop Rate	0.86 per veh	0.85 per ped	0.86 per pers
Proportion Queued	0.83	0.85	0.84
Performance Index	152.8	0.3	153.1
Cost (Total)	2230.86 \$/h	5.84 \$/h	2236.70 \$/h
Fuel Consumption (Total)	217.1 L/h		
Carbon Dioxide (Total)	510.3 kg/h		
Hydrocarbons (Total)	0.048 kg/h		
Carbon Monoxide (Total)	0.524 kg/h		
NOx (Total)	0.153 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,437,005 veh/y	6,240 ped/y	1,724,406 pers/y
Arrival Flows (Total)	1,437,005 veh/y		
Delay	16,278 veh-h/y	64 ped-h/y	19,597 pers-h/y
Effective Stops	1,237,703 veh/y	5,329 ped/y	1,490,573 pers/y
Travel Distance	960,751 veh-km/y	223 ped-km/y	1,153,124 pers-km/y
Travel Time	32,827 veh-h/y	111 ped-h/y	39,504 pers-h/y
Cost	1,070,813 \$/y	2,803 \$/y	1,073,615 \$/y
Fuel Consumption	104,223 L/y		
Carbon Dioxide	244,923 kg/y		
Hydrocarbons	23 kg/y		

MOVEMENT SUMMARY

 Site: 101 [9. Bridge Rd/ Loftus Cr, Homebush AM Future 7:1  Network: N101 [7:1 Future AM] FSR]

AM Peak Hour: 8:00 - 9:00AM
Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Bridge Rd S													
1	L2	9	0.0	9	0.0	0.351	6.4	LOS A	0.3	1.9	0.05	0.02	49.3
2	T1	577	0.0	577	0.0	0.351	0.1	LOS A	0.3	1.9	0.05	0.02	49.5
3	R2	15	0.0	15	0.0	0.351	7.0	LOS A	0.3	1.9	0.05	0.02	49.5
Approach		601	0.0	601	0.0	0.351	0.4	NA	0.3	1.9	0.05	0.02	49.5
East: Loftus Cr E													
4	L2	11	0.0	11	0.0	0.062	9.1	LOS A	0.2	1.4	0.57	0.93	42.2
5	T1	5	0.0	5	0.0	0.062	16.4	LOS B	0.2	1.4	0.57	0.93	42.0
6	R2	9	0.0	9	0.0	0.062	18.7	LOS B	0.2	1.4	0.57	0.93	37.2
Approach		25	0.0	25	0.0	0.062	14.0	LOS A	0.2	1.4	0.57	0.93	40.9
North: Bridge Rd N													
7	L2	47	0.0	47	0.0	0.236	5.2	LOS A	0.1	1.0	0.04	0.06	47.3
8	T1	395	0.0	395	0.0	0.236	0.1	LOS A	0.1	1.0	0.04	0.06	49.2
9	R2	8	0.0	8	0.0	0.236	7.9	LOS A	0.1	1.0	0.04	0.06	47.9
Approach		450	0.0	450	0.0	0.236	0.8	NA	0.1	1.0	0.04	0.06	49.1
West: Loftus W													
10	L2	27	0.0	27	0.0	0.101	10.7	LOS A	0.3	2.2	0.62	0.98	37.7
11	T1	7	0.0	7	0.0	0.101	16.9	LOS B	0.3	2.2	0.62	0.98	37.7
12	R2	10	0.0	10	0.0	0.101	18.3	LOS B	0.3	2.2	0.62	0.98	42.2
Approach		44	0.0	44	0.0	0.101	13.4	LOS A	0.3	2.2	0.62	0.98	39.2
All Vehicles		1120	0.0	1120	0.0	0.351	1.4	NA	0.3	2.2	0.08	0.10	48.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

INTERSECTION SUMMARY

 Site: 101 [9. Bridge Rd/ Loftus Cr, Homebush AM Future 7:1  Network: N101 [7:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	48.5 km/h	48.5 km/h
Travel Distance (Total)	646.8 veh-km/h	776.1 pers-km/h
Travel Time (Total)	13.3 veh-h/h	16.0 pers-h/h
Demand Flows (Total)	1120 veh/h	1343 pers/h
Arrival Flows (Total)	1120 veh/h	1343 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.351	
Practical Spare Capacity	179.4 %	
Effective Intersection Capacity	3192 veh/h	
Control Delay (Total)	0.42 veh-h/h	0.51 pers-h/h
Control Delay (Average)	1.4 sec	1.4 sec
Control Delay (Worst Lane)	14.0 sec	
Control Delay (Worst Movement)	18.7 sec	18.7 sec
Geometric Delay (Average)	0.8 sec	
Stop-Line Delay (Average)	0.6 sec	
Idling Time (Average)	0.3 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.3 veh	
95% Back of Queue - Distance (Worst Lane)	2.2 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	109 veh/h	130 pers/h
Effective Stop Rate	0.10 per veh	0.10 per pers
Proportion Queued	0.08	0.08
Performance Index	15.1	15.1
Cost (Total)	353.28 \$/h	353.28 \$/h
Fuel Consumption (Total)	40.9 L/h	
Carbon Dioxide (Total)	96.1 kg/h	
Hydrocarbons (Total)	0.006 kg/h	
Carbon Monoxide (Total)	0.074 kg/h	
NOx (Total)	0.019 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %
Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	537,389 veh/y	644,867 pers/y
Arrival Flows (Total)	537,389 veh/y	
Delay	203 veh-h/y	243 pers-h/y
Effective Stops	52,124 veh/y	62,549 pers/y
Travel Distance	310,460 veh-km/y	372,552 pers-km/y
Travel Time	6,407 veh-h/y	7,689 pers-h/y
Cost	169,574 \$/y	169,574 \$/y
Fuel Consumption	19,626 L/y	
Carbon Dioxide	46,122 kg/y	
Hydrocarbons	3 kg/y	
Carbon Monoxide	36 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 **Site: 101 [10. Parramatta Rd/ Underwood Rd, Homebush AM Future 7:1 FSR]**

 **Network: N101 [7:1 Future AM]**

AM Peak Hour : 8:00 - 9:00AM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Parramatta Rd E													
5	T1	1374	0.0	1374	0.0	0.427	3.0	LOS A	9.3	65.3	0.27	0.25	31.3
6	R2	385	0.0	385	0.0	0.427	13.9	LOS A	9.3	65.3	0.54	0.74	41.5
Approach		1759	0.0	1759	0.0	0.427	5.4	LOS A	9.3	65.3	0.33	0.36	38.2
North: Underwood Rd													
7	L2	85	0.0	85	0.0	0.495	49.8	LOS D	5.6	39.1	0.98	0.79	21.4
9	R2	107	0.0	107	0.0	0.495	53.3	LOS D	5.6	39.1	0.99	0.77	20.6
Approach		192	0.0	192	0.0	0.495	51.7	LOS D	5.6	39.1	0.98	0.78	20.9
West: Parramatta Rd W													
10	L2	101	0.0	101	0.0	0.471	36.3	LOS C	10.3	72.2	0.83	0.74	36.7
11	T1	720	0.0	720	0.0	0.471	33.6	LOS C	12.4	86.7	0.92	0.78	25.0
Approach		821	0.0	821	0.0	0.471	33.9	LOS C	12.4	86.7	0.91	0.78	27.1
All Vehicles		2772	0.0	2772	0.0	0.495	17.1	LOS B	12.4	86.7	0.54	0.51	29.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow	Average Delay	Level of Service	Average Back of Queue	Back of Queue Distance	Prop. Queued	Effective Stop Rate
		ped/h	sec		ped	m		per ped
P2	East Full Crossing	26	44.2	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	13	32.0	LOS D	0.0	0.0	0.80	0.80
All Pedestrians		39	40.2	LOS E			0.89	0.89

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [10. Parramatta Rd/ Underwood Rd, Homebush AM Future 7:1 FSR]**

 **Network: N101 [7:1 Future AM]**

AM Peak Hour : 8:00 - 9:00AM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	29.2 km/h	2.0 km/h	28.5 km/h
Travel Distance (Total)	775.9 veh-km/h	1.5 ped-km/h	932.6 pers-km/h
Travel Time (Total)	26.6 veh-h/h	0.8 ped-h/h	32.7 pers-h/h
Demand Flows (Total)	2772 veh/h	39 ped/h	3326 pers/h
Arrival Flows (Total)	2772 veh/h		3326 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.495	0.036	
Practical Spare Capacity	81.9 %		
Effective Intersection Capacity	5602 veh/h		
Control Delay (Total)	13.14 veh-h/h	0.44 ped-h/h	16.20 pers-h/h
Control Delay (Average)	17.1 sec	40.2 sec	17.5 sec
Control Delay (Worst Lane)	54.9 sec		
Control Delay (Worst Movement)	53.3 sec	44.2 sec	53.3 sec
Geometric Delay (Average)	1.0 sec		
Stop-Line Delay (Average)	16.0 sec		
Idling Time (Average)	13.9 sec		
Intersection Level of Service (LOS)	LOS B	LOS E	
95% Back of Queue - Vehicles (Worst Lane)	12.4 veh		
95% Back of Queue - Distance (Worst Lane)	86.7 m		
Queue Storage Ratio (Worst Lane)	1.00		
Total Effective Stops	1416 veh/h	35 ped/h	1734 pers/h
Effective Stop Rate	0.51 per veh	0.89 per ped	0.52 per pers
Proportion Queued	0.54	0.89	0.55
Performance Index	64.1	1.0	65.0
Cost (Total)	1021.07 \$/h	19.28 \$/h	1040.35 \$/h
Fuel Consumption (Total)	100.8 L/h		
Carbon Dioxide (Total)	236.8 kg/h		
Hydrocarbons (Total)	0.023 kg/h		
Carbon Monoxide (Total)	0.246 kg/h		
NOx (Total)	0.079 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,330,522 veh/y	18,720 ped/y	1,596,626 pers/y
Arrival Flows (Total)	1,330,522 veh/y		
Delay	6,305 veh-h/y	209 ped-h/y	7,775 pers-h/y
Effective Stops	679,694 veh/y	16,739 ped/y	832,371 pers/y
Travel Distance	372,429 veh-km/y	741 ped-km/y	447,657 pers-km/y
Travel Time	12,766 veh-h/y	367 ped-h/y	15,686 pers-h/y
Cost	490,112 \$/y	9,254 \$/y	499,366 \$/y
Fuel Consumption	48,376 L/y		
Carbon Dioxide	113,684 kg/y		
Hydrocarbons	11 kg/y		

