

Planning Proposal to Rezone Land at

**8A & 14-16 Buckingham Road,
Killara**

REVISED TRAFFIC AND PARKING ASSESSMENT REPORT

13 May 2022

Ref 19173

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants 

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1. INTRODUCTION

This revised report has been prepared to accompany a planning proposal to rezone the land at 8A & 14-16 Buckingham Road, Killara (Figures 1 and 2).

The site lies immediately adjacent to existing *R4 High Density Residential* lots fronting Pacific Highway. The planning proposal therefore seeks approval to extend the existing *R4 High Density Residential* zoning on the adjacent sites to include the subject site by changing its current zoning from *R2 Low Density Residential* to *R4 High Density Residential*.

It is noted that the site is located within approximately 600 metres walking distance from the Killara Railway Station providing access to key strategic centres including Chatswood, St Leonards, North Sydney and Hornsby within a 30-minute commute. It should also be appreciated that future residents will enjoy convenient travel to Sydney CBD via frequent, reliable train services at Killara Railway Station.

The abovementioned centres provide substantial employment opportunities as well as retail, services and medical facilities for future residents.

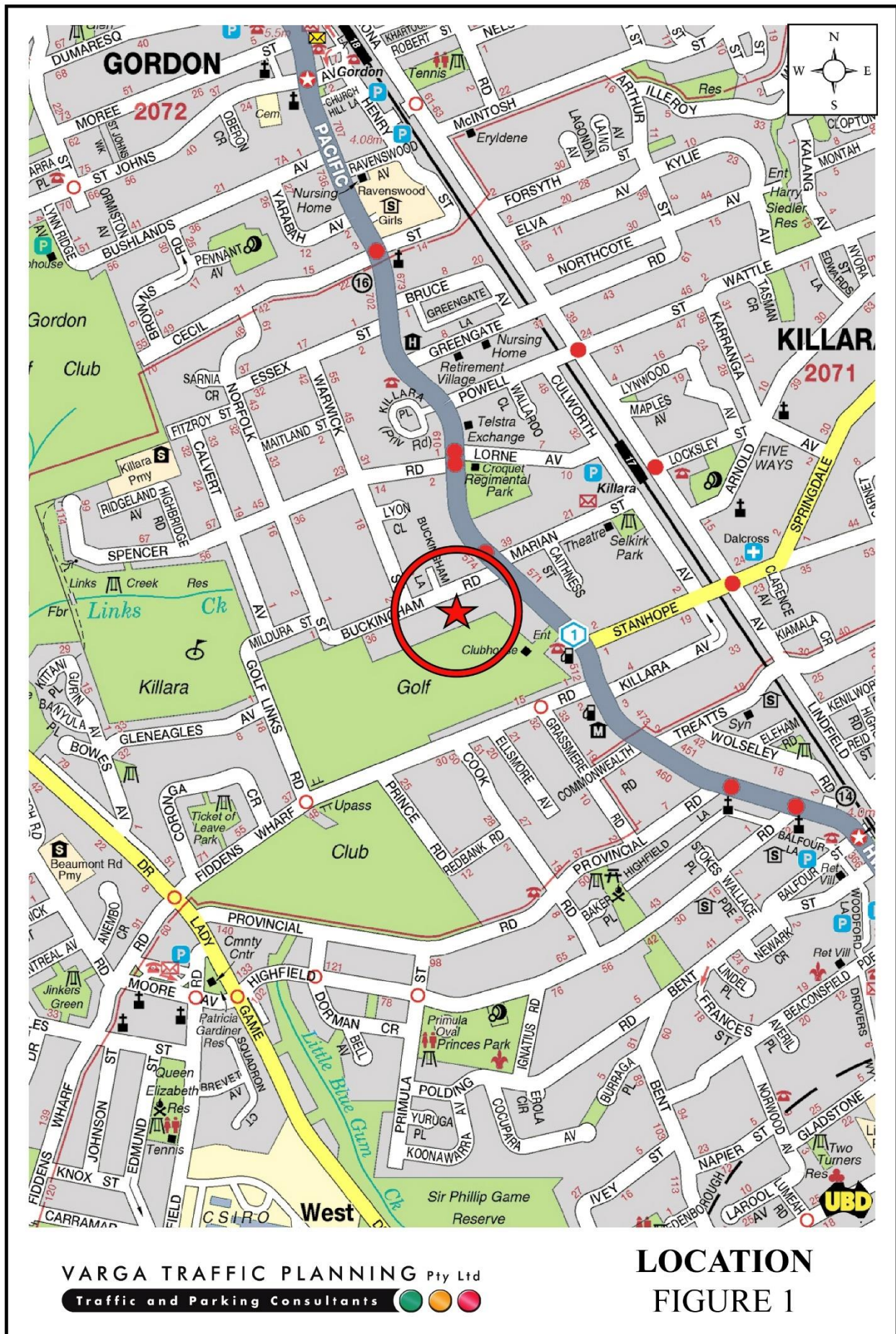
The planning proposal envisages the construction of 36 to 40 new residential apartments in an apartment building.

Off-street parking is envisaged to provide for a total of 85 to 100 cars in a multi-level basement car parking area, and will ultimately be designed in accordance with Australian Standards and statutory planning requirements.

The purpose of this report is to assess the traffic and parking implications of the planning proposal and to that end this report:

- describes the site and provides details of the planning proposal
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network

- estimates the traffic generation potential of the planning proposal, and assigns that traffic generation to the road network serving the site
- assesses the traffic implications of the planning proposal in terms of road network capacity
- reviews the off-street car parking requirements applicable to the planning proposal.





2. PLANNING PROPOSAL

Site

The site is an amalgamation of three separate lots situated between Buckingham Road and the Killara Golf Club, some 500 metres southwest of Killara Railway Station.

The site has two separate street frontages of 4.5m and 11m in length to Buckingham Road, and occupies an area of approximately 4,989m².

The subject site is currently occupied by three residential dwellings, each with a separate vehicular access driveway off Buckingham Road.

A recent aerial image of the site and its surroundings is provided below, showing recently completed apartment buildings on the adjacent *R4 High Density Residential* zoned sites.



Courtesy of Nearmap Imagery 2020

Existing Planning Controls

The primary instrument that governs the mass and scale of the development on the site are contained within the *Ku-ring-gai Local Environment Plan 2015*.

The subject site is currently zoned *R2 – Low Density Residential* subject to an FSR of 0.3:1 and a maximum building height of 9.5 metres.

The site would therefore only permit the development of a single residence or other forms of land density development on each of the three lots.

Planning Proposal

The site lies immediately adjacent to existing *R4 High Density Residential* lots fronting Pacific Highway. The planning proposal therefore seeks approval to extend the existing *R4 High Density Residential* land zoning to include the site by changing its current zoning from *R2 Low Density Residential* to *R4 High Density Residential*.

It is noted that the site is located within approximately 600 metres walking distance from the Killara Railway Station. A signalised pedestrian crossing is provided on the Pacific Highway immediately to the north of Buckingham Road to assist pedestrians walking to/from Killara Railway Station.

Killara Railway Station is located on the *T1 North Shore Railway Line*, providing access to key strategic centres including Chatswood, St Leonards, North Sydney and Hornsby within a 30-minute commute. It should also be appreciated that future residents will enjoy convenient travel to Sydney CBD via frequent, reliable train services at Killara Railway Station.

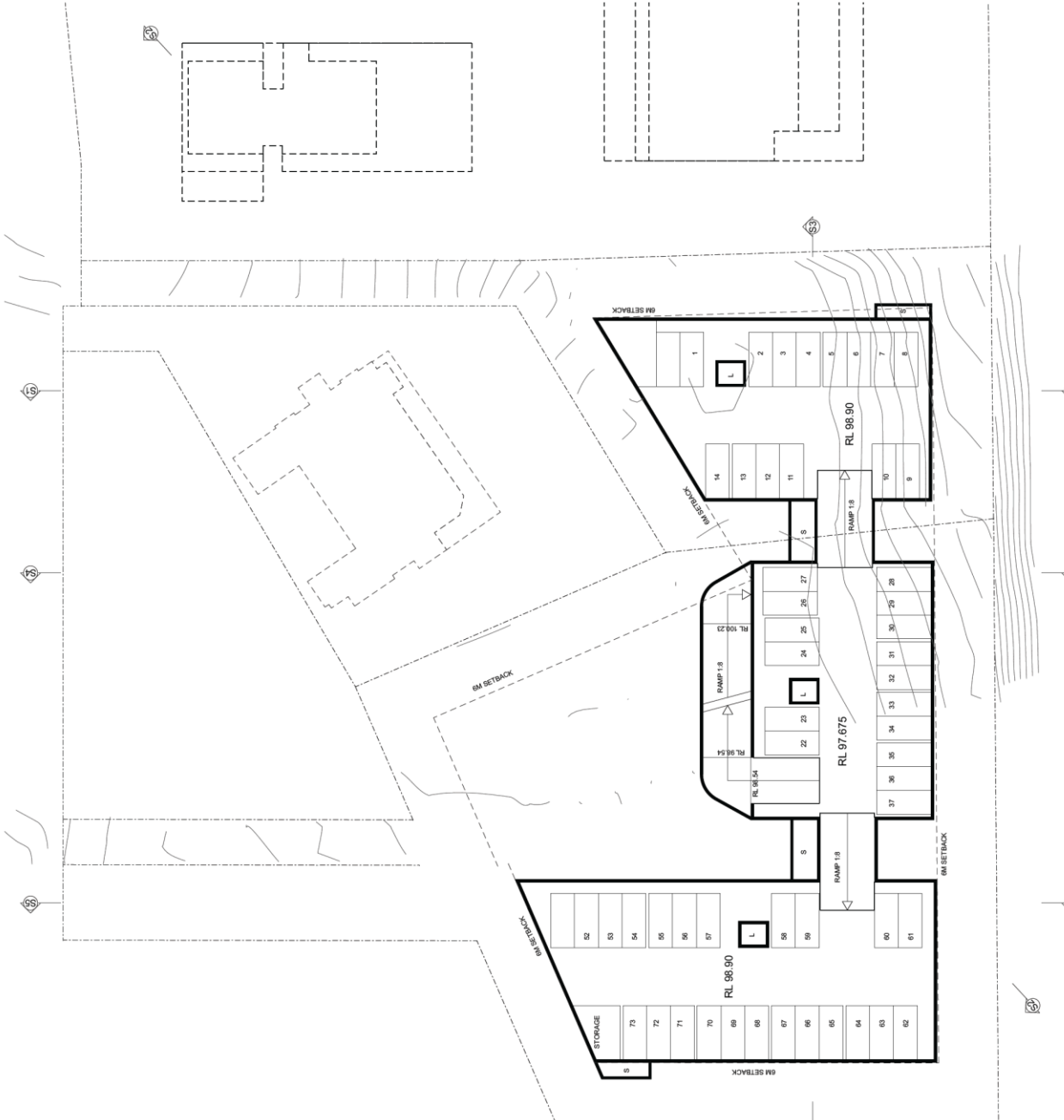
The abovementioned centres provide substantial employment opportunities as well as retail, services and medical facilities for future residents.

The planning proposal envisages the construction of 36 to 40 new residential apartments in an apartment building.

Preliminary plans prepared for the purposes of this planning proposal suggest that parking for 85 to 100 cars could be provided in a basement car parking area which will ultimately be designed in accordance with Australian Standards and statutory planning requirements.

Garbage collection will be undertaken by Council's waste contractor using their *small waste collection vehicle* with a travel / operational height clearance requirement of 2.6 metres. A dedicated service area is envisaged on the lower ground level accessed directly off the site entry / exit driveway. Detailed design of the service area and vehicular manoeuvring requirements will be confirmed in the subsequent development application pending approval of the planning proposal.

Concept plans for the purposes of this planning proposal have been prepared by *Gelder Group Architects* and are reproduced in the following pages.

[illegible]

PLANNING PROPOSAL
For
8A, 14 & 16
BUCKINGHAM ROAD
KILLARA NSW 2071



Level 2 19-23 Bridge Street PYMBLE NSW 2073 AUSTRALIA
t: (02) 9440 2455 e: info@gelder.com.au w: gelder.com.au
ABN 46 090 878 827 NSW A88 REG ARCHITECT: GELDER #6136

**PROPOSED BASEMENT
FLOOR PLAN**

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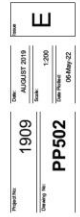
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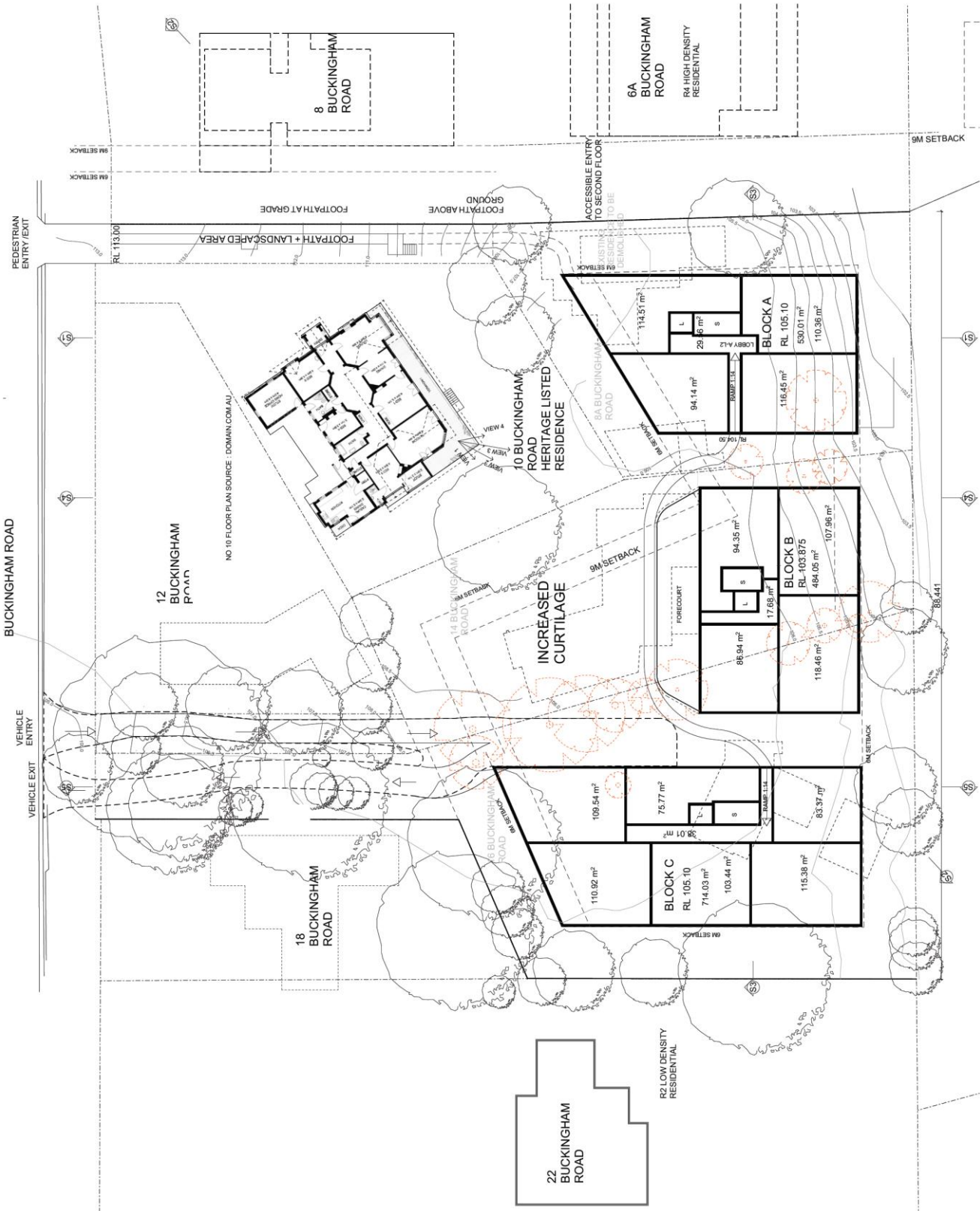