MOVEMENT SUMMARY

 Site: 101 [11. Parramatta Rd/ Knight St, Homebush AM Future 7:1 FSR]

 Network: N101 [7:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Knight St													
1	L2	138	0.0	138	0.0	0.338	41.8	LOS C	5.7	40.2	0.86	0.77	8.0
3	R2	271	0.0	271	0.0	0.724	45.2	LOS D	12.3	86.2	0.94	0.82	24.5
Approach		409	0.0	409	0.0	0.724	44.0	LOS D	12.3	86.2	0.92	0.80	20.9
East: Parramatta Rd E													
4	L2	168	0.0	168	0.0	0.467	14.8	LOS B	14.0	98.1	0.52	0.55	44.5
5	T1	1628	0.0	1628	0.0	0.467	9.2	LOS A	14.2	99.4	0.52	0.49	45.7
Approach		1796	0.0	1796	0.0	0.467	9.7	LOS A	14.2	99.4	0.52	0.49	45.6
West: Parramatta Rd W													
11	T1	791	0.0	791	0.0	0.205	3.4	LOS A	4.7	32.8	0.19	0.16	55.1
Approach		791	0.0	791	0.0	0.205	3.4	LOS A	4.7	32.8	0.19	0.16	55.1
All Vehicles		2996	0.0	2996	0.0	0.724	12.7	LOS A	14.2	99.4	0.49	0.45	42.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	6	8.4	LOS A	0.0	0.0	0.41	0.41
P4	West Full Crossing	14	44.2	LOS E	0.0	0.0	0.94	0.94
All Pedestrians		20	33.5	LOS D			0.78	0.78

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 Site: 101 [11. Parramatta Rd/ Knight St, Homebush AM
Future 7:1 FSR]

 Network: N101 [7:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	42.3 km/h	2.2 km/h	42.0 km/h
Travel Distance (Total)	1611.7 veh-km/h	0.8 ped-km/h	1934.8 pers-km/h
Travel Time (Total)	38.1 veh-h/h	0.4 ped-h/h	46.1 pers-h/h
Demand Flows (Total)	2996 veh/h	20 ped/h	3595 pers/h
Arrival Flows (Total)	2996 veh/h		3595 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.724	0.019	
Practical Spare Capacity	24.2 %		
Effective Intersection Capacity	4135 veh/h		
Control Delay (Total)	10.60 veh-h/h	0.19 ped-h/h	12.91 pers-h/h
Control Delay (Average)	12.7 sec	33.5 sec	12.9 sec
Control Delay (Worst Lane)	45.2 sec		
Control Delay (Worst Movement)	45.2 sec	44.2 sec	45.2 sec
Geometric Delay (Average)	0.9 sec		
Stop-Line Delay (Average)	11.8 sec		
Idling Time (Average)	9.7 sec		
Intersection Level of Service (LOS)	LOS A	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	14.2 veh		
95% Back of Queue - Distance (Worst Lane)	99.4 m		
Queue Storage Ratio (Worst Lane)	0.56		
Total Effective Stops	1343 veh/h	16 ped/h	1627 pers/h
Effective Stop Rate	0.45 per veh	0.78 per ped	0.45 per pers
Proportion Queued	0.49	0.78	0.49
Performance Index	75.2	0.4	75.7
Cost (Total)	1244.47 \$/h	8.87 \$/h	1253.34 \$/h
Fuel Consumption (Total)	139.8 L/h		
Carbon Dioxide (Total)	328.5 kg/h		
Hydrocarbons (Total)	0.029 kg/h		
Carbon Monoxide (Total)	0.368 kg/h		
NOx (Total)	0.096 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,437,917 veh/y	9,600 ped/y	1,725,500 pers/y
Arrival Flows (Total)	1,437,917 veh/y		
Delay	5,089 veh-h/y	89 ped-h/y	6,196 pers-h/y
Effective Stops	644,649 veh/y	7,502 ped/y	781,081 pers/y
Travel Distance	773,625 veh-km/y	373 ped-km/y	928,723 pers-km/y
Travel Time	18,295 veh-h/y	169 ped-h/y	22,123 pers-h/y
Cost	597,346 \$/y	4,256 \$/y	601,602 \$/y
Fuel Consumption	67,089 L/y		
Carbon Dioxide	157,659 kg/y		
Hydrocarbons	14 kg/y		

MOVEMENT SUMMARY

 Site: 101 [12. Knight St/ Loftus Cr, Homebush AM Future 7:1 FSR]

 Network: N101 [7:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Loftus Cr W													
5	T1	87	0.0	87	0.0	0.094	4.8	LOS A	0.5	3.5	0.36	0.52	43.4
6	R2	15	0.0	15	0.0	0.094	7.5	LOS A	0.5	3.5	0.36	0.52	43.4
Approach		102	0.0	102	0.0	0.094	5.2	LOS A	0.5	3.5	0.36	0.52	43.4
North: Knight St													
7	L2	6	0.0	6	0.0	0.134	4.6	LOS A	0.6	4.3	0.07	0.63	42.2
9	R2	190	0.0	190	0.0	0.134	6.5	LOS A	0.6	4.3	0.07	0.63	27.7
9u	U	1	0.0	1	0.0	0.134	7.8	LOS A	0.6	4.3	0.07	0.63	27.7
Approach		197	0.0	197	0.0	0.134	6.5	LOS A	0.6	4.3	0.07	0.63	29.2
West: Loftus Cr W													
10	L2	426	0.0	426	0.0	0.288	4.7	LOS A	1.9	13.3	0.11	0.53	28.4
11	T1	15	0.0	15	0.0	0.288	3.9	LOS A	1.9	13.3	0.11	0.53	44.3
Approach		441	0.0	441	0.0	0.288	4.6	LOS A	1.9	13.3	0.11	0.53	30.4
All Vehicles		740	0.0	740	0.0	0.288	5.2	LOS A	1.9	13.3	0.13	0.55	34.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

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INTERSECTION SUMMARY

 Site: 101 [12. Knight St/ Loftus Cr, Homebush AM Future 7:1 FSR]

 Network: N101 [7:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	34.4 km/h	34.4 km/h
Travel Distance (Total)	125.6 veh-km/h	150.7 pers-km/h
Travel Time (Total)	3.6 veh-h/h	4.4 pers-h/h
Demand Flows (Total)	740 veh/h	888 pers/h
Arrival Flows (Total)	740 veh/h	888 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.288	
Practical Spare Capacity	195.6 %	
Effective Intersection Capacity	2574 veh/h	
Control Delay (Total)	1.07 veh-h/h	1.28 pers-h/h
Control Delay (Average)	5.2 sec	5.2 sec
Control Delay (Worst Lane)	6.5 sec	
Control Delay (Worst Movement)	7.8 sec	7.8 sec
Geometric Delay (Average)	5.0 sec	
Stop-Line Delay (Average)	0.2 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.9 veh	
95% Back of Queue - Distance (Worst Lane)	13.3 m	
Queue Storage Ratio (Worst Lane)	0.07	
Total Effective Stops	408 veh/h	490 pers/h
Effective Stop Rate	0.55 per veh	0.55 per pers
Proportion Queued	0.13	0.13
Performance Index	8.5	8.5
Cost (Total)	189.11 \$/h	189.11 \$/h
Fuel Consumption (Total)	21.2 L/h	
Carbon Dioxide (Total)	49.9 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.045 kg/h	
NOx (Total)	0.021 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	355,286 veh/y	426,344 pers/y
Arrival Flows (Total)	355,286 veh/y	
Delay	514 veh-h/y	617 pers-h/y
Effective Stops	196,026 veh/y	235,231 pers/y
Travel Distance	60,275 veh-km/y	72,330 pers-km/y
Travel Time	1,750 veh-h/y	2,100 pers-h/y
Cost	90,772 \$/y	90,772 \$/y
Fuel Consumption	10,197 L/y	
Carbon Dioxide	23,963 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	22 kg/y	
NOx	10 kg/y	

MOVEMENT SUMMARY

 Site: 101 [13. Loftus Cr/ Subway Ln, Homebush AM Future 7:1 FSR]  Network: N101 [7:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h		veh/h		v/c	sec		veh	m			
South: Subway Ln S													
1	L2	28	0.0	28	0.0	0.256	2.4	LOS A	1.6	11.0	0.08	0.63	22.3
3	R2	374	0.0	374	0.0	0.256	4.9	LOS A	1.6	11.0	0.08	0.63	22.3
Approach		402	0.0	402	0.0	0.256	4.8	LOS A	1.6	11.0	0.08	0.63	22.3
East: Loftus Cr E													
4	L2	259	0.0	259	0.0	0.216	5.3	LOS A	1.2	8.7	0.30	0.55	29.1
5	T1	4	0.0	4	0.0	0.216	5.0	LOS A	1.2	8.7	0.30	0.55	29.1
Approach		263	0.0	263	0.0	0.216	5.3	LOS A	1.2	8.7	0.30	0.55	29.1
North: Subway Ln N													
7	L2	38	0.0	38	0.0	0.107	7.7	LOS A	0.5	3.8	0.55	0.66	28.3
8	T1	50	0.0	50	0.0	0.107	7.4	LOS A	0.5	3.8	0.55	0.66	28.3
9	R2	5	0.0	5	0.0	0.107	10.3	LOS A	0.5	3.8	0.55	0.66	28.3
Approach		94	0.0	94	0.0	0.107	7.7	LOS A	0.5	3.8	0.55	0.66	28.3
West: Loftus Cr W													
11	T1	35	0.0	35	0.0	0.092	6.8	LOS A	0.5	3.2	0.49	0.67	47.0
12	R2	49	0.0	49	0.0	0.092	9.8	LOS A	0.5	3.2	0.49	0.67	47.0
12u	U	3	0.0	3	0.0	0.092	11.3	LOS A	0.5	3.2	0.49	0.67	47.0
Approach		87	0.0	87	0.0	0.092	8.6	LOS A	0.5	3.2	0.49	0.67	47.0
All Vehicles		845	0.0	845	0.0	0.256	5.6	LOS A	1.6	11.0	0.25	0.61	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Roundabout Capacity Model: SIDRA Standard.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %
 Number of Iterations: 10 (maximum specified: 10)

INTERSECTION SUMMARY

 Site: 101 [13. Loftus Cr/ Subway Ln, Homebush AM Future 7:1 FSR]

 Network: N101 [7:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	32.8 km/h	32.8 km/h
Travel Distance (Total)	99.5 veh-km/h	119.4 pers-km/h
Travel Time (Total)	3.0 veh-h/h	3.6 pers-h/h
Demand Flows (Total)	845 veh/h	1015 pers/h
Arrival Flows (Total)	845 veh/h	1015 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.256	
Practical Spare Capacity	231.8 %	
Effective Intersection Capacity	3300 veh/h	
Control Delay (Total)	1.32 veh-h/h	1.59 pers-h/h
Control Delay (Average)	5.6 sec	5.6 sec
Control Delay (Worst Lane)	8.6 sec	
Control Delay (Worst Movement)	11.3 sec	11.3 sec
Geometric Delay (Average)	4.9 sec	
Stop-Line Delay (Average)	0.7 sec	
Idling Time (Average)	0.1 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.6 veh	
95% Back of Queue - Distance (Worst Lane)	11.0 m	
Queue Storage Ratio (Worst Lane)	0.18	
Total Effective Stops	519 veh/h	622 pers/h
Effective Stop Rate	0.61 per veh	0.61 per pers
Proportion Queued	0.25	0.25
Performance Index	9.3	9.3
Cost (Total)	199.56 \$/h	199.56 \$/h
Fuel Consumption (Total)	20.9 L/h	
Carbon Dioxide (Total)	49.2 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.047 kg/h	
NOx (Total)	0.022 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	405,821 veh/y	486,985 pers/y
Arrival Flows (Total)	405,821 veh/y	
Delay	636 veh-h/y	763 pers-h/y
Effective Stops	248,985 veh/y	298,782 pers/y
Travel Distance	47,760 veh-km/y	57,312 pers-km/y
Travel Time	1,457 veh-h/y	1,748 pers-h/y
Cost	95,790 \$/y	95,790 \$/y
Fuel Consumption	10,045 L/y	
Carbon Dioxide	23,606 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	22 kg/y	
NOx	10 kg/y	

MOVEMENT SUMMARY

 Site: 101 [14. The Crescent/ Subway Ln, Homebush AM
Future 7:1 FSR]

 Network: N101 [7:1 Future AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: The Crescent E													
5	T1	179	0.0	179	0.0	0.420	4.3	LOS A	3.2	22.3	0.36	0.57	45.7
6	R2	369	0.0	369	0.0	0.420	7.4	LOS A	3.2	22.3	0.36	0.57	42.1
6u	U	1	0.0	1	0.0	0.420	8.9	LOS A	3.2	22.3	0.36	0.57	48.9
Approach		549	0.0	549	0.0	0.420	6.4	LOS A	3.2	22.3	0.36	0.57	43.8
North: Subway Ln													
7	L2	241	0.0	241	0.0	0.300	3.2	LOS A	2.0	13.7	0.45	0.57	44.3
9	R2	95	0.0	95	0.0	0.300	6.0	LOS A	2.0	13.7	0.45	0.57	45.3
Approach		336	0.0	336	0.0	0.300	4.0	LOS A	2.0	13.7	0.45	0.57	44.6
West: The Crescent W													
10	L2	56	0.0	56	0.0	0.250	6.1	LOS A	1.5	10.3	0.57	0.63	42.6
11	T1	177	0.0	177	0.0	0.250	6.0	LOS A	1.5	10.3	0.57	0.63	46.1
Approach		233	0.0	233	0.0	0.250	6.0	LOS A	1.5	10.3	0.57	0.63	45.6
All Vehicles		1118	0.0	1118	0.0	0.420	5.6	LOS A	3.2	22.3	0.43	0.58	44.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

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Project: C:\Users\IMTE\Desktop\1111-17_Homebush.sip7

INTERSECTION SUMMARY

 Site: 101 [14. The Crescent/ Subway Ln, Homebush AM
Future 7:1 FSR]

 Network: N101 [7:1 Future
AM]

AM Peak Hour: 8:00 - 9:00AM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	44.5 km/h	44.5 km/h
Travel Distance (Total)	769.6 veh-km/h	923.5 pers-km/h
Travel Time (Total)	17.3 veh-h/h	20.8 pers-h/h
Demand Flows (Total)	1118 veh/h	1342 pers/h
Arrival Flows (Total)	1118 veh/h	1342 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.420	
Practical Spare Capacity	102.6 %	
Effective Intersection Capacity	2666 veh/h	
Control Delay (Total)	1.74 veh-h/h	2.09 pers-h/h
Control Delay (Average)	5.6 sec	5.6 sec
Control Delay (Worst Lane)	6.4 sec	
Control Delay (Worst Movement)	8.9 sec	8.9 sec
Geometric Delay (Average)	4.5 sec	
Stop-Line Delay (Average)	1.1 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	3.2 veh	
95% Back of Queue - Distance (Worst Lane)	22.3 m	
Queue Storage Ratio (Worst Lane)	0.22	
Total Effective Stops	651 veh/h	781 pers/h
Effective Stop Rate	0.58 per veh	0.58 per pers
Proportion Queued	0.43	0.43
Performance Index	27.3	27.3
Cost (Total)	482.35 \$/h	482.35 \$/h
Fuel Consumption (Total)	61.4 L/h	
Carbon Dioxide (Total)	144.2 kg/h	
Hydrocarbons (Total)	0.011 kg/h	
Carbon Monoxide (Total)	0.115 kg/h	
NOx (Total)	0.038 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	536,856 veh/y	644,227 pers/y
Arrival Flows (Total)	536,856 veh/y	
Delay	836 veh-h/y	1,003 pers-h/y
Effective Stops	312,338 veh/y	374,806 pers/y
Travel Distance	369,387 veh-km/y	443,264 pers-km/y
Travel Time	8,309 veh-h/y	9,971 pers-h/y
Cost	231,530 \$/y	231,530 \$/y
Fuel Consumption	29,452 L/y	
Carbon Dioxide	69,213 kg/y	
Hydrocarbons	5 kg/y	
Carbon Monoxide	55 kg/y	
NOx	18 kg/y	

MOVEMENT SUMMARY

Site: 101 [22. Additional Intersection 7:1 AM]

Network: N101 [7:1 Future AM]

Additional Intersection
7:1 AM
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: RoadName													
4	L2	32	0.0	32	0.0	0.300	5.5	LOS A	0.0	0.0	0.00	0.05	57.0
5	T1	1374	0.0	1374	0.0	0.300	0.0	LOS A	0.3	2.4	0.00	0.01	59.1
Approach		1406	0.0	1406	0.0	0.300	0.1	NA	0.3	2.4	0.00	0.01	59.0
West: RoadName													
11	T1	791	0.0	791	0.0	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		791	0.0	791	0.0	0.135	0.0	NA	0.0	0.0	0.00	0.00	60.0
All Vehicles		2197	0.0	2197	0.0	0.300	0.1	NA	0.3	2.4	0.00	0.01	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %
Number of Iterations: 10 (maximum specified: 10)

INTERSECTION SUMMARY

Site: 101 [22. Additional Intersection 7:1 AM]

Network: N101 [7:1 Future AM]