GGA
GEARMENT GROUP

**PROPOSED LOWER
GROUND FLOOR PLAN**



SITE AREA -	4,980.0 M ²
SITE AREA EXCL. ACCESS HANDLES	4,315.9 M ²
PSR CALCULATIONS:	
BLOCK A	2 STOREYS @ 50.54 M ²
1 STOREY @ 155.32 M ²	
1 STOREY @ 465.07 M ²	
BLOCK B	2 STOREYS @ 44.08 M ²
1 STOREY @ 155.32 M ²	
1 STOREY @ 507.38 M ²	
BLOCK C	2 STOREYS @ 44.08 M ²
1 STOREY @ 155.32 M ²	
1 STOREY @ 507.38 M ²	
TOTAL ENVELOPE	4634.82 M ²
LESS 25% EXTERNAL WALLS	
SERVICES, LIFTS, STAIRS AND TERRACES	
	1156.70 M ²
GFA	3478.12 M ²
PSR TOTAL SITE TO LIFT DEFINITION	87.7



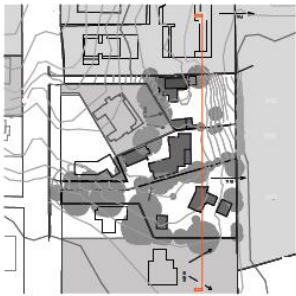
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PLANNING PROPOSAL
For
8A, 14 & 16
BUCKINGHAM ROAD
KILLARA NSW 2071

Level 2 19-20 Bridge Street PYRAH NSW 2029 AUSTRALIA
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ANR 48 000 015 877 1010 000 015 877
PROPOSED GROUND FLOOR PLAN

1909
PP503
11.09.1200
08 May 22

THE PROPERTY IS NOT TO BE USED FOR ANY OTHER PURPOSES THAN AS SHOWN ON THIS PLAN. ANY OTHER USES ARE AT THE USER'S RISK. THE USER ACCEPTS THAT THE INFORMATION ON THIS PLAN IS FOR INFORMATION ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSES. THE USER ACCEPTS THAT THE INFORMATION ON THIS PLAN IS FOR INFORMATION ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSES.



KEY PLAN

ALL BUILDINGS AND LOT
FOOTPRINTS ARE INDICATIVE
ONLY

1	EXISTING LOT 1000	1000
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3	EXISTING LOT 1002	1002
4	EXISTING LOT 1003	1003
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261	EXISTING LOT 1260	1260
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264	EXISTING LOT 1263	1263
265	EXISTING LOT 1264	1264
266	EXISTING LOT 1265	1265
267	EXISTING LOT 1266	1266
268	EXISTING LOT 1267	1267
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273	EXISTING LOT 1272	1272
274	EXISTING LOT 1273	1273
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284	EXISTING LOT 1283	1283
285	EXISTING LOT 1284	1284
286	EXISTING LOT 1285	1285
287	EXISTING LOT 1286	1286
288	EXISTING LOT 1287	1287
289	EXISTING LOT 1288	1288
290	EXISTING LOT 1289	1289
291	EXISTING LOT 1290	1290
292	EXISTING LOT 1291	1291
293	EXISTING LOT 1292	1292
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299	EXISTING LOT 1298	1298
300	EXISTING LOT 1299	1299
301	EXISTING LOT 1300	1300
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303	EXISTING LOT 1302	1302
304	EXISTING LOT 1303	1303
305	EXISTING LOT 1304	1304
306	EXISTING LOT 1305	1305
307	EXISTING LOT 1306	1306
308	EXISTING LOT 1307	1307
309	EXISTING LOT 1308	1308
310	EXISTING LOT 1309	1309
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312	EXISTING LOT 1311	1311
313	EXISTING LOT 1312	1312
314	EXISTING LOT 1313	1313
315	EXISTING LOT 1314	1314
316	EXISTING LOT 1315	1315
317	EXISTING LOT 1316	1316
318	EXISTING LOT 1317	1317
319	EXISTING LOT 1318	1318
320	EXISTING LOT 1319	1319
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322	EXISTING LOT 1321	1321
323	EXISTING LOT 1322	1322
324	EXISTING LOT 1323	1323
325	EXISTING LOT 1324	1324
326	EXISTING LOT 1325	1325
327	EXISTING LOT 1326	1326
328	EXISTING LOT 1327	1327
329	EXISTING LOT 1328	1328
330	EXISTING LOT 1329	1329
331	EXISTING LOT 1330	1330
332	EXISTING LOT 1331	1331
333	EXISTING LOT 1332	1332
334	EXISTING LOT 1333	1333
335	EXISTING LOT 1334	1334
336	EXISTING LOT 1335	1335
337	EXISTING LOT 1336	1336
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340	EXISTING LOT 1339	1339
341	EXISTING LOT 1340	1340
342	EXISTING LOT 1341	1341
343	EXISTING LOT 1342	1342
344	EXISTING LOT 1343	1343
345	EXISTING LOT 1344	1344
346	EXISTING LOT 1345	1345
347	EXISTING LOT 1346	1346
348	EXISTING LOT 1347	1347
349	EXISTING LOT 1348	1348
350	EXISTING LOT 1349	1349
351	EXISTING LOT 1350	1350
352	EXISTING LOT 1351	1351
353	EXISTING LOT 1352	1352
354	EXISTING LOT 1353	1353
355	EXISTING LOT 1354	1354
356	EXISTING LOT 1355	1355
357	EXISTING LOT 1356	1356
358	EXISTING LOT 1357	1357
359	EXISTING LOT 1358	1358
360	EXISTING LOT 1359	1359
361	EXISTING LOT 1360	1360

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

The Pacific Highway is classified by the TfNSW as a *State Road* and provides the key north-south road link in the area, linking North Sydney to Hornsby and beyond. It typically carries three traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island. Clearway restrictions apply along both sides of the road during commuter peak periods.

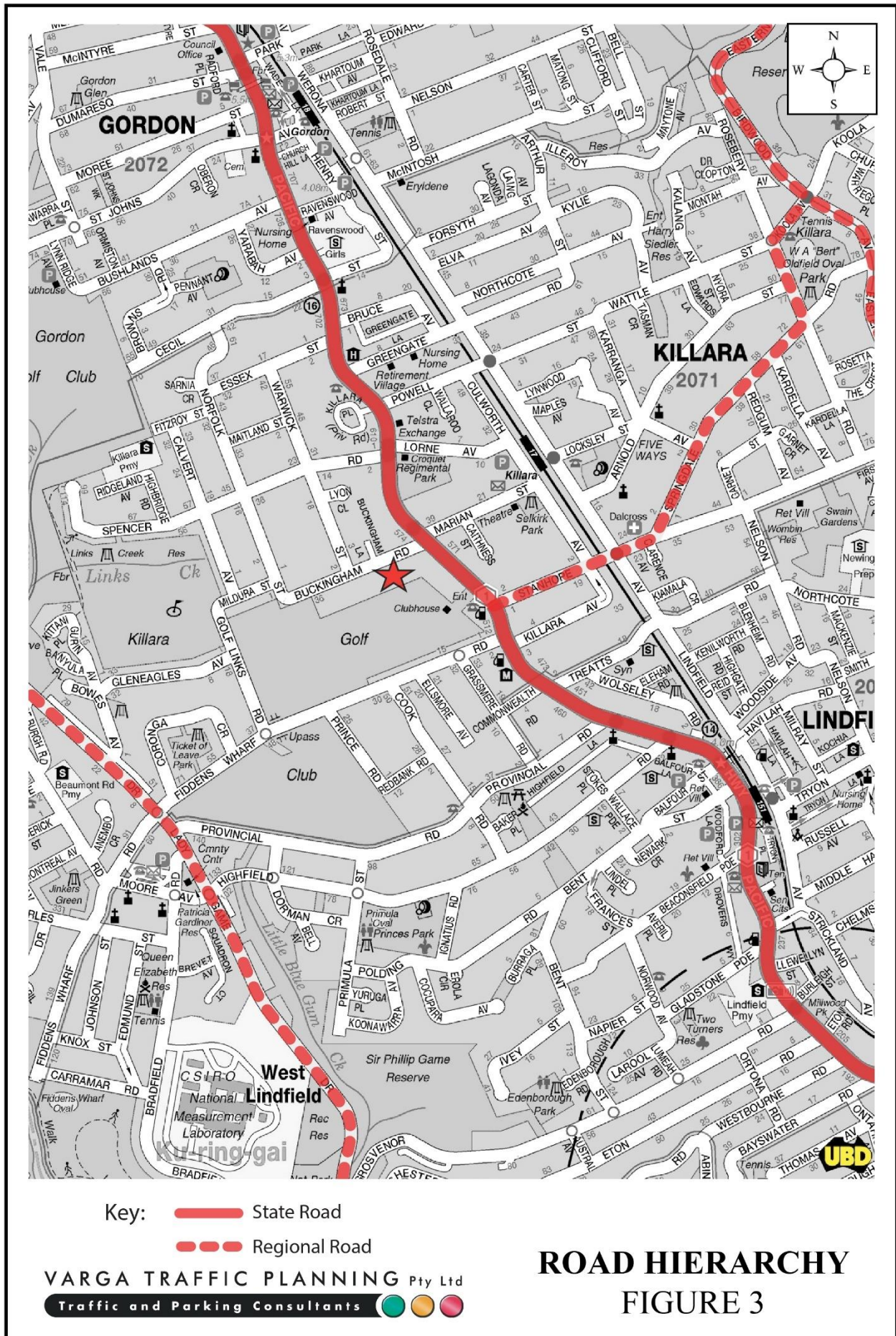
Stanhope Road, Springdale Road, Rosebery Road and Koola Avenue are classified by the TfNSW as a *Regional Road* which provides the key east-west road link in the local area, linking Pacific Highway and Birdwood Avenue. It typically carries one traffic lane in each direction in the vicinity of the site.

Buckingham Road is a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted along both sides of the road in the vicinity of the site.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 60 km/h SPEED LIMIT which applies to the Pacific Highway
- a 50 km/h SPEED LIMIT which applies to Buckingham Road and all other local roads in the area
- a CENTRAL MEDIAN ISLAND in the Pacific Highway which precludes right turn movements into and out of Buckingham Road



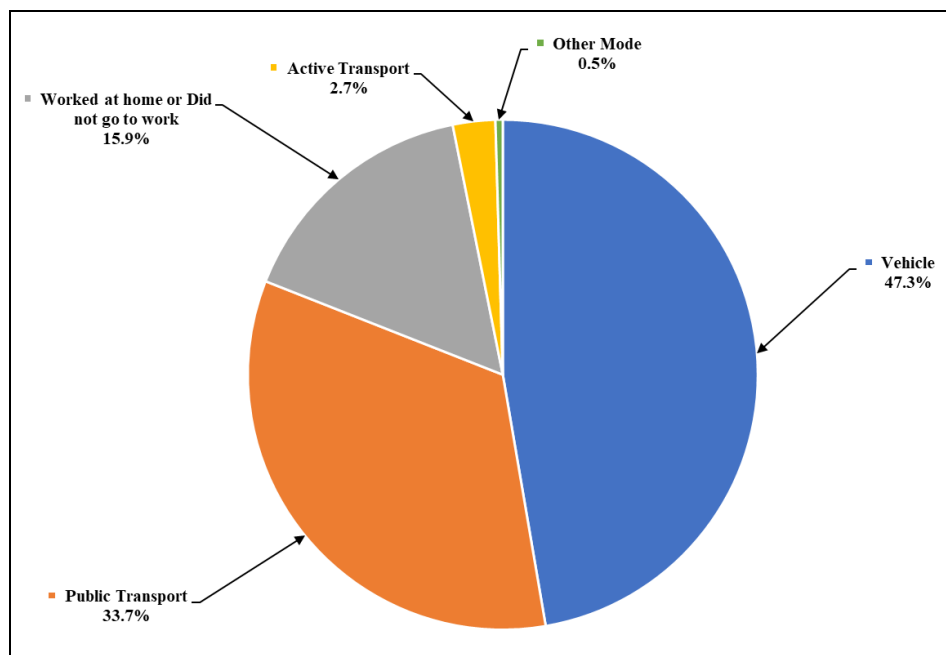


- a ROUNDABOUT in Fiddens Wharf Road where it intersects with Grassmere Road
- SIGNALISED PEDESTRIAN CROSSING in Pacific Highway just north of Marian Street and also just south of Provincial Road
- a RIGHT TURN HOLDING BAY in the Pacific Highway where it intersects with Fiddens Wharf Road and Stanhope Road
- NO RIGHT TURN eastbound restrictions in Fiddens Wharf Road onto Pacific Highway during the morning and afternoon commuter peak periods.