Additional Intersection
7:1 AM
Giveway / Yield (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	59.2 km/h	59.2 km/h
Travel Distance (Total)	236.6 veh-km/h	284.0 pers-km/h
Travel Time (Total)	4.0 veh-h/h	4.8 pers-h/h
Demand Flows (Total)	2197 veh/h	2637 pers/h
Arrival Flows (Total)	2197 veh/h	2637 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.300	
Practical Spare Capacity	227.2 %	
Effective Intersection Capacity	7337 veh/h	
Control Delay (Total)	0.05 veh-h/h	0.07 pers-h/h
Control Delay (Average)	0.1 sec	0.1 sec
Control Delay (Worst Lane)	0.4 sec	
Control Delay (Worst Movement)	5.5 sec	5.5 sec
Geometric Delay (Average)	0.1 sec	
Stop-Line Delay (Average)	0.0 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.3 veh	
95% Back of Queue - Distance (Worst Lane)	2.4 m	
Queue Storage Ratio (Worst Lane)	0.01	
Total Effective Stops	19 veh/h	23 pers/h
Effective Stop Rate	0.01 per veh	0.01 per pers
Proportion Queued	0.00	0.00
Performance Index	4.2	4.2
Cost (Total)	174.58 \$/h	174.58 \$/h
Fuel Consumption (Total)	16.4 L/h	
Carbon Dioxide (Total)	38.6 kg/h	
Hydrocarbons (Total)	0.003 kg/h	
Carbon Monoxide (Total)	0.050 kg/h	
NOx (Total)	0.008 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 2.5 %

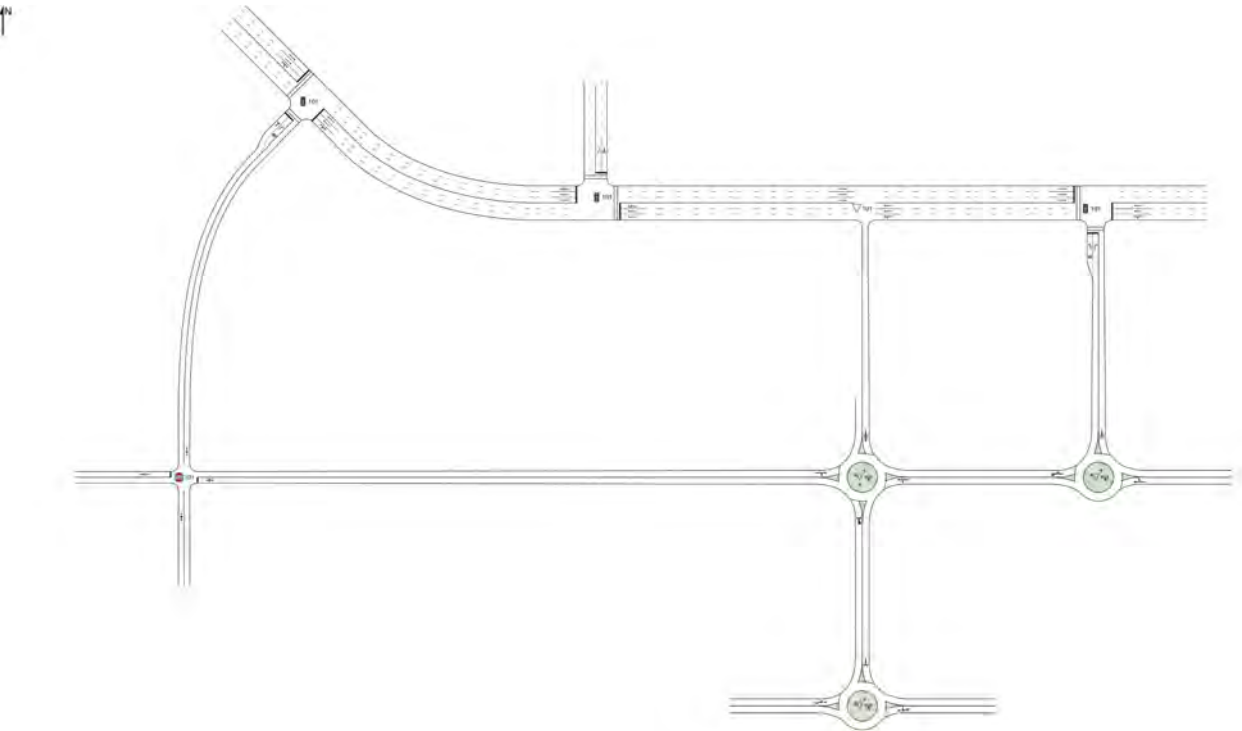
Number of Iterations: 10 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	1,054,795 veh/y	1,265,754 pers/y
Arrival Flows (Total)	1,054,795 veh/y	
Delay	26 veh-h/y	31 pers-h/y
Effective Stops	9,258 veh/y	11,109 pers/y
Travel Distance	113,589 veh-km/y	136,306 pers-km/y
Travel Time	1,919 veh-h/y	2,303 pers-h/y
Cost	83,797 \$/y	83,797 \$/y
Fuel Consumption	7,879 L/y	
Carbon Dioxide	18,516 kg/y	
Hydrocarbons	1 kg/y	
Carbon Monoxide	24 kg/y	

NETWORK LAYOUT

Network: N101 [7:1 Future PM]

New Network



SITES IN NETWORK	
Site ID	Site Name
101	8. Parramatta Rd/ Bridge Rd, Homebush PM Future 7:1 FSR
101	9. Bridge Rd/ Loftus Cr, Homebush PM Future 7:1 FSR
101	10. Parramatta Rd/ Underwood Rd, Homebush PM Future 7:1 FSR
101	11. Parramatta Rd/ Knight St, Homebush PM Future 7:1 FSR
101	12. Knight St/ Loftus Cr, Homebush PM Future 7:1 FSR
101	13. Loftus Cr/ Subway Ln, Homebush PM Future 7:1 FSR
101	14. The Crescent/ Subway Ln, Homebush PM Future 7:1 FSR
101	22. Additional Intersection 7:1 PM

MOVEMENT SUMMARY

 **Site: 101 [8. Parramatta Rd/ Bridge Rd, Homebush PM Future 7:1 FSR]**

 **Network: N101 [7:1 Future PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
SouthEast: Parramatta Rd SE													
21	L2	230	0.0	230	0.0	0.801	30.2	LOS C	20.0	139.9	0.85	0.82	28.2
22	T1	1258	0.0	1258	0.0	0.801	32.2	LOS C	23.4	164.0	0.92	0.87	37.4
Approach		1488	0.0	1488	0.0	0.801	31.9	LOS C	23.4	164.0	0.91	0.86	36.5
NorthWest: Parramatta Rd NW													
28	T1	520	0.0	520	0.0	0.183	4.4	LOS A	3.9	27.0	0.33	0.29	52.5
29	R2	567	0.0	567	0.0	0.764	35.9	LOS C	20.1	140.8	0.93	1.02	27.9
Approach		1087	0.0	1087	0.0	0.764	20.8	LOS B	20.1	140.8	0.64	0.67	35.9
SouthWest: Bridge Rd													
30	L2	185	0.0	185	0.0	0.370	40.5	LOS C	9.6	67.5	0.92	0.81	27.4
32	R2	143	0.0	143	0.0	0.370	45.1	LOS D	9.6	67.5	0.94	0.78	11.9
Approach		328	0.0	328	0.0	0.370	42.5	LOS D	9.6	67.5	0.93	0.80	22.3
All Vehicles		2903	0.0	2903	0.0	0.801	29.0	LOS C	23.4	164.0	0.81	0.78	34.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P7	NorthWest Full Crossing	50	44.3	LOS E	0.1	0.1	0.94	0.94
P8	SouthWest Full Crossing	50	28.2	LOS C	0.1	0.1	0.75	0.75
All Pedestrians		100	36.2	LOS D			0.85	0.85

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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Project: C:\Users\IMTE\Desktop\1111-17_Homebush.sip7

INTERSECTION SUMMARY

 **Site: 101 [8. Parramatta Rd/ Bridge Rd, Homebush PM**
Future 7:1 FSR]

 **Network: N101 [7:1 Future PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS 839

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	34.5 km/h	2.1 km/h	33.7 km/h
Travel Distance (Total)	1947.4 veh-km/h	3.7 ped-km/h	2340.5 pers-km/h
Travel Time (Total)	56.4 veh-h/h	1.8 ped-h/h	69.4 pers-h/h
Demand Flows (Total)	2903 veh/h	100 ped/h	3484 pers/h
Arrival Flows (Total)	2903 veh/h		3484 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.801	0.069	
Practical Spare Capacity	12.4 %		
Effective Intersection Capacity	3625 veh/h		
Control Delay (Total)	23.35 veh-h/h	1.01 ped-h/h	29.03 pers-h/h
Control Delay (Average)	29.0 sec	36.2 sec	30.0 sec
Control Delay (Worst Lane)	46.9 sec		
Control Delay (Worst Movement)	45.1 sec	44.3 sec	45.1 sec
Geometric Delay (Average)	2.0 sec		
Stop-Line Delay (Average)	26.9 sec		
Idling Time (Average)	22.6 sec		
Intersection Level of Service (LOS)	LOS C	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	23.4 veh		
95% Back of Queue - Distance (Worst Lane)	164.0 m		
Queue Storage Ratio (Worst Lane)	0.26		
Total Effective Stops	2268 veh/h	85 ped/h	2807 pers/h
Effective Stop Rate	0.78 per veh	0.85 per ped	0.81 per pers
Proportion Queued	0.81	0.85	0.84
Performance Index	119.0	2.3	121.3
Cost (Total)	1887.81 \$/h	45.20 \$/h	1933.01 \$/h
Fuel Consumption (Total)	197.8 L/h		
Carbon Dioxide (Total)	464.9 kg/h		
Hydrocarbons (Total)	0.043 kg/h		
Carbon Monoxide (Total)	0.502 kg/h		
NOx (Total)	0.143 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,393,666 veh/y	48,000 ped/y	1,672,399 pers/y
Arrival Flows (Total)	1,393,666 veh/y		
Delay	11,210 veh-h/y	483 ped-h/y	13,935 pers-h/y
Effective Stops	1,088,850 veh/y	40,645 ped/y	1,347,265 pers/y
Travel Distance	934,732 veh-km/y	1,769 ped-km/y	1,123,447 pers-km/y
Travel Time	27,058 veh-h/y	861 ped-h/y	33,330 pers-h/y
Cost	906,149 \$/y	21,697 \$/y	927,846 \$/y
Fuel Consumption	94,960 L/y		
Carbon Dioxide	223,155 kg/y		
Hydrocarbons	20 kg/y		