Journey to Work Data

The Australian Bureau of Statistics (ABS) is Australia's national statistical agency, providing trusted official statistics on a wide range of economic, social, population and environmental matters of importance to Australia including travel / transport data.

The current preferred mode of travel for Killara Residents based on *2016 census* data is summarised in Graph 1.



Graph 1: Killara Residents Preferred Mode of Transport

The 2016 Census data also provides information on where the residents of Killara work, as set out in the table below:

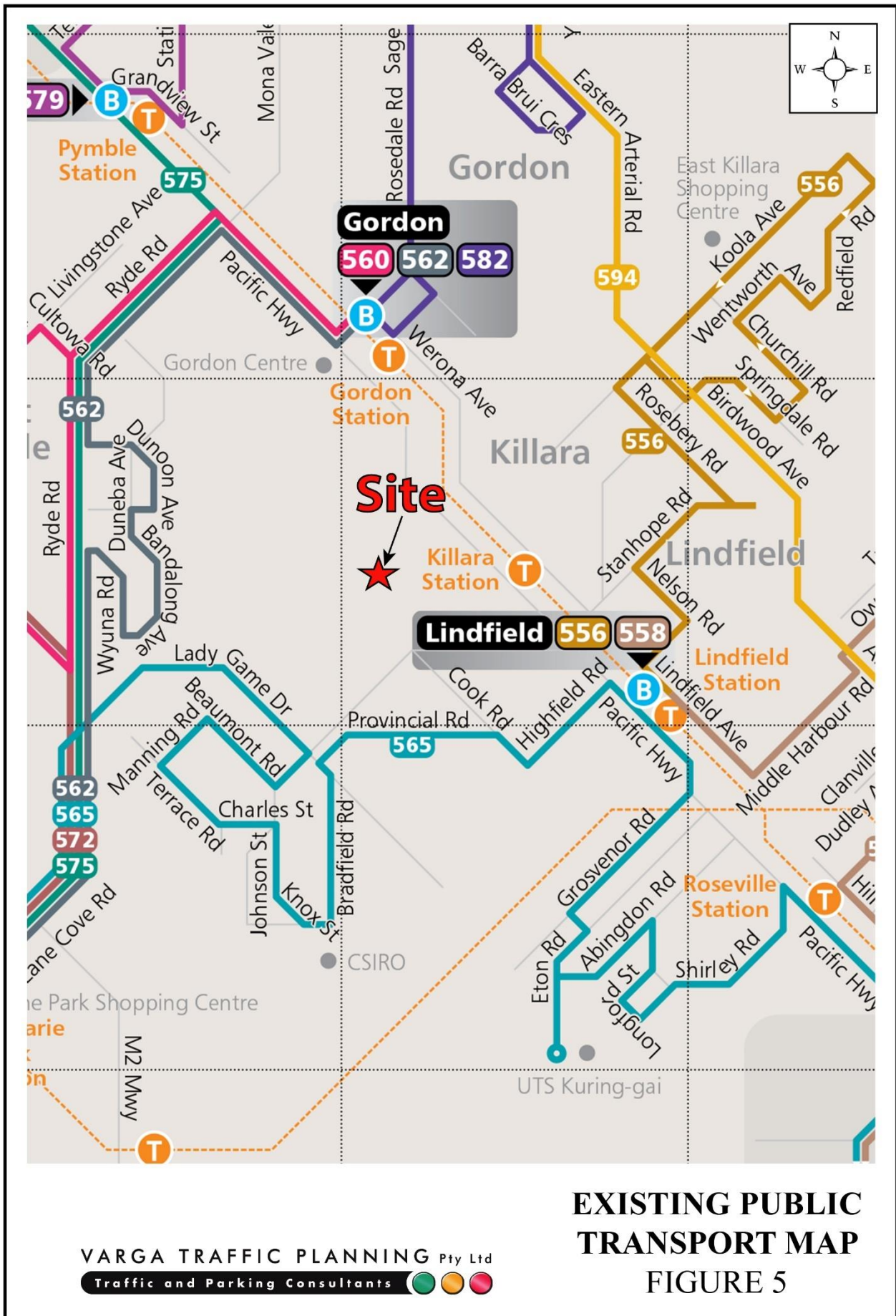
	Place of Works	Percentage
1	Sydney Inner City	28.5%
2	Ku-ring-gai	21.6%
3	Chatswood	13.5%
4	North Sydney	7.1%
5	Ryde	6.7%
6	Warringah	2.8%
7	Hornsby	2.1%
8	Parramatta	1.4%
9	Baulkham Hills	1.1%
10	Other	15.1%

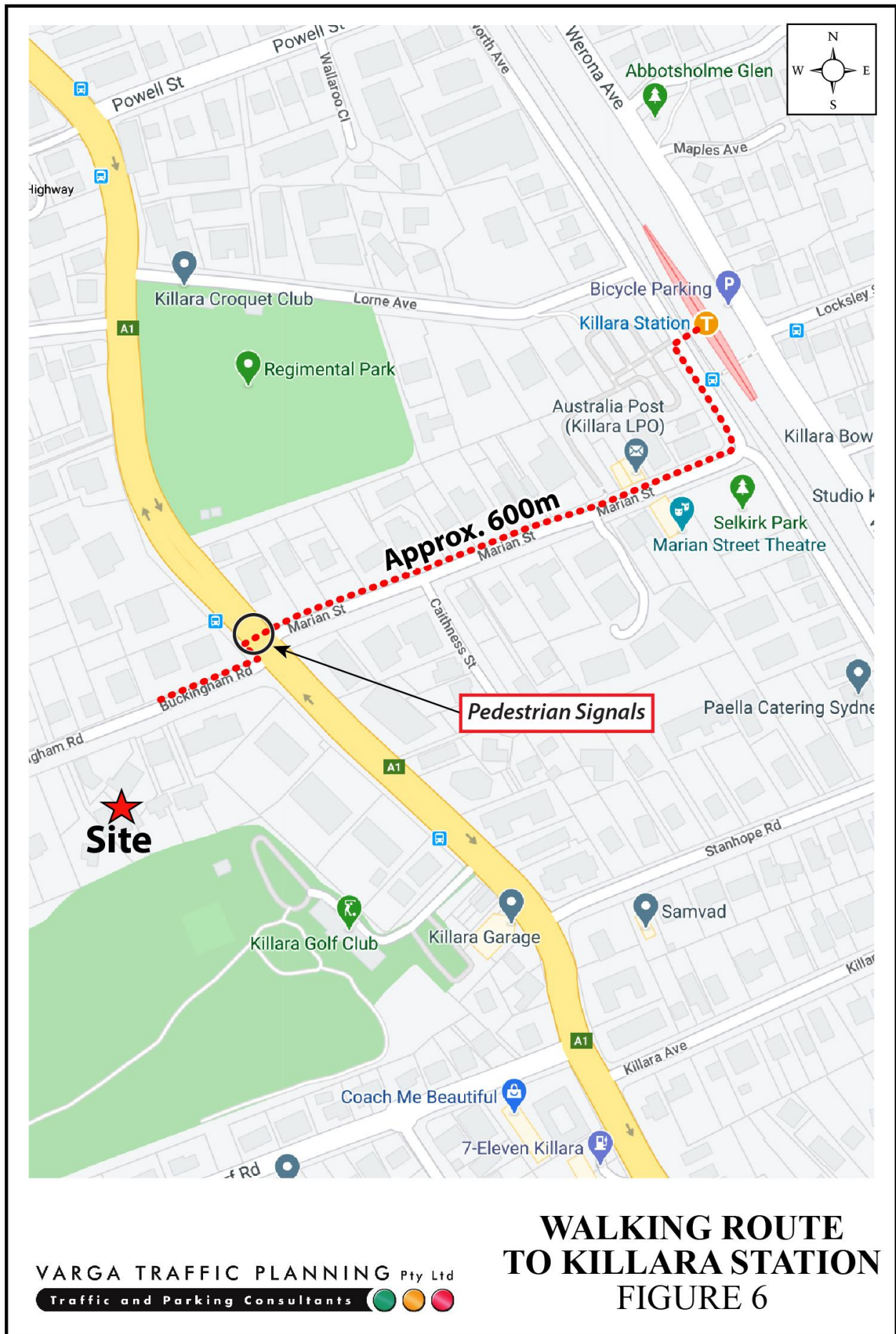
Based on the above data it is evident that a substantial proportion of future residents are likely to work in the Central Sydney CBD or in strategic centres which can be accessed via the *T1 North Shore Railway Line*, noting all of these centres are all located within an approximate 30 minute commute from Killara Railway Station. The preferred walking route to Killara Railway Station is along Buckingham Road / Marian Street comprising approximately 600 metres walking distance, equivalent to an average adult walking time of 8 minutes, as illustrated in Figure 6.

In addition, the data also suggests that a substantial proportion of future residents will be employed in the Ku-ring-gai LGA. These residents will have the option of travel to work with a relatively short journey via active modes of transport such as walking or cycling.

Existing Public Transport Services

The subject site is conveniently located within easy walking distance to existing public transport services as illustrated on Figure 5.





The Killara Railway Station is located within approximately 600 metres or 8 minutes walking distance to / from the site servicing the *T1 North Shore Line*, operating between Berowra and Sydney CBD. Train services typically arrive / depart the station at less than 10-minute intervals during commuter peak periods and 15-minute intervals at other times.

Further to suburban train services, bus route 565 (Chatswood to Macquarie University) is accessible on Pacific Highway within a short walking distance from the site.

On the above basis, it is clear that the site is supported by excellent public transport connectivity to enable a high-density residential development.

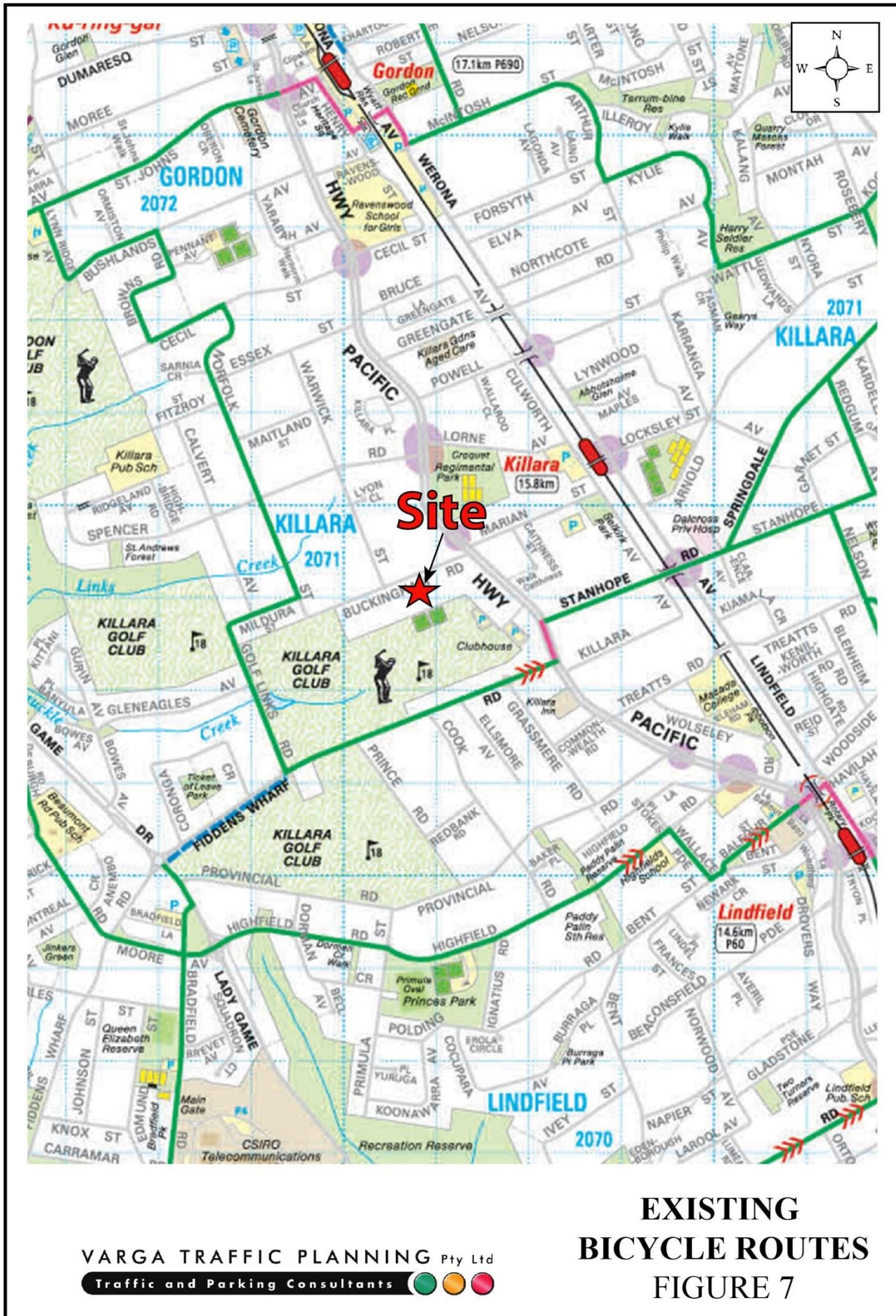
Local Bicycle Routes

The location of the existing bicycle routes in the vicinity of the site are illustrated on Figure 7. These bicycle routes are readily accessible from the subject site and provide a number of on-road bicycle routes linking the local area with the following destinations:

- Dalcross Adventist Hospital via Stanhope Road
- Killara Railway Station via Stanhope Road
- Lindfield Railway Station and town centre via Stanhope Road and Nelson Road
- Gordon Railway Station and town centre via Fiddens Wharf Road, Golf Links Road, Mildura Street, Norfolk Street, Cecil Street, Browns Road, Bushlands Road, Lynn Ridge Avenue and St Johns Avenue.

Existing Traffic Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the site is provided by peak period traffic surveys undertaken as part of this traffic study. The traffic surveys were undertaken at the Pacific Highway / Buckingham Road intersection. The results of the traffic surveys are also reproduced in full in Appendix A and reveal that:



- northbound traffic flows in Pacific Highway are typically in the order of 1,150 vph in the AM peak hour and 1,600 in the PM peak hour
- two-way traffic flows in Buckingham road are typically less than 100 vph during both the AM and PM peak hour.

Projected Traffic Generation

The traffic implications of development proposals primarily concern the effects of the *additional* traffic flows generated as a result of a development and its impact on the operational performance of the adjacent road network during the morning and afternoon commuter peak periods.

An indication of the traffic generation potential of the planning proposal is provided by reference to the Roads and Maritime Services (now TfNSW) publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published TfNSW *Technical Direction (TDT 2013/04a)* document.

The TfNSW *Technical Direction* document specifies that it replaces those sections of the TfNSW *Guidelines* indicated, and must be followed when TfNSW is undertaking trip generation and/or parking demand assessments.

The TfNSW *Guidelines* and *Technical Direction* are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the planning proposal:

High Density Residential Flat Dwellings

AM: 0.19 peak hour vehicle trips per unit

PM: 0.15 peak hour vehicle trips per unit

The TfNSW *Guidelines* also make the following observation in respect of high density residential flat buildings:

Definition

A *high density residential flat building* refers to a building containing 20 or more dwellings. This does not include aged or disabled persons housing. *High density residential flat buildings* are usually more than 5 levels, have basement level car parking and are located in close proximity to public transport services. The building may contain a component of commercial use.

Factors

The above rates include visitors, staff, service/delivery and on-street movements such as taxis and pick-up/set-down activities.

However, following discussions with TfNSW it was agreed that the following traffic generation rates should be used to provide a more “conservative” traffic assessment:

High Density Residential:	0.32 vehicle trips per dwelling
Low Density Residential:	0.99 vehicle trips per dwelling

Application of the above traffic generation rates to the up to 40 residential apartments envisaged by the planning proposal yields a traffic generation potential of approximately 13 vehicle trips per hour during the commuter peak periods as set out below:

Projected Future Traffic Generation Potential

Residential (40 apartments):	12.8 vehicle trips per hour
TOTAL TRAFFIC GENERATION POTENTIAL:	12.8 vehicle trips per hour

That projected future traffic generation potential which is expected to occur as a consequence of the planning proposal should however, be offset or *discounted* by the volume of traffic which could reasonably be expected to be generated by a development permitted by the current planning controls.

Application of the “low density residential dwelling” traffic generation rates to the 3 residential dwellings achievable under the current *LEP 2012* planning controls yields a traffic generation potential of approximately 3 vehicle trips per hour during the commuter peak periods.

Accordingly, based on the above traffic generation rates the planning proposal is expected to result in a *nett increase* in the traffic generation potential of the site of approximately 9.8

vehicle trips per hour during the commuter peak periods when compared with the existing planning controls as set out below:

**Projected Nett Increase in Peak Hour Traffic Generation Potential
of the Site as a Consequence of the Planning Proposal**

Planning Proposal Traffic Generation Potential:	12.8 vehicle trips per hour
Existing Planning Controls Traffic Generation Potential:	-3.0 vehicle trips per hour
NETT INCREASE IN TRAFFIC GENERATION POTENTIAL:	9.8 vehicle trips per hour

However, for the purposes of this assessment it has been assumed that *all* of the projected future traffic flows of 13 vehicle trips per hour, will be new or *additional* to the existing traffic flows currently using the adjacent road network.

That projected increase in the traffic generation potential of the site as a consequence of the planning proposal will clearly not have any unacceptable traffic implications in terms of road network capacity, as is demonstrated by the following section of this report.

Traffic Implications - Road Network Capacity

The traffic implications of those *additional* traffic flows on the operational performance of the nearby road network has been assessed using the SIDRA INTERSECTION 9 program which is widely used by the TfNSW and many LGA's. Criteria for evaluating the results of SIDRA analysis are reproduced in the following pages.

The network layouts and movement summaries of the SIDRA capacity analysis are reproduced in full in Appendix B.

The results of the SIDRA analysis for the Pacific Highway and Buckingham Road intersection are summarised in Table 3.1 below revealing that:

- the Pacific Highway and Buckingham Road intersection currently operates at *Level of Service "A"* under the existing traffic demands during both the AM and PM peak hour, with total average vehicle delays in the order of 0.3-0.5 seconds/vehicle

- under the projected future traffic demands expected to be generated by the rezoning proposal, the intersection is expected to continue to operate at *Level of Service “A”* during both the AM and PM peak hour with *no change* in total average vehicle delays

The results of the SIDRA analysis for the Pacific Highway and Fiddens Wharf Road intersection are summarised in Table 3.2 below revealing that:

- the Pacific Highway and Fiddens Wharf Road intersection currently operates at a *Level of Service “A”* under the existing traffic demands during both the AM and PM peak hour, with total average vehicle delays in the order of 3.1 seconds/vehicle
- under the projected future traffic demands expected to be generated by the rezoning proposal, the intersection is expected to continue to operate at *Level of Service “A”* during both the AM and PM peak hour with increases in average vehicle delays of ***less than*** 1 second/vehicle.

In summary, the SIDRA capacity analysis demonstrates that the planning proposal will not have any unacceptable traffic implications.

TABLE 3.1 RESULTS OF SIDRA CAPACITY ANALYSIS PACIFIC HIGHWAY & BUCKINGHAM RD						
	Existing		Planning Proposal		Plus Golf Club P.P.	
	AM	PM	AM	PM	AM	PM
Level of Service:	A	A	A	A	A	A
Degree of Saturation:	0.251	0.278	0.261	0.279	0.279	0.282
Average Vehicle Delays:	0.5	0.3	0.5	0.3	0.5	0.3

TABLE 3.2 RESULTS OF SIDRA CAPACITY ANALYSIS PACIFIC HIGHWAY & FIDDENS WHARF ROAD						
	Existing		Planning Proposal		Plus Golf Club P.P.	
	AM	PM	AM	PM	AM	PM
Level of Service:	B	C	B	C	B	C
Degree of Saturation:	0.795	0.738	0.796	0.741	0.803	0.814
Average Vehicle Delays:	3.1	3.1	3.1	3.2	3.4	3.9

The detailed SIDRA *movements summaries* are reproduced in full in Appendix B.

In summary, the SIDRA capacity analysis demonstrates that the planning proposal will not have any unacceptable traffic implications, and that no road improvements or intersection upgrades are required as a consequence of the planning proposal.

Criteria for Interpreting Results of Sidra Analysis

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'	Good operation.	Good operation.
'B'	Good with acceptable delays and spare capacity.	Acceptable delays and spare capacity.
'C'	Satisfactory.	Satisfactory but accident study required.
'D'	Operating near capacity.	Near capacity and accident study required.
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode.	At capacity and requires other control mode.
'F'	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode.

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

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

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by traffic signals¹ both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a roundabout or GIVE WAY or STOP signs, satisfactory intersection operation is indicated by a DS of 0.8 or less.

¹ The values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs.

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 8 and comprise:

- CLEARWAY restrictions along both sides of the Pacific Highway during commuter peak periods
- NO PARKING restrictions on the southern side of Buckingham Road
- generally UNRESTRICTED kerbside parking elsewhere on the northern side of Buckingham Road.

Off-Street Parking Provisions

The off-street car parking requirements applicable to the planning proposal are specified in the *Ku-ring-gai Development Control Plan 2021, Section C, Part 22 - General Access and Parking* document in the following terms:

Residential Flat Buildings

Studio units:	0.5 space per unit
1 bedroom units:	1 space per unit
2 bedroom units:	1.25 spaces per unit
3 bedroom units:	2 spaces per unit
Visitors:	1 space per 4 units

However, the subject site is located within 800 metres of a railway station in the Sydney metropolitan area, and therefore the residential component of the development is also subject to the parking requirements specified in the *State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development (Amendment No 3), 2015* in the following terms:



30 Standards that cannot be used to refuse development consent or modification of development consent

(1) If an application for the modification of a development consent or a development application for the carrying out of development to which this Policy applies satisfies the following design criteria, the consent authority must not refuse the application because of those matters:

- a) if the car parking for the building will be equal to, or greater than, the recommended minimum amount of car parking specified in Part 3J of the Apartment Design Guide.

Reference is therefore made to the *Apartment Design Guide 2015, Section 3J – Bicycle and Car Parking* document which nominates the following car parking requirements:

Objective 3J-1

Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas

For development in the following locations:

- on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or
- on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre

the minimum car parking requirements for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less.

The car parking needs for a development must be provided off street.

Comparison therefore needs to be drawn between the off-street car parking requirements for residential flat buildings outlined in the *Ku-ring-gai DCP 2016* and also the TfNSW *Guidelines* to determine the *lesser* requirement. The relevant car parking rates outlined in the TfNSW *Guidelines* are reproduced below:

TfNSW Guidelines - High Density Residential Flat Buildings in Metropolitan Sub-Regional Centres

0.6 spaces per 1 bedroom unit

0.9 spaces per 2 bedroom unit

1.4 spaces per 3 bedroom unit

1 space per 5 units for visitor parking

Whilst the precise unit mix of the planning proposal is not yet known, preliminary concept plans show that 85 parking spaces could be provided if required in a basement car parking area. The number of parking spaces will ultimately be designed to achieve compliance with the *DCP 2016* and *SEPP* requirements.

The design layout of all off-street car parking areas will comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1* and *Parking Facilities Part 6 - Off-Street Parking for People with Disabilities AS2890.6*.

In addition, the future layout will also be designed to accommodate the swept path and manoeuvring requirements of Council's small rigid garbage truck with an overhead clearance requirement of 2.6m.

It is therefore concluded that the planning proposal could not be expected to have any unacceptable parking, access or servicing implications and is recommended for approval.

APPENDIX A

TRAFFIC SURVEY DATA



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : Varga Traffic Planning
Job No/Name : 7150 KILLARA Buckingham Rd
Day/Date : Monday 5th August 2019

PEDS	NORTH	WEST	SOUTH	
Time Per	Pacific Hwy	Buckingham	Pacific Hwy	TOT
0630 - 0645	2	1	0	3
0645 - 0700	4	2	0	6
0700 - 0715	11	1	0	12
0715 - 0730	12	4	0	16
0730 - 0745	14	9	0	23
0745 - 0800	20	8	0	28
0800 - 0815	14	7	0	21
0815 - 0830	19	4	0	23
0830 - 0845	8	4	0	12
0845 - 0900	9	8	0	17
0900 - 0915	2	6	0	8
0915 - 0930	5	6	0	11
Per End	120	60	0	180

PEDS	NORTH	WEST	SOUTH	
Peak Per	Pacific Hwy	Buckingham	Pacific Hwy	TOT
0630 - 0730	29	8	0	37
0645 - 0745	41	16	0	57
0700 - 0800	57	22	0	79
0715 - 0815	60	28	0	88
0730 - 0830	67	28	0	95
0745 - 0845	61	23	0	84
0800 - 0900	50	23	0	73
0815 - 0915	38	22	0	60
0830 - 0930	24	24	0	48
PEAK HR	67	28	0	95

Lights	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Time Per	I	R	L	R	L	I	TOT
0630 - 0645			0		3	196	199
0645 - 0700			0		7	234	241
0700 - 0715			0		11	209	220
0715 - 0730			4		13	206	223
0730 - 0745			4		3	268	275
0745 - 0800			6		8	280	294
0800 - 0815			8		6	280	294
0815 - 0830			7		6	258	271
0830 - 0845			0		5	228	233
0845 - 0900			6		10	250	266
0900 - 0915			1		8	197	206
0915 - 0930			7		5	212	224
Per End	0	0	43	0	85	2818	2946

Heavies	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Time Per	I	R	L	R	L	I	TOT
0630 - 0645			0		0	6	6
0645 - 0700			0		0	8	8
0700 - 0715			0		0	10	10
0715 - 0730			0		0	11	11
0730 - 0745			0		0	12	12
0745 - 0800			1		0	4	5
0800 - 0815			1		0	15	16
0815 - 0830			0		0	6	6
0830 - 0845			0		0	6	6
0845 - 0900			0		0	5	5
0900 - 0915			0		0	10	10
0915 - 0930			0		0	2	2
Per End	0	0	2	0	0	95	97

Combined	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Time Per	I	R	L	R	L	I	TOT
0630 - 0645	0	0	0	0	3	202	205
0645 - 0700	0	0	0	0	7	242	249
0700 - 0715	0	0	0	0	11	219	230
0715 - 0730	0	0	4	0	13	217	234
0730 - 0745	0	0	4	0	3	280	287
0745 - 0800	0	0	7	0	8	284	299
0800 - 0815	0	0	9	0	6	295	310
0815 - 0830	0	0	7	0	6	264	277
0830 - 0845	0	0	0	0	5	234	239
0845 - 0900	0	0	6	0	10	255	271
0900 - 0915	0	0	1	0	8	207	216
0915 - 0930	0	0	7	0	5	214	226
Per End	0	0	45	0	85	2913	3043

Lights	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Peak Per	I	R	L	R	L	I	TOT
0630 - 0730	0	0	4	0	34	845	883
0645 - 0745	0	0	8	0	34	917	959
0700 - 0800	0	0	14	0	35	963	1012
0715 - 0815	0	0	22	0	30	1034	1086
0730 - 0830	0	0	25	0	23	1086	1134
0745 - 0845	0	0	21	0	25	1046	1092
0800 - 0900	0	0	21	0	27	1016	1064
0815 - 0915	0	0	14	0	29	933	976
0830 - 0930	0	0	14	0	28	887	929
PEAK HR	0	0	25	0	23	1086	1134

Heavies	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Peak Per	I	R	L	R	L	I	TOT
0630 - 0730	0	0	0	0	0	35	35
0645 - 0745	0	0	0	0	0	41	41
0700 - 0800	0	0	1	0	0	37	38
0715 - 0815	0	0	2	0	0	42	44
0730 - 0830	0	0	2	0	0	37	39
0745 - 0845	0	0	2	0	0	31	33
0800 - 0900	0	0	1	0	0	32	33
0815 - 0915	0	0	0	0	0	27	27
0830 - 0930	0	0	0	0	0	23	23
PEAK HR	0	0	2	0	0	37	39