MOVEMENT SUMMARY



Site: 101 [9. Bridge Rd/ Loftus Cr, Homebush PM Future 7:1 FSR] Network: N101 [7:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM

Stop (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Bridge Rd S													
1	L2	15	0.0	15	0.0	0.165	6.5	LOS A	0.2	1.1	0.06	0.04	49.1
2	T1	292	0.0	292	0.0	0.165	0.2	LOS A	0.2	1.1	0.06	0.04	49.1
3	R2	6	0.0	6	0.0	0.165	8.9	LOS A	0.2	1.1	0.06	0.04	49.1
Approach		313	0.0	313	0.0	0.165	0.7	NA	0.2	1.1	0.06	0.04	49.1
East: Loftus Cr E													
4	L2	19	0.0	19	0.0	0.076	11.6	LOS A	0.3	1.9	0.64	0.96	42.2
5	T1	3	0.0	3	0.0	0.076	16.5	LOS B	0.3	1.9	0.64	0.96	42.0
6	R2	11	0.0	11	0.0	0.076	18.1	LOS B	0.3	1.9	0.64	0.96	37.1
Approach		33	0.0	33	0.0	0.076	14.2	LOS A	0.3	1.9	0.64	0.96	41.0
North: Bridge Rd N													
7	L2	30	0.0	30	0.0	0.392	5.0	LOS A	0.1	0.8	0.01	0.03	48.9
8	T1	721	0.0	721	0.0	0.392	0.0	LOS A	0.1	0.8	0.01	0.03	49.7
9	R2	8	0.0	8	0.0	0.392	6.3	LOS A	0.1	0.8	0.01	0.03	48.3
Approach		759	0.0	759	0.0	0.392	0.3	NA	0.1	0.8	0.01	0.03	49.7
West: Loftus W													
10	L2	8	0.0	8	0.0	0.039	8.6	LOS A	0.1	0.9	0.54	0.93	37.7
11	T1	6	0.0	6	0.0	0.039	16.4	LOS B	0.1	0.9	0.54	0.93	37.7
12	R2	4	0.0	4	0.0	0.039	17.7	LOS B	0.1	0.9	0.54	0.93	42.2
Approach		18	0.0	18	0.0	0.039	13.2	LOS A	0.1	0.9	0.54	0.93	39.2
All Vehicles		1123	0.0	1123	0.0	0.392	1.0	NA	0.3	1.9	0.05	0.07	48.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

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INTERSECTION SUMMARY

 Site: 101 [9. Bridge Rd/ Loftus Cr, Homebush PM Future 7:1 FSR]  Network: N101 [7:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Stop (Two-Way)

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	48.9 km/h	48.9 km/h
Travel Distance (Total)	715.5 veh-km/h	858.6 pers-km/h
Travel Time (Total)	14.6 veh-h/h	17.5 pers-h/h
Demand Flows (Total)	1123 veh/h	1348 pers/h
Arrival Flows (Total)	1123 veh/h	1348 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.392	
Practical Spare Capacity	149.9 %	
Effective Intersection Capacity	2864 veh/h	
Control Delay (Total)	0.32 veh-h/h	0.38 pers-h/h
Control Delay (Average)	1.0 sec	1.0 sec
Control Delay (Worst Lane)	14.2 sec	
Control Delay (Worst Movement)	18.1 sec	18.1 sec
Geometric Delay (Average)	0.6 sec	
Stop-Line Delay (Average)	0.4 sec	
Idling Time (Average)	0.3 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.3 veh	
95% Back of Queue - Distance (Worst Lane)	1.9 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	81 veh/h	97 pers/h
Effective Stop Rate	0.07 per veh	0.07 per pers
Proportion Queued	0.05	0.05
Performance Index	15.9	15.9
Cost (Total)	286.91 \$/h	286.91 \$/h
Fuel Consumption (Total)	43.8 L/h	
Carbon Dioxide (Total)	103.0 kg/h	
Hydrocarbons (Total)	0.006 kg/h	
Carbon Monoxide (Total)	0.079 kg/h	
NOx (Total)	0.019 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %
Number of Iterations: 7 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	539,227 veh/y	647,073 pers/y
Arrival Flows (Total)	539,227 veh/y	
Delay	152 veh-h/y	182 pers-h/y
Effective Stops	38,652 veh/y	46,383 pers/y
Travel Distance	343,446 veh-km/y	412,136 pers-km/y
Travel Time	7,018 veh-h/y	8,422 pers-h/y
Cost	137,715 \$/y	137,715 \$/y
Fuel Consumption	21,028 L/y	
Carbon Dioxide	49,417 kg/y	
Hydrocarbons	3 kg/y	
Carbon Monoxide	38 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 **Site: 101 [10. Parramatta Rd/ Underwood Rd, Homebush PM Future 7:1 FSR]**

 **Network: N101 [7:1 Future PM]**

PM Peak Hour : 5:00 - 6:00PM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Parramatta Rd E													
5	T1	1169	0.0	1169	0.0	0.375	3.6	LOS A	7.3	50.9	0.23	0.23	28.3
6	R2	205	0.0	205	0.0	0.375	11.3	LOS A	5.9	41.5	0.44	0.58	44.8
Approach		1374	0.0	1374	0.0	0.375	4.7	LOS A	7.3	50.9	0.26	0.28	36.9
North: Underwood Rd													
7	L2	126	0.0	126	0.0	0.629	45.7	LOS D	10.0	70.3	0.97	0.82	22.4
9	R2	279	0.0	279	0.0	0.629	47.4	LOS D	10.0	70.3	0.98	0.82	22.0
Approach		405	0.0	405	0.0	0.629	46.9	LOS D	10.0	70.3	0.98	0.82	22.1
West: Parramatta Rd W													
10	L2	40	0.0	40	0.0	0.240	29.5	LOS C	7.8	54.3	0.85	0.73	40.2
11	T1	562	0.0	562	0.0	0.240	19.7	LOS B	7.8	54.3	0.69	0.58	33.0
Approach		602	0.0	602	0.0	0.240	20.3	LOS B	7.8	54.3	0.70	0.59	33.8
All Vehicles		2381	0.0	2381	0.0	0.629	15.8	LOS B	10.0	70.3	0.50	0.45	29.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped	
P2	East Full Crossing	50	44.3	LOS E	0.1	0.1	0.94	0.94	
P3	North Full Crossing	50	22.5	LOS C	0.1	0.1	0.67	0.67	
All Pedestrians		100	33.4	LOS D			0.81	0.81	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [10. Parramatta Rd/ Underwood Rd, Homebush PM Future 7:1 FSR]**

 **Network: N101 [7:1 Future PM]**

PM Peak Hour : 5:00 - 6:00PM

TCS No. 837

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	29.5 km/h	2.2 km/h	27.8 km/h
Travel Distance (Total)	654.8 veh-km/h	3.9 ped-km/h	789.6 pers-km/h
Travel Time (Total)	22.2 veh-h/h	1.7 ped-h/h	28.4 pers-h/h
Demand Flows (Total)	2381 veh/h	100 ped/h	2857 pers/h
Arrival Flows (Total)	2381 veh/h		2857 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.629	0.069	
Practical Spare Capacity	43.0 %		
Effective Intersection Capacity	3784 veh/h		
Control Delay (Total)	10.47 veh-h/h	0.93 ped-h/h	13.49 pers-h/h
Control Delay (Average)	15.8 sec	33.4 sec	17.0 sec
Control Delay (Worst Lane)	48.3 sec		
Control Delay (Worst Movement)	47.4 sec	44.3 sec	47.4 sec
Geometric Delay (Average)	1.2 sec		
Stop-Line Delay (Average)	14.7 sec		
Idling Time (Average)	12.7 sec		
Intersection Level of Service (LOS)	LOS B	LOS D	
95% Back of Queue - Vehicles (Worst Lane)	10.0 veh		
95% Back of Queue - Distance (Worst Lane)	70.3 m		
Queue Storage Ratio (Worst Lane)	0.78		
Total Effective Stops	1074 veh/h	81 ped/h	1369 pers/h
Effective Stop Rate	0.45 per veh	0.81 per ped	0.48 per pers
Proportion Queued	0.50	0.81	0.52
Performance Index	55.2	2.2	57.4
Cost (Total)	877.72 \$/h	44.10 \$/h	921.82 \$/h
Fuel Consumption (Total)	80.0 L/h		
Carbon Dioxide (Total)	188.0 kg/h		
Hydrocarbons (Total)	0.017 kg/h		
Carbon Monoxide (Total)	0.188 kg/h		
NOx (Total)	0.060 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,142,933 veh/y	48,000 ped/y	1,371,520 pers/y
Arrival Flows (Total)	1,142,933 veh/y		
Delay	5,026 veh-h/y	445 ped-h/y	6,477 pers-h/y
Effective Stops	515,283 veh/y	38,721 ped/y	657,060 pers/y
Travel Distance	314,304 veh-km/y	1,848 ped-km/y	379,013 pers-km/y
Travel Time	10,647 veh-h/y	840 ped-h/y	13,617 pers-h/y
Cost	421,307 \$/y	21,167 \$/y	442,474 \$/y
Fuel Consumption	38,394 L/y		
Carbon Dioxide	90,226 kg/y		
Hydrocarbons	8 kg/y		

MOVEMENT SUMMARY

 Site: 101 [11. Parramatta Rd/ Knight St, Homebush PM
Future 7:1 FSR]

 Network: N101 [7:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Knight St													
1	L2	109	0.0	109	0.0	0.267	41.0	LOS C	4.5	31.3	0.85	0.76	8.1
3	R2	114	0.0	114	0.0	0.278	41.2	LOS C	4.7	32.6	0.85	0.76	25.7
Approach		223	0.0	223	0.0	0.278	41.1	LOS C	4.7	32.6	0.85	0.76	19.4
East: Parramatta Rd E													
4	L2	307	0.0	307	0.0	0.425	14.4	LOS A	12.1	84.4	0.50	0.62	43.2
5	T1	1318	0.0	1318	0.0	0.425	8.8	LOS A	12.4	86.8	0.50	0.47	46.0
Approach		1625	0.0	1625	0.0	0.425	9.9	LOS A	12.4	86.8	0.50	0.50	45.4
West: Parramatta Rd W													
11	T1	697	0.0	697	0.0	0.181	0.5	LOS A	0.3	2.3	0.03	0.02	59.2
Approach		697	0.0	697	0.0	0.181	0.5	LOS A	0.3	2.3	0.03	0.02	59.2
All Vehicles		2545	0.0	2545	0.0	0.425	10.1	LOS A	12.4	86.8	0.40	0.39	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Movement Performance - Pedestrians								
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	8.4	LOS A	0.1	0.1	0.41	0.41
P4	West Full Crossing	50	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		100	26.3	LOS C			0.68	0.68

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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INTERSECTION SUMMARY

 **Site: 101 [11. Parramatta Rd/ Knight St, Homebush PM Future 7:1 FSR]**

 **Network: N101 [7:1 Future PM]**

PM Peak Hour: 5:00 - 6:00PM

TCS No. 836

Signals - Actuated Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Intersection Performance - Hourly Values			
Performance Measure	Vehicles	Pedestrians	Persons
Travel Speed (Average)	45.3 km/h	2.4 km/h	43.5 km/h
Travel Distance (Total)	1364.5 veh-km/h	3.7 ped-km/h	1641.1 pers-km/h
Travel Time (Total)	30.1 veh-h/h	1.5 ped-h/h	37.7 pers-h/h
Demand Flows (Total)	2545 veh/h	100 ped/h	3054 pers/h
Arrival Flows (Total)	2545 veh/h		3054 pers/h
Percent Heavy Vehicles (Demand)	0.0 %		
Percent Heavy Vehicles (Arrivals)	0.0 %		
Degree of Saturation	0.425	0.069	
Practical Spare Capacity	111.9 %		
Effective Intersection Capacity	5990 veh/h		
Control Delay (Total)	7.11 veh-h/h	0.73 ped-h/h	9.26 pers-h/h
Control Delay (Average)	10.1 sec	26.3 sec	10.9 sec
Control Delay (Worst Lane)	41.2 sec		
Control Delay (Worst Movement)	41.2 sec	44.3 sec	44.3 sec
Geometric Delay (Average)	1.1 sec		
Stop-Line Delay (Average)	9.0 sec		
Idling Time (Average)	7.2 sec		
Intersection Level of Service (LOS)	LOS A	LOS C	
95% Back of Queue - Vehicles (Worst Lane)	12.4 veh		
95% Back of Queue - Distance (Worst Lane)	86.8 m		
Queue Storage Ratio (Worst Lane)	0.21		
Total Effective Stops	999 veh/h	68 ped/h	1267 pers/h
Effective Stop Rate	0.39 per veh	0.68 per ped	0.41 per pers
Proportion Queued	0.40	0.68	0.42
Performance Index	56.4	1.9	58.3
Cost (Total)	999.00 \$/h	38.29 \$/h	1037.28 \$/h
Fuel Consumption (Total)	113.6 L/h		
Carbon Dioxide (Total)	267.0 kg/h		
Hydrocarbons (Total)	0.023 kg/h		
Carbon Monoxide (Total)	0.308 kg/h		
NOx (Total)	0.077 kg/h		

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Intersection Performance - Annual Values			
Performance Measure	Vehicles	Pedestrians	Persons
Demand Flows (Total)	1,221,408 veh/y	48,000 ped/y	1,465,690 pers/y
Arrival Flows (Total)	1,221,408 veh/y		
Delay	3,412 veh-h/y	351 ped-h/y	4,445 pers-h/y
Effective Stops	479,718 veh/y	32,468 ped/y	608,129 pers/y
Travel Distance	654,965 veh-km/y	1,769 ped-km/y	787,727 pers-km/y
Travel Time	14,468 veh-h/y	729 ped-h/y	18,091 pers-h/y
Cost	479,519 \$/y	18,377 \$/y	497,896 \$/y
Fuel Consumption	54,526 L/y		
Carbon Dioxide	128,137 kg/y		
Hydrocarbons	11 kg/y		

MOVEMENT SUMMARY

 Site: 101 [12. Knight St/ Loftus Cr, Homebush PM Future 7:1  Network: N101 [7:1 Future PM]
FSR]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV %	Arrival Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: Loftus Cr W													
5	T1	113	0.0	113	0.0	0.134	5.7	LOS A	0.8	5.4	0.48	0.58	42.8
6	R2	19	0.0	19	0.0	0.134	8.4	LOS A	0.8	5.4	0.48	0.58	42.8
Approach		132	0.0	132	0.0	0.134	6.0	LOS A	0.8	5.4	0.48	0.58	42.8
North: Knight St													
7	L2	4	0.0	4	0.0	0.231	4.8	LOS A	1.1	8.0	0.15	0.61	42.0
9	R2	314	0.0	314	0.0	0.231	6.7	LOS A	1.1	8.0	0.15	0.61	27.2
Approach		318	0.0	318	0.0	0.231	6.7	LOS A	1.1	8.0	0.15	0.61	27.8
West: Loftus Cr W													
10	L2	233	0.0	233	0.0	0.188	4.7	LOS A	1.2	8.1	0.11	0.52	28.6
11	T1	43	0.0	43	0.0	0.188	3.9	LOS A	1.2	8.1	0.11	0.52	44.4
12u	U	1	0.0	1	0.0	0.188	7.8	LOS A	1.2	8.1	0.11	0.52	28.6
Approach		277	0.0	277	0.0	0.188	4.6	LOS A	1.2	8.1	0.11	0.52	35.5
All Vehicles		727	0.0	727	0.0	0.231	5.8	LOS A	1.2	8.1	0.20	0.57	35.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

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.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

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INTERSECTION SUMMARY

 Site: 101 [12. Knight St/ Loftus Cr, Homebush PM Future 7:1 FSR]  Network: N101 [7:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	35.7 km/h	35.7 km/h
Travel Distance (Total)	153.1 veh-km/h	183.7 pers-km/h
Travel Time (Total)	4.3 veh-h/h	5.1 pers-h/h
Demand Flows (Total)	727 veh/h	872 pers/h
Arrival Flows (Total)	727 veh/h	872 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.231	
Practical Spare Capacity	267.6 %	
Effective Intersection Capacity	3143 veh/h	
Control Delay (Total)	1.16 veh-h/h	1.39 pers-h/h
Control Delay (Average)	5.8 sec	5.8 sec
Control Delay (Worst Lane)	6.7 sec	
Control Delay (Worst Movement)	8.4 sec	8.4 sec
Geometric Delay (Average)	5.3 sec	
Stop-Line Delay (Average)	0.5 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	1.2 veh	
95% Back of Queue - Distance (Worst Lane)	8.1 m	
Queue Storage Ratio (Worst Lane)	0.04	
Total Effective Stops	414 veh/h	497 pers/h
Effective Stop Rate	0.57 per veh	0.57 per pers
Proportion Queued	0.20	0.20
Performance Index	9.5	9.5
Cost (Total)	206.28 \$/h	206.28 \$/h
Fuel Consumption (Total)	23.5 L/h	
Carbon Dioxide (Total)	55.3 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.049 kg/h	
NOx (Total)	0.023 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	348,763 veh/y	418,516 pers/y
Arrival Flows (Total)	348,763 veh/y	
Delay	558 veh-h/y	669 pers-h/y
Effective Stops	198,856 veh/y	238,627 pers/y
Travel Distance	73,489 veh-km/y	88,186 pers-km/y
Travel Time	2,057 veh-h/y	2,468 pers-h/y
Cost	99,014 \$/y	99,014 \$/y
Fuel Consumption	11,290 L/y	
Carbon Dioxide	26,530 kg/y	
Hydrocarbons	3 kg/y	
Carbon Monoxide	24 kg/y	
NOx	11 kg/y	