Combined	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Peak Per	I	R	L	R	L	I	TOT
0630 - 0730	0	0	4	0	34	880	918
0645 - 0745	0	0	8	0	34	958	1000
0700 - 0800	0	0	15	0	35	1000	1050
0715 - 0815	0	0	24	0	30	1076	1130
0730 - 0830	0	0	27	0	23	1123	1173
0745 - 0845	0	0	23	0	25	1077	1125
0800 - 0900	0	0	22	0	27	1048	1097
0815 - 0915	0	0	14	0	29	960	1003
0830 - 0930	0	0	14	0	28	910	952
PEAK HR	0	0	27	0	23	1123	1173



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Client : Varga Traffic Planning
Job No/Name : 7150 KILLARA Buckingham Rd
Day/Date : Monday 5th August 2019

PEDS	NORTH	WEST	SOUTH	
Time Per	Pacific Hwy	Buckingham	Pacific Hwy	TOT
1530 - 1545	16	9	0	25
1545 - 1600	14	6	0	20
1600 - 1615	10	4	0	14
1615 - 1630	14	7	0	21
1630 - 1645	10	3	0	13
1645 - 1700	8	3	0	11
1700 - 1715	11	5	0	16
1715 - 1730	14	6	0	20
1730 - 1745	10	7	0	17
1745 - 1800	8	6	0	14
1800 - 1815	12	9	0	21
1815 - 1830	18	8	0	26
Per End	145	73	0	218

PEDS	NORTH	WEST	SOUTH	
Peak Per	Pacific Hwy	Buckingham	Pacific Hwy	TOT
1530 - 1630	54	26	0	80
1545 - 1645	48	20	0	68
1600 - 1700	42	17	0	59
1615 - 1715	43	18	0	61
1630 - 1730	43	17	0	60
1645 - 1745	43	21	0	64
1700 - 1800	43	24	0	67
1715 - 1815	44	28	0	72
1730 - 1830	48	30	0	78
PEAK HR	43	17	0	60

Lights	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Time Per	I	R	L	R	L	I	TOT
1530 - 1545			7		6	340	353
1545 - 1600			8		10	353	371
1600 - 1615			2		9	332	343
1615 - 1630			6		11	360	377
1630 - 1645			5		14	400	419
1645 - 1700			4		8	370	382
1700 - 1715			2		10	391	403
1715 - 1730			5		18	390	413
1730 - 1745			6		12	386	404
1745 - 1800			2		9	368	379
1800 - 1815			4		11	375	390
1815 - 1830			4		7	371	382
Per End	0	0	55	0	125	4436	4616

Heavies	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Time Per	I	R	L	R	L	I	TOT
1530 - 1545			0		0	4	4
1545 - 1600			1		0	5	6
1600 - 1615			0		0	6	6
1615 - 1630			0		0	7	7
1630 - 1645			0		0	1	1
1645 - 1700			0		0	9	9
1700 - 1715			0		0	3	3
1715 - 1730			0		0	2	2
1730 - 1745			0		0	1	1
1745 - 1800			0		0	2	2
1800 - 1815			0		0	3	3
1815 - 1830			0		0	4	4
Per End	0	0	1	0	0	47	48

Combined	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Time Per	I	R	L	R	L	I	TOT
1530 - 1545	0	0	7	0	6	344	357
1545 - 1600	0	0	9	0	10	358	377
1600 - 1615	0	0	2	0	9	338	349
1615 - 1630	0	0	6	0	11	367	384
1630 - 1645	0	0	5	0	14	401	420
1645 - 1700	0	0	4	0	8	379	391
1700 - 1715	0	0	2	0	10	394	406
1715 - 1730	0	0	5	0	18	392	415
1730 - 1745	0	0	6	0	12	387	405
1745 - 1800	0	0	2	0	9	370	381
1800 - 1815	0	0	4	0	11	378	393
1815 - 1830	0	0	4	0	7	375	386
Per End	0	0	56	0	125	4483	4664

Lights	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Peak Per	I	R	L	R	L	I	TOT
1530 - 1630	0	0	23	0	36	1385	1444
1545 - 1645	0	0	21	0	44	1445	1510
1600 - 1700	0	0	17	0	42	1462	1521
1615 - 1715	0	0	17	0	43	1521	1581
1630 - 1730	0	0	16	0	50	1551	1617
1645 - 1745	0	0	17	0	48	1537	1602
1700 - 1800	0	0	15	0	49	1535	1599
1715 - 1815	0	0	17	0	50	1519	1586
1730 - 1830	0	0	16	0	39	1500	1555
PEAK HR	0	0	16	0	50	1551	1617

Heavies	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Peak Per	I	R	L	R	L	I	TOT
1530 - 1630	0	0	1	0	0	22	23
1545 - 1645	0	0	1	0	0	19	20
1600 - 1700	0	0	0	0	0	23	23
1615 - 1715	0	0	0	0	0	20	20
1630 - 1730	0	0	0	0	0	15	15
1645 - 1745	0	0	0	0	0	15	15
1700 - 1800	0	0	0	0	0	8	8
1715 - 1815	0	0	0	0	0	8	8
1730 - 1830	0	0	0	0	0	10	10
PEAK HR	0	0	0	0	0	15	15

Combined	NORTH		WEST		SOUTH		
	Pacific Hwy		Buckingham Rd		Pacific Hwy		
Peak Per	I	R	L	R	L	I	TOT
1530 - 1630	0	0	24	0	36	1407	1467
1545 - 1645	0	0	22	0	44	1464	1530
1600 - 1700	0	0	17	0	42	1485	1544
1615 - 1715	0	0	17	0	43	1541	1601
1630 - 1730	0	0	16	0	50	1566	1632
1645 - 1745	0	0	17	0	48	1552	1617
1700 - 1800	0	0	15	0	49	1543	1607
1715 - 1815	0	0	17	0	50	1527	1594
1730 - 1830	0	0	16	0	39	1510	1565
PEAK HR	0	0	16	0	50	1566	1632



R.O.A.R. DATA

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Ph.88196847, Mob.0418-239019

Client : Varga Traffic Planning

Job No/Name : 7150 KILLARA Buckingham Rd

Day/Date : Monday 5th August 2019

AM PEAK
0730 - 0830

1

2

3

4

5

6

7

8

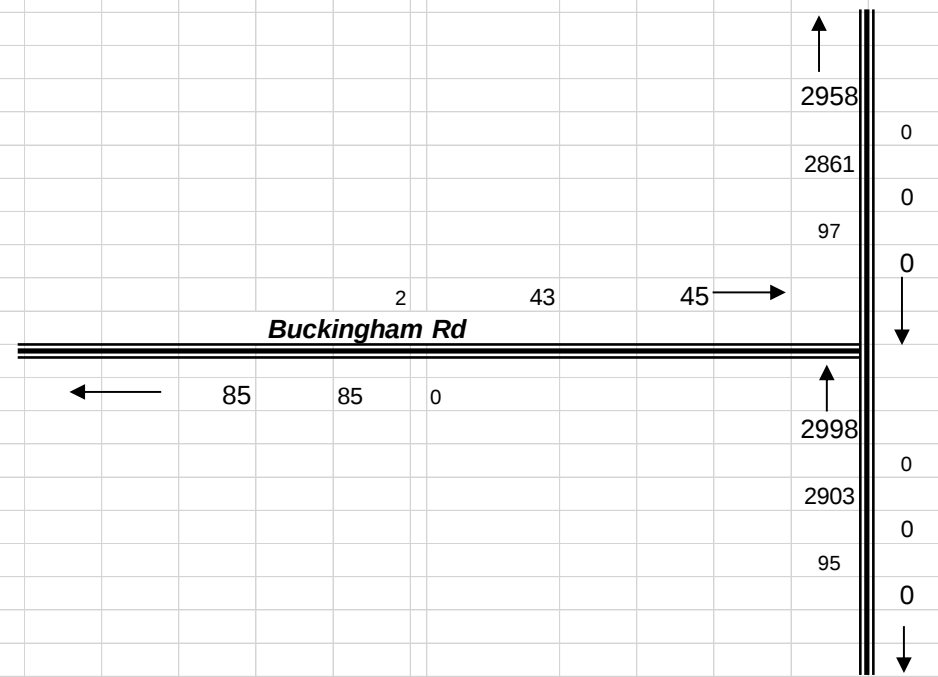
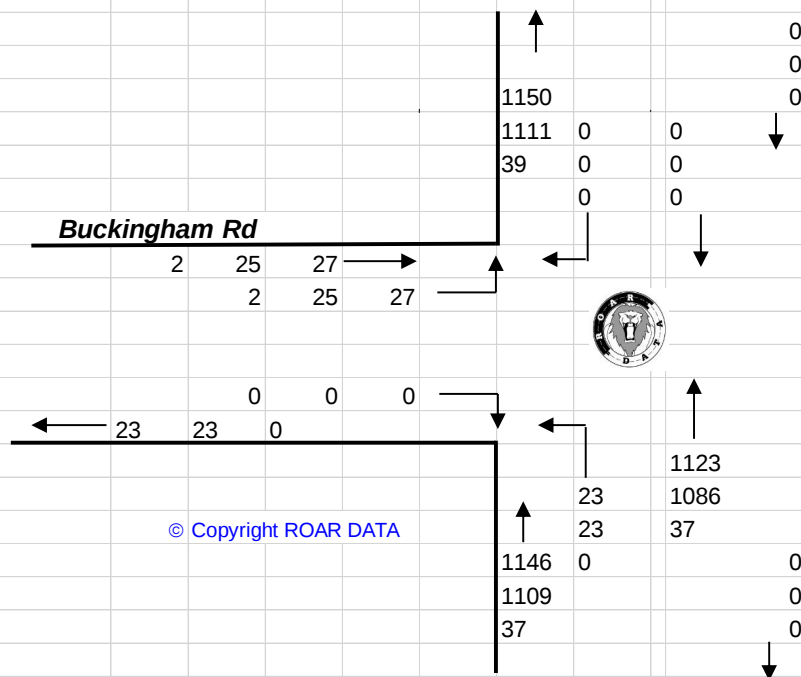
9

**TOTAL VOLUMES
FOR COUNT
PERIOD**



Pacific Hwy

Pacific Hwy





R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

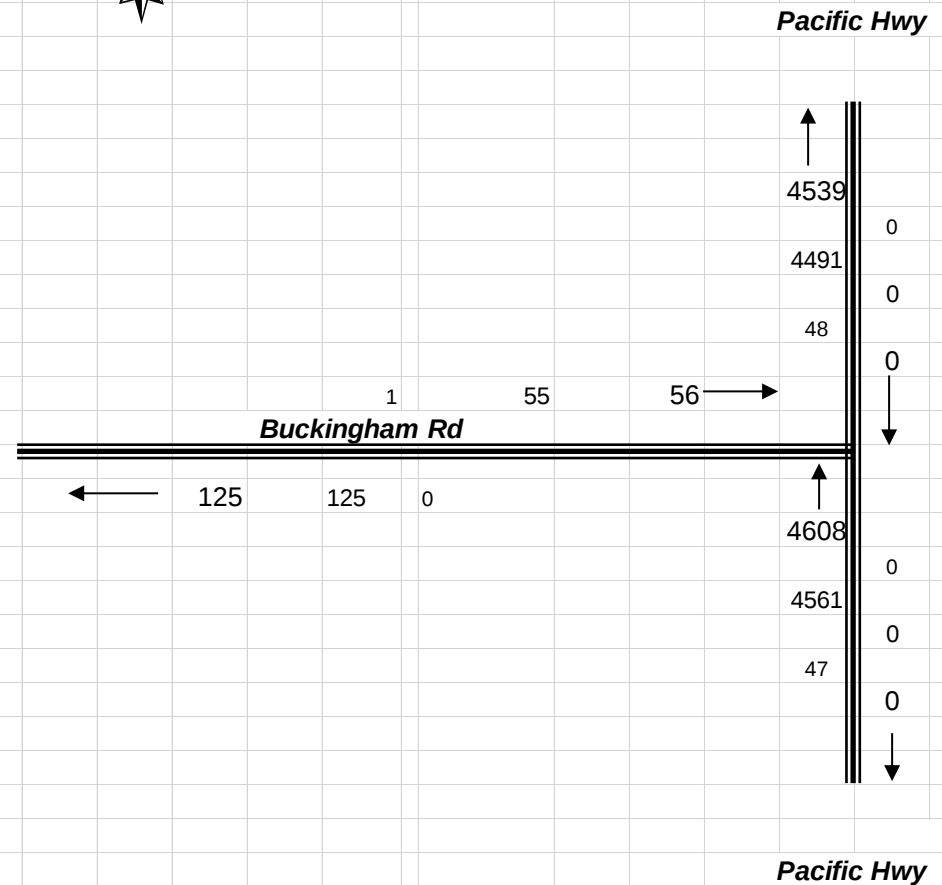
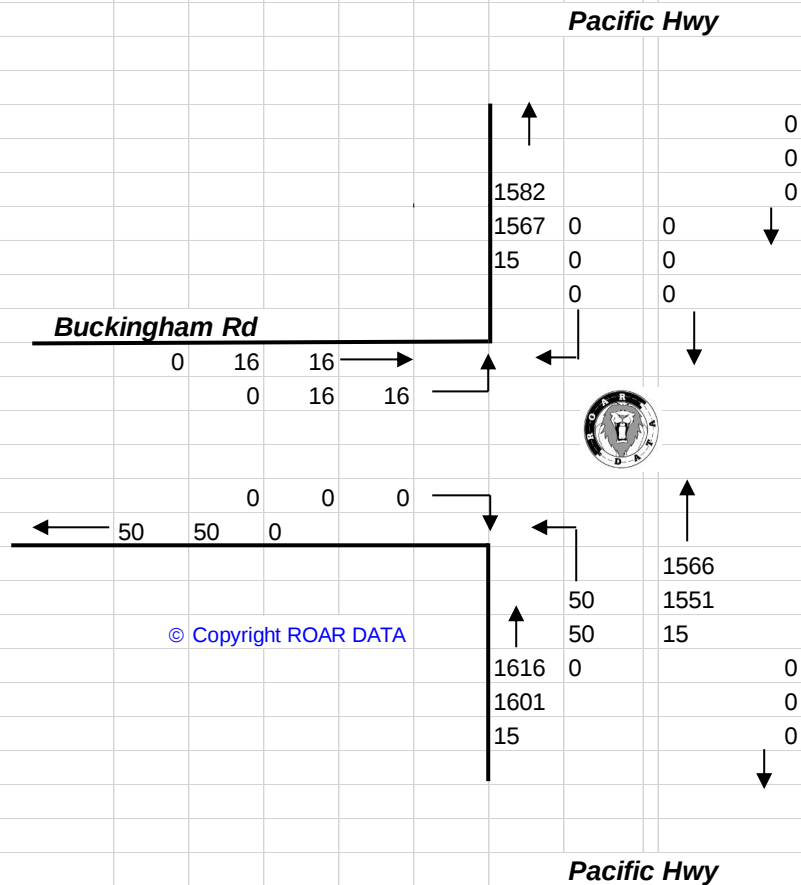
Client : Varga Traffic Planning
Job No/Name : 7150 KILLARA Buckingham Rd
Day/Date : Monday 5th August 2019