MOVEMENT SUMMARY

 Site: 101 [13. Loftus Cr/ Subway Ln, Homebush PM Future 7:1 FSR]  Network: N101 [7:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
South: Subway Ln S													
1	L2	55	0.0	55	0.0	0.191	2.4	LOS A	1.1	7.6	0.09	0.61	22.7
3	R2	233	0.0	233	0.0	0.191	4.9	LOS A	1.1	7.6	0.09	0.61	22.7
3u	U	1	0.0	1	0.0	0.191	6.4	LOS A	1.1	7.6	0.09	0.61	22.7
Approach		289	0.0	289	0.0	0.191	4.5	LOS A	1.1	7.6	0.09	0.61	22.7
East: Loftus Cr E													
4	L2	444	0.0	444	0.0	0.373	5.4	LOS A	2.4	16.9	0.36	0.56	28.5
5	T1	8	0.0	8	0.0	0.373	5.1	LOS A	2.4	16.9	0.36	0.56	28.5
Approach		452	0.0	452	0.0	0.373	5.4	LOS A	2.4	16.9	0.36	0.56	28.5
North: Subway Ln N													
7	L2	20	0.0	20	0.0	0.084	6.8	LOS A	0.4	2.9	0.46	0.61	29.6
8	T1	52	0.0	52	0.0	0.084	6.5	LOS A	0.4	2.9	0.46	0.61	29.6
9	R2	8	0.0	8	0.0	0.084	9.4	LOS A	0.4	2.9	0.46	0.61	29.6
Approach		81	0.0	81	0.0	0.084	6.9	LOS A	0.4	2.9	0.46	0.61	29.6
West: Loftus Cr W													
11	T1	34	0.0	34	0.0	0.089	6.0	LOS A	0.4	3.0	0.39	0.63	47.8
12	R2	57	0.0	57	0.0	0.089	8.9	LOS A	0.4	3.0	0.39	0.63	47.8
Approach		91	0.0	91	0.0	0.089	7.8	LOS A	0.4	3.0	0.39	0.63	47.8
All Vehicles		913	0.0	913	0.0	0.373	5.5	LOS A	2.4	16.9	0.29	0.59	33.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 Vehicle movement LOS values are based on average delay per movement.
 Intersection and Approach LOS values are based on average delay for all vehicle movements.
 Roundabout Capacity Model: SIDRA Standard.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %
 Number of Iterations: 7 (maximum specified: 10)

INTERSECTION SUMMARY

 Site: 101 [13. Loftus Cr/ Subway Ln, Homebush PM Future 7:1 FSR]

 Network: N101 [7:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	33.4 km/h	33.4 km/h
Travel Distance (Total)	111.7 veh-km/h	134.1 pers-km/h
Travel Time (Total)	3.3 veh-h/h	4.0 pers-h/h
Demand Flows (Total)	913 veh/h	1096 pers/h
Arrival Flows (Total)	913 veh/h	1096 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.373	
Practical Spare Capacity	127.8 %	
Effective Intersection Capacity	2448 veh/h	
Control Delay (Total)	1.40 veh-h/h	1.68 pers-h/h
Control Delay (Average)	5.5 sec	5.5 sec
Control Delay (Worst Lane)	7.8 sec	
Control Delay (Worst Movement)	9.4 sec	9.4 sec
Geometric Delay (Average)	4.8 sec	
Stop-Line Delay (Average)	0.7 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	2.4 veh	
95% Back of Queue - Distance (Worst Lane)	16.9 m	
Queue Storage Ratio (Worst Lane)	0.12	
Total Effective Stops	537 veh/h	644 pers/h
Effective Stop Rate	0.59 per veh	0.59 per pers
Proportion Queued	0.29	0.29
Performance Index	10.3	10.3
Cost (Total)	197.88 \$/h	197.88 \$/h
Fuel Consumption (Total)	19.7 L/h	
Carbon Dioxide (Total)	46.2 kg/h	
Hydrocarbons (Total)	0.005 kg/h	
Carbon Monoxide (Total)	0.043 kg/h	
NOx (Total)	0.020 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	438,360 veh/y	526,032 pers/y
Arrival Flows (Total)	438,360 veh/y	
Delay	670 veh-h/y	804 pers-h/y
Effective Stops	257,738 veh/y	309,286 pers/y
Travel Distance	53,637 veh-km/y	64,364 pers-km/y
Travel Time	1,606 veh-h/y	1,927 pers-h/y
Cost	94,982 \$/y	94,982 \$/y
Fuel Consumption	9,432 L/y	
Carbon Dioxide	22,166 kg/y	
Hydrocarbons	2 kg/y	
Carbon Monoxide	21 kg/y	
NOx	9 kg/y	

MOVEMENT SUMMARY

 Site: 101 [14. The Crescent/ Subway Ln, Homebush PM
Future 7:1 FSR]

 Network: N101 [7:1 Future PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Total	Flows HV	Arrival Total	Flows HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
		veh/h	%	veh/h	%	v/c	sec		veh	m			
East: The Crescent E													
5	T1	185	0.0	185	0.0	0.312	4.1	LOS A	2.2	15.2	0.27	0.54	46.1
6	R2	235	0.0	235	0.0	0.312	7.2	LOS A	2.2	15.2	0.27	0.54	42.7
6u	U	4	0.0	4	0.0	0.312	8.6	LOS A	2.2	15.2	0.27	0.54	49.4
Approach		424	0.0	424	0.0	0.312	5.8	LOS A	2.2	15.2	0.27	0.54	44.8
North: Subway Ln													
7	L2	438	0.0	438	0.0	0.445	3.5	LOS A	3.3	22.9	0.53	0.59	44.4
9	R2	64	0.0	64	0.0	0.445	6.3	LOS A	3.3	22.9	0.53	0.59	45.3
Approach		502	0.0	502	0.0	0.445	3.9	LOS A	3.3	22.9	0.53	0.59	44.5
West: The Crescent W													
10	L2	47	0.0	47	0.0	0.232	5.3	LOS A	1.3	9.2	0.46	0.55	43.2
11	T1	195	0.0	195	0.0	0.232	5.1	LOS A	1.3	9.2	0.46	0.55	46.4
12u	U	1	0.0	1	0.0	0.232	9.7	LOS A	1.3	9.2	0.46	0.55	49.7
Approach		243	0.0	243	0.0	0.232	5.2	LOS A	1.3	9.2	0.46	0.55	46.1
All Vehicles		1168	0.0	1168	0.0	0.445	4.9	LOS A	3.3	22.9	0.42	0.56	45.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

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Organisation: MCLAREN TRAFFIC ENGINEERING | Processed: 30 November 2017 11:35:52

Project: C:\Users\MT\ Desktop\1111-17_Homebush.sip7

INTERSECTION SUMMARY

 Site: 101 [14. The Crescent/ Subway Ln, Homebush PM
Future 7:1 FSR]

 Network: N101 [7:1 Future
PM]

PM Peak Hour: 5:00 - 6:00PM
Roundabout

Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	45.0 km/h	45.0 km/h
Travel Distance (Total)	810.5 veh-km/h	972.6 pers-km/h
Travel Time (Total)	18.0 veh-h/h	21.6 pers-h/h
Demand Flows (Total)	1168 veh/h	1402 pers/h
Arrival Flows (Total)	1168 veh/h	1402 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.445	
Practical Spare Capacity	91.0 %	
Effective Intersection Capacity	2626 veh/h	
Control Delay (Total)	1.58 veh-h/h	1.89 pers-h/h
Control Delay (Average)	4.9 sec	4.9 sec
Control Delay (Worst Lane)	5.8 sec	
Control Delay (Worst Movement)	9.7 sec	9.7 sec
Geometric Delay (Average)	3.8 sec	
Stop-Line Delay (Average)	1.1 sec	
Idling Time (Average)	0.1 sec	
Intersection Level of Service (LOS)	LOS A	
95% Back of Queue - Vehicles (Worst Lane)	3.3 veh	
95% Back of Queue - Distance (Worst Lane)	22.9 m	
Queue Storage Ratio (Worst Lane)	0.37	
Total Effective Stops	656 veh/h	787 pers/h
Effective Stop Rate	0.56 per veh	0.56 per pers
Proportion Queued	0.42	0.42
Performance Index	28.3	28.3
Cost (Total)	450.61 \$/h	450.61 \$/h
Fuel Consumption (Total)	65.3 L/h	
Carbon Dioxide (Total)	153.5 kg/h	
Hydrocarbons (Total)	0.011 kg/h	
Carbon Monoxide (Total)	0.124 kg/h	
NOx (Total)	0.041 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %

Number of Iterations: 7 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	560,827 veh/y	672,993 pers/y
Arrival Flows (Total)	560,827 veh/y	
Delay	757 veh-h/y	909 pers-h/y
Effective Stops	314,797 veh/y	377,757 pers/y
Travel Distance	389,040 veh-km/y	466,848 pers-km/y
Travel Time	8,638 veh-h/y	10,366 pers-h/y
Cost	216,293 \$/y	216,293 \$/y
Fuel Consumption	31,352 L/y	
Carbon Dioxide	73,678 kg/y	
Hydrocarbons	5 kg/y	
Carbon Monoxide	59 kg/y	
NOx	20 kg/y	

MOVEMENT SUMMARY

Site: 101 [22. Additional Intersection 7:1 PM]

Network: N101 [7:1 Future PM]

Additional Intersection
7:1 PM
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	Flows HV %	Arrival Flows Total	Flows HV %	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: RoadName													
4	L2	37	0.0	37	0.0	0.232	5.5	LOS A	0.0	0.0	0.00	0.06	56.0
5	T1	1169	0.0	1169	0.0	0.232	0.0	LOS A	0.0	0.0	0.00	0.02	58.9
Approach		1206	0.0	1206	0.0	0.232	0.2	NA	0.0	0.0	0.00	0.02	58.8
West: RoadName													
11	T1	697	0.0	697	0.0	0.119	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		697	0.0	697	0.0	0.119	0.0	NA	0.0	0.0	0.00	0.00	60.0
All Vehicles		1903	0.0	1903	0.0	0.232	0.1	NA	0.0	0.0	0.00	0.01	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %
 Number of Iterations: 7 (maximum specified: 10)

INTERSECTION SUMMARY

Site: 101 [22. Additional Intersection 7:1 PM]

Network: N101 [7:1 Future PM]

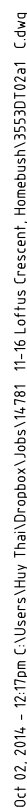
Additional Intersection
7:1 PM
Giveway / Yield (Two-Way)

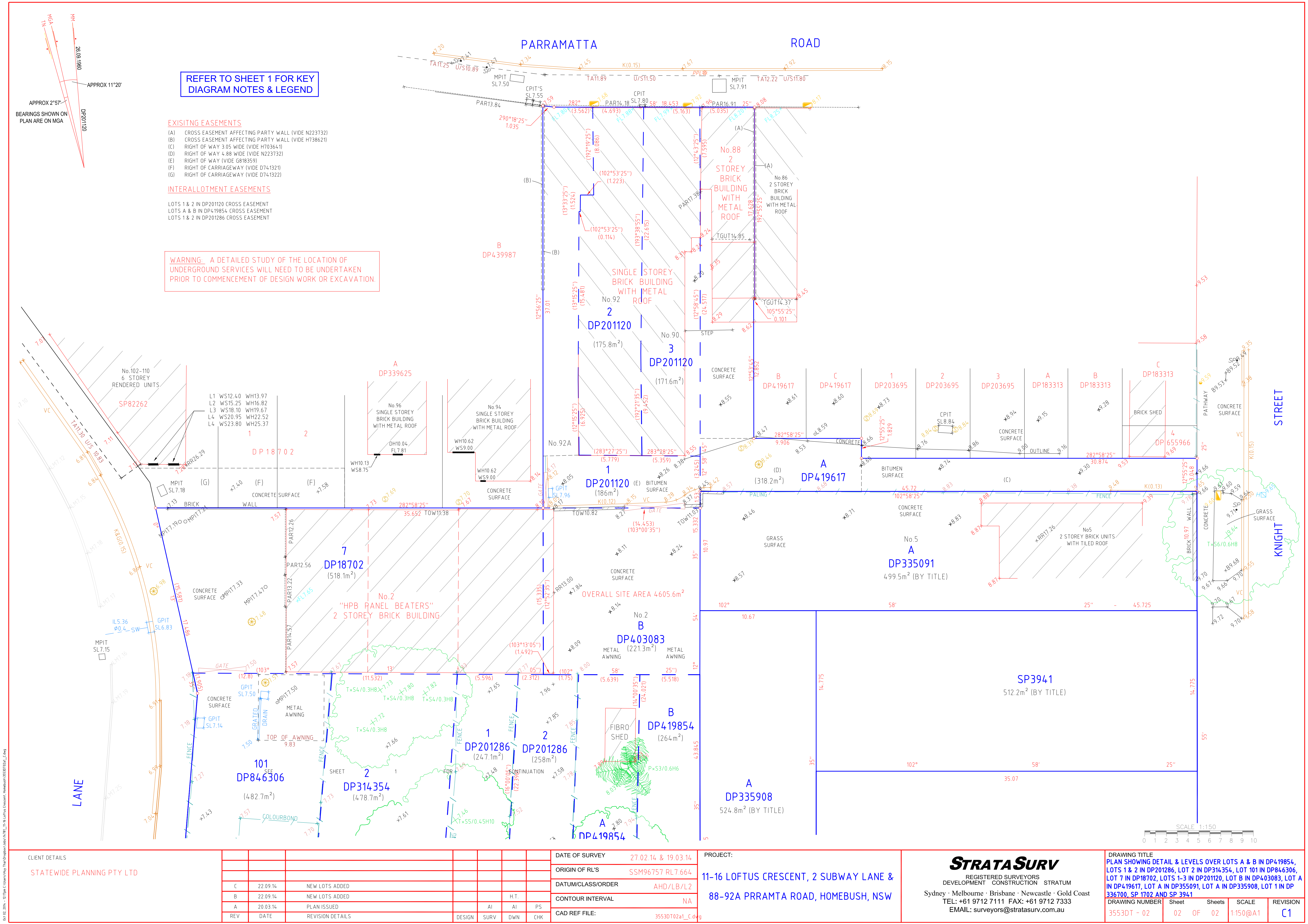
Intersection Performance - Hourly Values		
Performance Measure	Vehicles	Persons
Travel Speed (Average)	59.0 km/h	59.0 km/h
Travel Distance (Total)	203.9 veh-km/h	244.6 pers-km/h
Travel Time (Total)	3.5 veh-h/h	4.1 pers-h/h
Demand Flows (Total)	1903 veh/h	2283 pers/h
Arrival Flows (Total)	1903 veh/h	2283 pers/h
Percent Heavy Vehicles (Demand)	0.0 %	
Percent Heavy Vehicles (Arrivals)	0.0 %	
Degree of Saturation	0.232	
Practical Spare Capacity	322.2 %	
Effective Intersection Capacity	8198 veh/h	
Control Delay (Total)	0.06 veh-h/h	0.07 pers-h/h
Control Delay (Average)	0.1 sec	0.1 sec
Control Delay (Worst Lane)	0.6 sec	
Control Delay (Worst Movement)	5.5 sec	5.5 sec
Geometric Delay (Average)	0.1 sec	
Stop-Line Delay (Average)	0.0 sec	
Idling Time (Average)	0.0 sec	
Intersection Level of Service (LOS)	NA	
95% Back of Queue - Vehicles (Worst Lane)	0.0 veh	
95% Back of Queue - Distance (Worst Lane)	0.0 m	
Queue Storage Ratio (Worst Lane)	0.00	
Total Effective Stops	22 veh/h	26 pers/h
Effective Stop Rate	0.01 per veh	0.01 per pers
Proportion Queued	0.00	0.00
Performance Index	3.6	3.6
Cost (Total)	152.35 \$/h	152.35 \$/h
Fuel Consumption (Total)	14.4 L/h	
Carbon Dioxide (Total)	33.9 kg/h	
Hydrocarbons (Total)	0.003 kg/h	
Carbon Monoxide (Total)	0.044 kg/h	
NOx (Total)	0.007 kg/h	

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
 NA: Intersection LOS for Vehicles is Not Applicable for two-way sign control since the average intersection 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.
 Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 0.9 %
 Number of Iterations: 7 (maximum specified: 10)

Intersection Performance - Annual Values		
Performance Measure	Vehicles	Persons
Demand Flows (Total)	913,349 veh/y	1,096,019 pers/y
Arrival Flows (Total)	913,349 veh/y	
Delay	28 veh-h/y	34 pers-h/y
Effective Stops	10,526 veh/y	12,632 pers/y
Travel Distance	97,859 veh-km/y	117,431 pers-km/y
Travel Time	1,659 veh-h/y	1,991 pers-h/y
Cost	73,130 \$/y	73,130 \$/y
Fuel Consumption	6,924 L/y	
Carbon Dioxide	16,272 kg/y	
Hydrocarbons	1 kg/y	
Carbon Monoxide	21 kg/y	

APPENDIX G





04_02_2016 - 02 Plan Construction - 11-16 Loftus Crescent, Homebush 35530T02a1_C.dwg

CLIENT DETAILS
STATEWIDE PLANNING PTY LTD

REV	DATE	REVISION DETAILS	DESIGN	SURV	DWN	CHK
C	22.09.14	NEW LOTS ADDED				
B	22.09.14	NEW LOTS ADDED				H.T.
A	20.03.14	PLAN ISSUED		AI	AI	PS

DATE OF SURVEY	27.02.14 & 19.03.14
ORIGIN OF RL'S	SSM96757 RL7.664
DATUM/CLASS/ORDER	AHD/LB/L2
CONTOUR INTERVAL	NA
CAD REF FILE:	35530T02a1_C.dwg

PROJECT:
11-16 LOFTUS CRESCENT, 2 SUBWAY LANE &
88-92A PRRAMTA ROAD, HOMEBUSH, NSW

STRATA SURV
REGISTERED SURVEYORS
DEVELOPMENT CONSTRUCTION STRATUM
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EMAIL: surveyors@stratasurv.com.au

DRAWING TITLE				
PLAN SHOWING DETAIL & LEVELS OVER LOTS A & B IN DP419854, LOTS 1 & 2 IN DP201286, LOT 2 IN DP314354, LOT 101 IN DP846306, LOT 7 IN DP18702, LOTS 1-3 IN DP201120, LOT B IN DP403083, LOT A IN DP419617, LOT A IN DP355091, LOT A IN DP335908, LOT 1 IN DP336700, SP 1702 AND SP 3941				
DRAWING NUMBER	Sheet	Sheets	SCALE	REVISION
35530T - 02	02	OF 02	1:150@A1	C1