PM PEAK

1630 - 1730

**TOTAL VOLUMES
FOR COUNT
PERIOD**

1	2	3
4	5	6
7	8	9





R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Mob.0418-239019

Client : Varga Traffic Planning
Job No/Name : 7150 KILLARA Buckingham Rd
Day/Date : Monday 5th August 2019

Intersection Details

Obtained via satellite

May be incorrect

AM PEAK HOUR
0730 - 0830



Pacific Hwy

Buckingham Rd



27	16	L
AM	PM	

PM	50	1566
AM	23	1123
	L	T

PM PEAK HOUR
1630 - 1730

Combined figures only

Weather >>>



Pacific Hwy

APPENDIX B

SIDRA MOVEMENT SUMMARIES

SITE LAYOUT

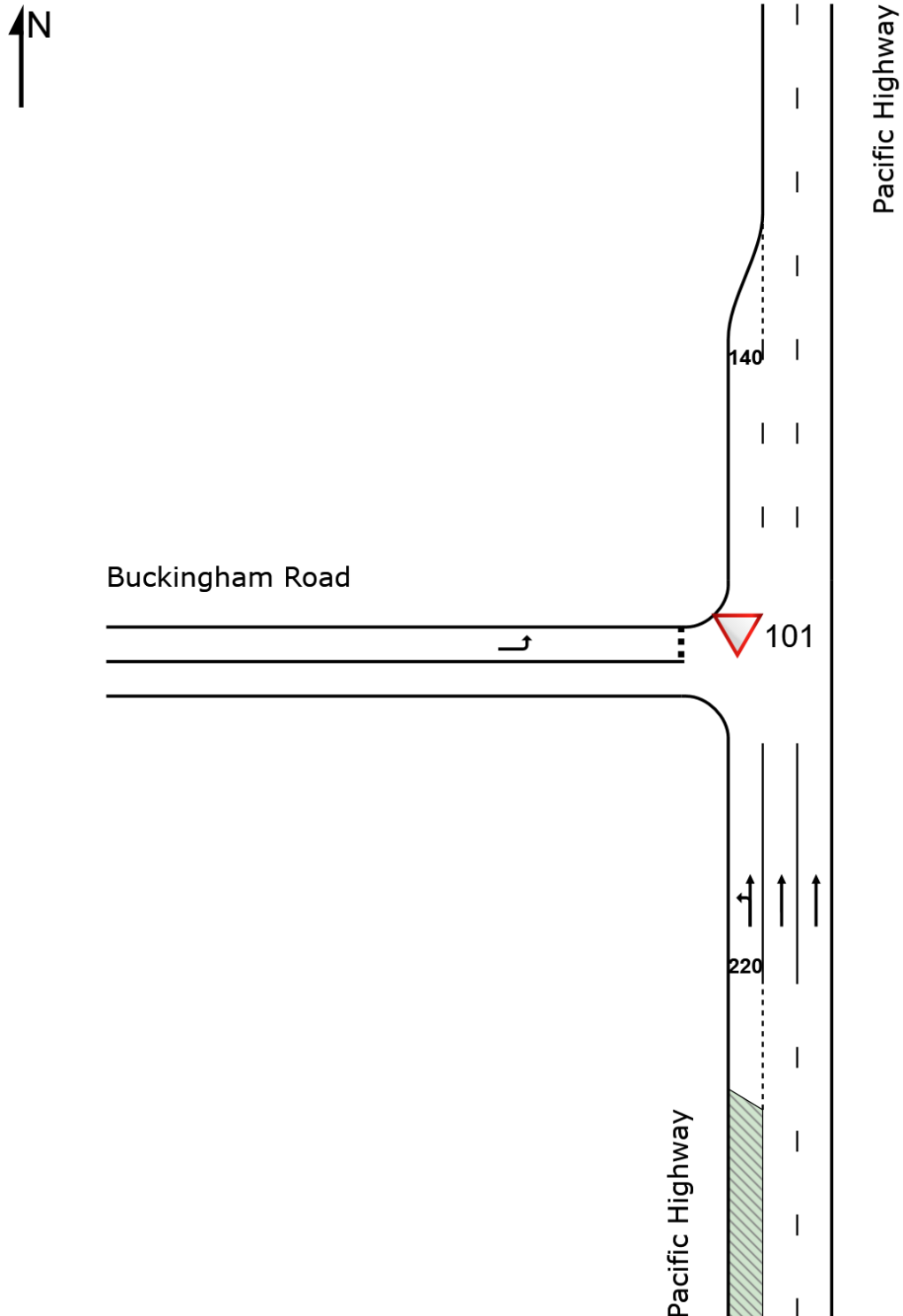
▽ Site: 101 [Pacific Hwy & Buckingham Rd (Existing AM) (Site Folder: General)]

Pacific Hwy & Buckingham Rd

Site Category: (None)

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

▼ Site: 101 [Pacific Hwy & Buckingham Rd (Existing AM) (Site Folder: General)]

Pacific Hwy & Buckingham Rd
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway														
1	L2	23	0	23	0.0	0.160	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
2	T1	1123	37	1123	3.3	0.220	0.3	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		1146	37	1146	3.2	0.220	0.4	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Buckingham Road														
10	L2	27	2	27	7.4	0.022	7.6	LOS A	0.1	0.6	0.35	0.57	0.35	52.2
Approach		27	2	27	7.4	0.022	7.6	LOS A	0.1	0.6	0.35	0.57	0.35	52.2
All Vehicles		1173	39	1173	3.3	0.220	0.6	NA	0.1	0.6	0.01	0.02	0.01	59.5

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

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

▼ Site: 101 [Pacific Hwy & Buckingham Rd (Existing PM) (Site Folder: General)]

Pacific Hwy & Buckingham Rd
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway														
1	L2	50	0	50	0.0	0.223	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	57.7
2	T1	1566	15	1566	1.0	0.306	0.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		1616	15	1616	0.9	0.306	0.7	NA	0.0	0.0	0.00	0.02	0.00	59.6
West: Buckingham Road														
10	L2	16	0	16	0.0	0.014	8.6	LOS A	0.1	0.4	0.40	0.59	0.40	52.4
Approach		16	0	16	0.0	0.014	8.6	LOS A	0.1	0.4	0.40	0.59	0.40	52.4
All Vehicles		1632	15	1632	0.9	0.306	0.8	NA	0.1	0.4	0.00	0.02	0.00	59.5

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

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

▼ Site: 101 [Pacific Hwy & Buckingham Rd (Proposed AM) (Site Folder: General)]

Pacific Hwy & Buckingham Rd
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway														
1	L2	24	0	24	0.0	0.160	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.9
2	T1	1123	37	1123	3.3	0.220	0.3	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		1147	37	1147	3.2	0.220	0.4	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Buckingham Road														
10	L2	33	2	33	6.1	0.027	7.6	LOS A	0.1	0.8	0.35	0.58	0.35	52.3
Approach		33	2	33	6.1	0.027	7.6	LOS A	0.1	0.8	0.35	0.58	0.35	52.3
All Vehicles		1180	39	1180	3.3	0.220	0.6	NA	0.1	0.8	0.01	0.03	0.01	59.5

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

MOVEMENT SUMMARY

▼ Site: 101 [Pacific Hwy & Buckingham Rd (Proposed PM) (Site Folder: General)]

Pacific Hwy & Buckingham Rd

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway														
1	L2	54	0	54	0.0	0.223	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	57.6
2	T1	1566	15	1566	1.0	0.307	0.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		1620	15	1620	0.9	0.307	0.7	NA	0.0	0.0	0.00	0.02	0.00	59.6
West: Buckingham Road														
10	L2	18	0	18	0.0	0.016	8.6	LOS A	0.1	0.4	0.40	0.59	0.40	52.4
Approach		18	0	18	0.0	0.016	8.6	LOS A	0.1	0.4	0.40	0.59	0.40	52.4
All Vehicles		1638	15	1638	0.9	0.307	0.8	NA	0.1	0.4	0.00	0.03	0.00	59.5

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

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

▼ Site: 101 [Pacific Hwy & Buckingham Rd (Proposed AM + GC) (Site Folder: General)]

Pacific Hwy & Buckingham Rd

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway														
1	L2	24	0	24	0.0	0.171	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.9
2	T1	1203	37	1203	3.1	0.236	0.3	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		1227	37	1227	3.0	0.236	0.4	NA	0.0	0.0	0.00	0.01	0.00	59.7
West: Buckingham Road														
10	L2	33	2	33	6.1	0.028	7.8	LOS A	0.1	0.8	0.36	0.58	0.36	52.2
Approach		33	2	33	6.1	0.028	7.8	LOS A	0.1	0.8	0.36	0.58	0.36	52.2
All Vehicles		1260	39	1260	3.1	0.236	0.6	NA	0.1	0.8	0.01	0.03	0.01	59.5

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

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

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MOVEMENT SUMMARY

▼ Site: 101 [Pacific Hwy & Buckingham Rd (Proposed PM + GC)
(Site Folder: General)]

Pacific Hwy & Buckingham Rd
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway														
1	L2	54	0	54	0.0	0.226	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	57.6
2	T1	1586	15	1586	0.9	0.311	0.5	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		1640	15	1640	0.9	0.311	0.7	NA	0.0	0.0	0.00	0.02	0.00	59.6
West: Buckingham Road														
10	L2	18	0	18	0.0	0.016	8.7	LOS A	0.1	0.4	0.40	0.59	0.40	52.4
Approach		18	0	18	0.0	0.016	8.7	LOS A	0.1	0.4	0.40	0.59	0.40	52.4
All Vehicles		1658	15	1658	0.9	0.311	0.8	NA	0.1	0.4	0.00	0.03	0.00	59.5

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

SITE LAYOUT

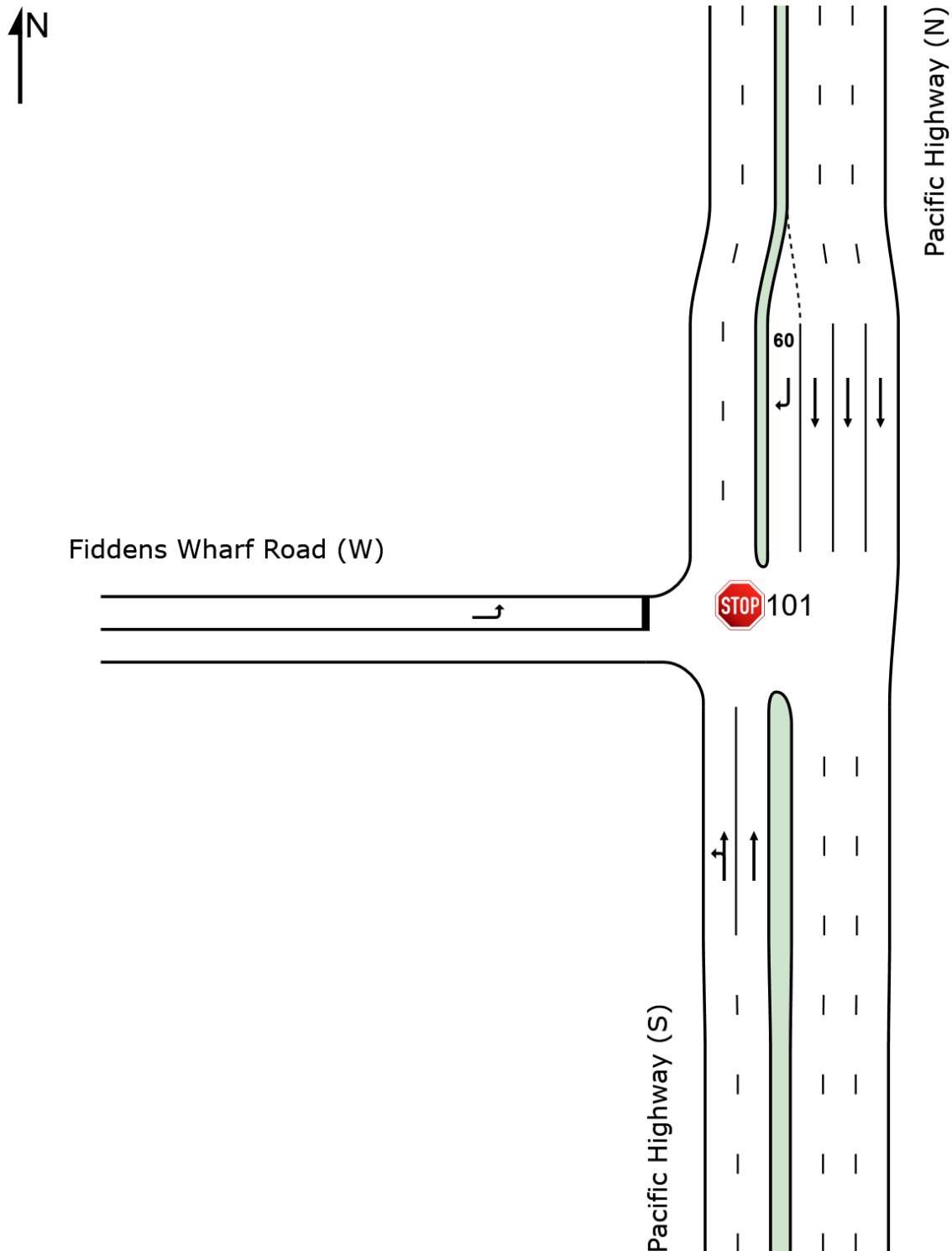
 **Site: 101 [Pacific Hwy & Fiddens Wharf Rd (Existing AM)**
(Site Folder: General)]

Pacific Hwy & Fiddens Wharf Rd

Site Category: (None)

Stop (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

 **Site: 101 [Pacific Hwy & Fiddens Wharf Rd (Existing AM)**
(Site Folder: General)]

Pacific Hwy & Fiddens Wharf Rd
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway (S)														
1	L2	80	0	80	0.0	0.298	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	55.7
2	T1	1057	33	1057	3.1	0.298	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.4
Approach		1137	33	1137	2.9	0.298	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.2
North: Pacific Highway (N)														
8	T1	2232	27	2232	1.2	0.388	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	438	0	438	0.0	0.795	22.1	LOS B	7.1	49.4	0.91	1.40	2.41	37.4
Approach		2670	27	2670	1.0	0.795	3.7	NA	7.1	49.4	0.15	0.23	0.40	55.6
West: Fiddens Wharf Road (W)														
10	L2	185	1	185	0.5	0.246	10.6	LOS A	1.0	7.0	0.54	0.97	0.54	41.2
Approach		185	1	185	0.5	0.246	10.6	LOS A	1.0	7.0	0.54	0.97	0.54	41.2
All Vehicles		3992	61	3992	1.5	0.795	3.1	NA	7.1	49.4	0.12	0.21	0.29	55.9

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

MOVEMENT SUMMARY

 **Site: 101 [Pacific Hwy & Fiddens Wharf Rd (Existing PM)**
(Site Folder: General)]

Pacific Hwy & Fiddens Wharf Rd
 Site Category: (None)
 Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
						v/c	sec							km/h
South: Pacific Highway (S)														
1	L2	112	0	112	0.0	0.484	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	55.8
2	T1	1767	7	1767	0.4	0.484	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
Approach		1879	7	1879	0.4	0.484	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.1
North: Pacific Highway (N)														
8	T1	1189	5	1189	0.4	0.205	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	184	0	184	0.0	0.738	36.7	LOS C	3.6	25.3	0.96	1.20	1.84	30.4
Approach		1373	5	1373	0.4	0.738	5.0	NA	3.6	25.3	0.13	0.16	0.25	54.5
West: Fiddens Wharf Road (W)														
10	L2	200	0	200	0.0	0.398	15.7	LOS B	1.9	13.1	0.73	1.09	0.99	38.1
Approach		200	0	200	0.0	0.398	15.7	LOS B	1.9	13.1	0.73	1.09	0.99	38.1
All Vehicles		3452	12	3452	0.3	0.738	3.1	NA	3.6	25.3	0.09	0.15	0.16	55.9

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

MOVEMENT SUMMARY

 **Site: 101 [Pacific Hwy & Fiddens Wharf Rd (Proposed AM)**
(Site Folder: General)]

Pacific Hwy & Fiddens Wharf Rd
 Site Category: (None)
 Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway (S)														
1	L2	80	0	80	0.0	0.298	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	55.7
2	T1	1058	33	1058	3.1	0.298	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.4
Approach		1138	33	1138	2.9	0.298	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.2
North: Pacific Highway (N)														
8	T1	2236	27	2236	1.2	0.389	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	438	0	438	0.0	0.796	22.1	LOS B	7.1	49.5	0.91	1.40	2.42	37.4
Approach		2674	27	2674	1.0	0.796	3.7	NA	7.1	49.5	0.15	0.23	0.40	55.6
West: Fiddens Wharf Road (W)														
10	L2	185	1	185	0.5	0.246	10.6	LOS A	1.0	7.0	0.54	0.97	0.54	41.2
Approach		185	1	185	0.5	0.246	10.6	LOS A	1.0	7.0	0.54	0.97	0.54	41.2
All Vehicles		3997	61	3997	1.5	0.796	3.1	NA	7.1	49.5	0.12	0.21	0.29	55.9

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

MOVEMENT SUMMARY

 **Site: 101 [Pacific Hwy & Fiddens Wharf Rd (Proposed PM)**
(Site Folder: General)]

Pacific Hwy & Fiddens Wharf Rd
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway (S)														
1	L2	112	0	112	0.0	0.485	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	55.8
2	T1	1771	7	1771	0.4	0.485	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
Approach		1883	7	1883	0.4	0.485	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.1
North: Pacific Highway (N)														
8	T1	1190	5	1190	0.4	0.205	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	184	0	184	0.0	0.742	37.1	LOS C	3.6	25.5	0.96	1.20	1.86	30.3
Approach		1374	5	1374	0.4	0.742	5.0	NA	3.6	25.5	0.13	0.16	0.25	54.5
West: Fiddens Wharf Road (W)														
10	L2	200	0	200	0.0	0.400	15.7	LOS B	1.9	13.1	0.73	1.09	0.99	38.1
Approach		200	0	200	0.0	0.400	15.7	LOS B	1.9	13.1	0.73	1.09	0.99	38.1
All Vehicles		3457	12	3457	0.3	0.742	3.2	NA	3.6	25.5	0.09	0.15	0.16	55.9

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

MOVEMENT SUMMARY

 **Site: 101 [Pacific Hwy & Fiddens Wharf Rd (Proposed AM + GC) (Site Folder: General)]**

Pacific Hwy & Fiddens Wharf Rd

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway (S)														
1	L2	80	0	80	0.0	0.298	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	55.7
2	T1	1058	33	1058	3.1	0.298	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.4
Approach		1138	33	1138	2.9	0.298	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.2
North: Pacific Highway (N)														
8	T1	2236	27	2236	1.2	0.460	0.5	LOS A	2.8	19.6	0.14	0.00	0.14	59.2
9	R2	442	0	442	0.0	0.804	22.5	LOS B	7.3	51.0	0.91	1.42	2.48	37.1
Approach		2678	27	2678	1.0	0.804	4.2	NA	7.3	51.0	0.26	0.23	0.52	55.1
West: Fiddens Wharf Road (W)														
10	L2	192	1	192	0.5	0.255	10.7	LOS A	1.1	7.4	0.54	0.97	0.55	41.4
Approach		192	1	192	0.5	0.255	10.7	LOS A	1.1	7.4	0.54	0.97	0.55	41.4
All Vehicles		4008	61	4008	1.5	0.804	3.4	NA	7.3	51.0	0.20	0.21	0.38	55.5

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

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

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Project: \\vtp_nas\Data\DATA\Data\Jobs01\Jobs\19work\19173Y_8a-14-16BuckinghamRdKillara\SIDRA\220512\Pacific Hwy & Fiddens Wharf Rd.sip9

MOVEMENT SUMMARY

 **Site: 101 [Pacific Hwy & Fiddens Wharf Rd (Proposed PM + GC) (Site Folder: General)]**

Pacific Hwy & Fiddens Wharf Rd

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] veh/h	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Pacific Highway (S)														
1	L2	112	0	112	0.0	0.485	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	55.8
2	T1	1771	7	1771	0.4	0.485	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
Approach		1883	7	1883	0.4	0.485	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.1
North: Pacific Highway (N)														
8	T1	1190	5	1190	0.4	0.205	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	202	0	202	0.0	0.815	44.1	LOS D	4.6	32.2	0.97	1.31	2.27	27.8
Approach		1392	5	1392	0.4	0.815	6.5	NA	4.6	32.2	0.14	0.19	0.33	53.1
West: Fiddens Wharf Road (W)														
10	L2	228	0	228	0.0	0.456	16.5	LOS B	2.3	16.0	0.75	1.11	1.09	38.3
Approach		228	0	228	0.0	0.456	16.5	LOS B	2.3	16.0	0.75	1.11	1.09	38.3
All Vehicles		3503	12	3503	0.3	0.815	3.9	NA	4.6	32.2	0.11	0.17	0.20	55.2

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

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

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

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

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ADDITIONAL TRAFFIC RESPONSE

Planning Proposal - 8A, 14 & 16 BUCKINGHAM ROAD, KILLARA



26 April 2021

Ref 19173

Ku-ring-gai Council
818 Pacific Highway
GORDON NSW 2072

Attn: Ms Alexandra Plumb

Dear Alexandra,

**PLANNING PROPOSAL
8A & 14-16 BUCKINGHAM ROAD, KILLARA
TRAFFIC & PARKING MATTERS**

I refer to the checklist attached to your letter dated 23 December 2020 requesting additional information in respect of the abovementioned planning proposal. The following advice is provided in response to the traffic and parking matters raised in your checklist.

1. The planning proposal is expected to yield 34 high-density residential dwellings above a basement car parking area, with vehicular access to the site to be provided via a two-way driveway off Buckingham Road.
2. The traffic analysis adopted the *average* traffic generation rates nominated in Roads and Maritimes' *Technical Direction TDT 2013/04a Updated Traffic Surveys* of 0.19 and 0.15 vehicle trips per hour for the high density residential component of the development proposal. The TfNSW advice that these *average* rates include Chatswood and St Leonards which have private vehicle Journey To Work mode shares at little as 25% is noted. However the *average* rates also include other sites which have private vehicle Journey To Work mode shares of 45% (Liberty Grove and Rockdale) to 60% (Cronulla). The use of the *average* rates derived from all sites surveyed was therefore considered the most appropriate.

It is noted in this regard that private vehicle Journey To Work *mode share* data may not be the most appropriate method for determining projected future traffic generation potential because:

- the JTW travel zones at Cronulla, Rockdale, Liberty Grove all include a high proportion of single, low density residential dwelling houses which traditionally generate much higher levels of traffic activity, as is confirmed by *TDT 2013/04a*
- despite having the highest JTW private vehicle mode share, the surveys conducted at the Cronulla site for *TDT 2013/04a* indicate that it also had the lowest traffic generation rate
- many of the dwelling houses located in those JTW travel zones are located more than a kilometre from the nearest railway station, and it is therefore not surprising that they generate higher levels of traffic activity than, say, a high density residential apartment which is located near a railway station in what is regarded by the Department of Planning as an "accessible area".

The results of the SIDRA capacity analysis of the Pacific Highway/Fiddens Wharf Road intersection are summarised in Table 2 below, revealing that the intersection will continue to operate at *Levels of Service “B” and “C”* during peak periods, with increases in total *average* vehicle delays of less than 1 second per vehicle.

TABLE 1 RESULTS OF SIDRA CAPACITY ANALYSIS PACIFIC HIGHWAY & BUCKINGHAM RD						
	Existing		Planning Proposal		Plus Golf Club P.P.	
	AM	PM	AM	PM	AM	PM
Level of Service:	A	A	A	A	A	A
Degree of Saturation:	0.251	0.278	0.261	0.279	0.279	0.282
Average Vehicle Delays:	0.5	0.3	0.5	0.3	0.5	0.3

TABLE 2 RESULTS OF SIDRA CAPACITY ANALYSIS PACIFIC HIGHWAY & FIDDENS WHARF ROAD						
	Existing		Planning Proposal		Plus Golf Club P.P.	
	AM	PM	AM	PM	AM	PM
Level of Service:	B	C	B	C	B	C
Degree of Saturation:	0.795	0.738	0.796	0.741	0.803	0.814
Average Vehicle Delays:	3.1	3.1	3.1	3.2	3.4	3.9

The SIDRA movement summaries are attached for your reference.

In summary, the SIDRA capacity analysis indicates that the proposed rezoning will not have any unacceptable traffic implications in terms of road network capacity.

Please do not hesitate to contact me on telephone 9904 3224 should you have any enquiries.

Yours sincerely



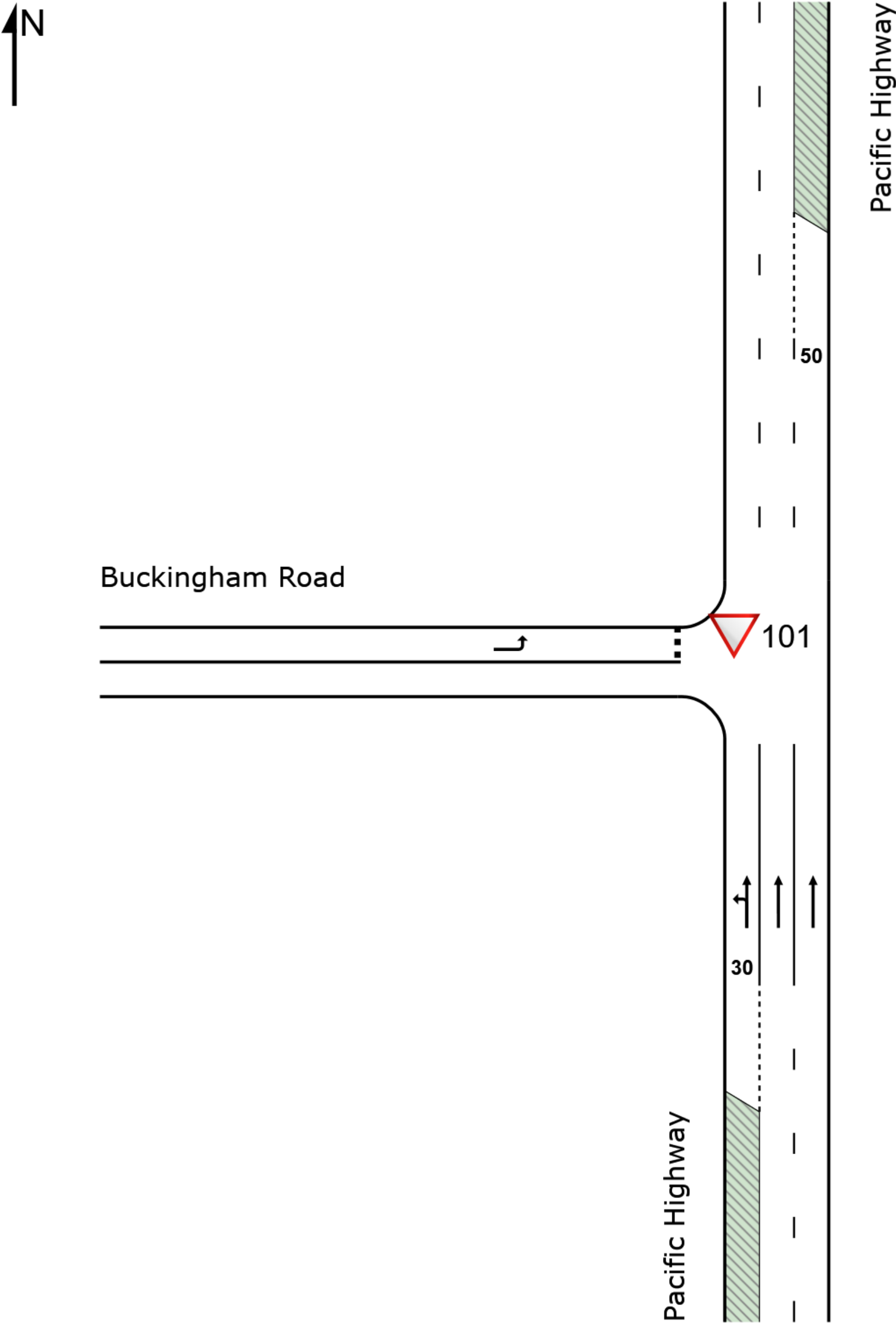
Robert Varga
Director
Varga Traffic Planning Pty Ltd

SITE LAYOUT

▽ Site: 101 [Existing AM (Site Folder: General)]

Pacific Highway & Buckingham Road Intersection
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

▼ Site: 101 [Existing AM (Site Folder: General)]

Pacific Highway & Buckingham Road Intersection
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway														
1	L2	23	0	23	0.0	0.261	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.0
2	T1	1123	37	1123	3.3	0.261	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		1146	37	1146	3.2	0.261	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.8
West: Buckingham Road														
10	L2	27	2	27	7.4	0.028	7.6	LOS A	0.1	0.8	0.47	0.64	0.47	51.9
Approach		27	2	27	7.4	0.028	7.6	LOS A	0.1	0.8	0.47	0.64	0.47	51.9
All Vehicles		1173	39	1173	3.3	0.261	0.5	NA	0.1	0.8	0.01	0.03	0.01	59.6

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

MOVEMENT SUMMARY

▼ Site: 101 [Existing PM (Site Folder: General)]

Pacific Highway & Buckingham Road Intersection
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway														
1	L2	50	0	50	0.0	0.278	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.7
2	T1	1566	15	1566	1.0	0.278	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		1616	15	1616	0.9	0.278	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
West: Buckingham Road														
10	L2	16	0	16	0.0	0.016	7.3	LOS A	0.1	0.4	0.46	0.62	0.46	52.2
Approach		16	0	16	0.0	0.016	7.3	LOS A	0.1	0.4	0.46	0.62	0.46	52.2
All Vehicles		1632	15	1632	0.9	0.278	0.3	NA	0.1	0.4	0.00	0.02	0.00	59.5

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

MOVEMENT SUMMARY

▼ Site: 101 [Proposed AM (Site Folder: General)]

Pacific Highway & Buckingham Road Intersection
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway														
1	L2	24	0	24	0.0	0.261	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.0
2	T1	1123	37	1123	3.3	0.261	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		1147	37	1147	3.2	0.261	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.8
West: Buckingham Road														
10	L2	32	2	32	6.2	0.033	7.5	LOS A	0.1	0.9	0.47	0.65	0.47	51.9
Approach		32	2	32	6.2	0.033	7.5	LOS A	0.1	0.9	0.47	0.65	0.47	51.9
All Vehicles		1179	39	1179	3.3	0.261	0.5	NA	0.1	0.9	0.01	0.03	0.01	59.5

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

MOVEMENT SUMMARY

▼ Site: 101 [Proposed PM (Site Folder: General)]

Pacific Highway & Buckingham Road Intersection
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway														
1	L2	54	0	54	0.0	0.279	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.7
2	T1	1566	15	1566	1.0	0.279	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		1620	15	1620	0.9	0.279	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
West: Buckingham Road														
10	L2	17	0	17	0.0	0.017	7.3	LOS A	0.1	0.4	0.46	0.62	0.46	52.2
Approach		17	0	17	0.0	0.017	7.3	LOS A	0.1	0.4	0.46	0.62	0.46	52.2
All Vehicles		1637	15	1637	0.9	0.279	0.3	NA	0.1	0.4	0.00	0.03	0.00	59.5

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

MOVEMENT SUMMARY

▼ Site: 101 [Proposed AM + GC (Site Folder: General)]

Pacific Highway & Buckingham Road Intersection
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway														
1	L2	24	0	24	0.0	0.279	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.0
2	T1	1203	37	1203	3.1	0.279	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		1227	37	1227	3.0	0.279	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.8
West: Buckingham Road														
10	L2	32	2	32	6.2	0.034	7.7	LOS A	0.1	0.9	0.48	0.66	0.48	51.8
Approach		32	2	32	6.2	0.034	7.7	LOS A	0.1	0.9	0.48	0.66	0.48	51.8
All Vehicles		1259	39	1259	3.1	0.279	0.5	NA	0.1	0.9	0.01	0.03	0.01	59.5

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

MOVEMENT SUMMARY

▼ Site: 101 [Proposed PM + GC (Site Folder: General)]

Pacific Highway & Buckingham Road Intersection
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway														
1	L2	54	0	54	0.0	0.282	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	57.7
2	T1	1586	15	1586	0.9	0.282	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		1640	15	1640	0.9	0.282	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
West: Buckingham Road														
10	L2	17	0	17	0.0	0.017	7.3	LOS A	0.1	0.4	0.46	0.63	0.46	52.2
Approach		17	0	17	0.0	0.017	7.3	LOS A	0.1	0.4	0.46	0.63	0.46	52.2
All Vehicles		1657	15	1657	0.9	0.282	0.3	NA	0.1	0.4	0.00	0.03	0.00	59.5

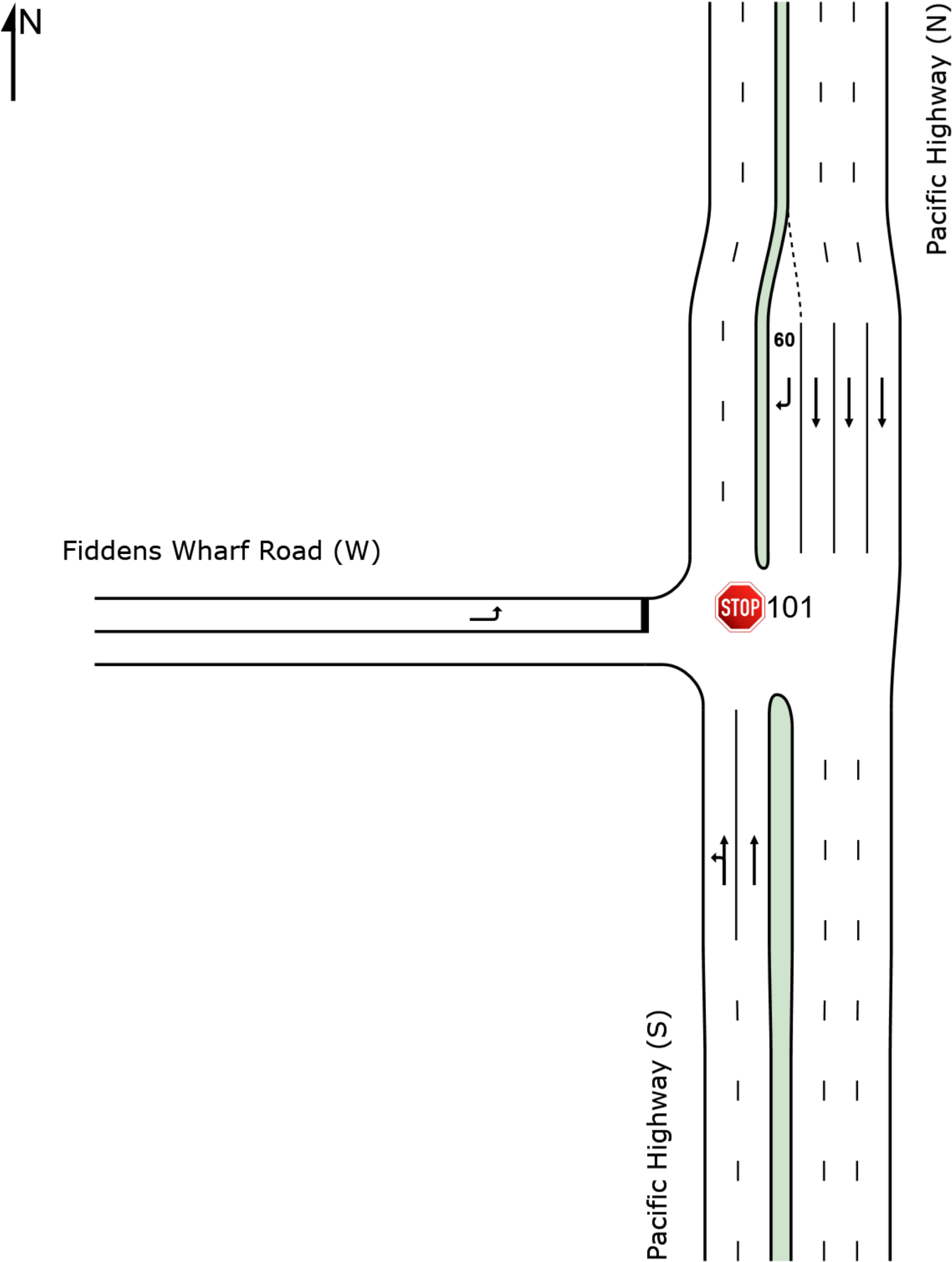
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS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

SITE LAYOUT

 Site: 101 [Existing AM (Site Folder: General)]

PAC_FIDX
Site Category: (None)
Stop (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

 Site: 101 [Existing AM (Site Folder: General)]

PAC_FIDX
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway (S)														
1	L2	80	0	80	0.0	0.298	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	55.7
2	T1	1057	33	1057	3.1	0.298	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.4
Approach		1137	33	1137	2.9	0.298	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.2
North: Pacific Highway (N)														
8	T1	2232	27	2232	1.2	0.388	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	438	0	438	0.0	0.795	22.1	LOS B	7.1	49.4	0.91	1.40	2.41	37.4
Approach		2670	27	2670	1.0	0.795	3.7	NA	7.1	49.4	0.15	0.23	0.40	55.6
West: Fiddens Wharf Road (W)														
10	L2	185	1	185	0.5	0.246	10.6	LOS A	1.0	7.0	0.54	0.97	0.54	41.2
Approach		185	1	185	0.5	0.246	10.6	LOS A	1.0	7.0	0.54	0.97	0.54	41.2
All Vehicles		3992	61	3992	1.5	0.795	3.1	NA	7.1	49.4	0.12	0.21	0.29	55.9

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

MOVEMENT SUMMARY

 Site: 101 [Existing PM (Site Folder: General)]

PAC_FIDX
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway (S)														
1	L2	112	0	112	0.0	0.484	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	55.8
2	T1	1767	7	1767	0.4	0.484	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
Approach		1879	7	1879	0.4	0.484	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.1
North: Pacific Highway (N)														
8	T1	1189	5	1189	0.4	0.205	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	184	0	184	0.0	0.738	36.7	LOS C	3.6	25.3	0.96	1.20	1.84	30.4
Approach		1373	5	1373	0.4	0.738	5.0	NA	3.6	25.3	0.13	0.16	0.25	54.5
West: Fiddens Wharf Road (W)														
10	L2	200	0	200	0.0	0.398	15.7	LOS B	1.9	13.1	0.73	1.09	0.99	38.1
Approach		200	0	200	0.0	0.398	15.7	LOS B	1.9	13.1	0.73	1.09	0.99	38.1
All Vehicles		3452	12	3452	0.3	0.738	3.1	NA	3.6	25.3	0.09	0.15	0.16	55.9

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

MOVEMENT SUMMARY

 Site: 101 [Proposed AM (Site Folder: General)]

PAC_FIDX
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway (S)														
1	L2	80	0	80	0.0	0.298	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	55.7
2	T1	1058	33	1058	3.1	0.298	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.4
Approach		1138	33	1138	2.9	0.298	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.2
North: Pacific Highway (N)														
8	T1	2236	27	2235	1.2	0.389	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
9	R2	438	0	438	0.0	0.796	22.1	LOS B	7.1	49.5	0.91	1.40	2.42	37.4
Approach		2674	27	2673	1.0	0.796	3.7	NA	7.1	49.5	0.15	0.23	0.40	55.6
West: Fiddens Wharf Road (W)														
10	L2	185	1	185	0.5	0.246	10.6	LOS A	1.0	7.0	0.54	0.97	0.54	41.2
Approach		185	1	185	0.5	0.246	10.6	LOS A	1.0	7.0	0.54	0.97	0.54	41.2
All Vehicles		3996	61	3996	1.5	0.796	3.1	NA	7.1	49.5	0.12	0.21	0.29	55.9

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

MOVEMENT SUMMARY

 Site: 101 [Proposed PM (Site Folder: General)]

PAC_FIDX
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway (S)														
1	L2	112	0	112	0.0	0.485	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	55.8
2	T1	1771	7	1771	0.4	0.485	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
Approach		1883	7	1883	0.4	0.485	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.1
North: Pacific Highway (N)														
8	T1	1190	5	1190	0.4	0.205	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	184	0	184	0.0	0.741	37.0	LOS C	3.6	25.5	0.96	1.20	1.86	30.3
Approach		1374	5	1374	0.4	0.741	5.0	NA	3.6	25.5	0.13	0.16	0.25	54.5
West: Fiddens Wharf Road (W)														
10	L2	200	0	200	0.0	0.399	15.7	LOS B	1.9	13.1	0.73	1.09	0.99	38.1
Approach		200	0	200	0.0	0.399	15.7	LOS B	1.9	13.1	0.73	1.09	0.99	38.1
All Vehicles		3456	12	3456	0.3	0.741	3.2	NA	3.6	25.5	0.09	0.15	0.16	55.9

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

MOVEMENT SUMMARY

 Site: 101 [Proposed AM + GC (Site Folder: General)]

PAC_FIDX
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway (S)														
1	L2	80	0	80	0.0	0.298	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	55.7
2	T1	1058	33	1058	3.1	0.298	0.1	LOS A	0.0	0.0	0.00	0.04	0.00	59.4
Approach		1138	33	1138	2.9	0.298	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.2
North: Pacific Highway (N)														
8	T1	2236	27	2236	1.2	0.460	0.5	LOS A	2.8	19.6	0.14	0.00	0.14	59.2
9	R2	442	0	442	0.0	0.803	22.5	LOS B	7.3	51.0	0.91	1.42	2.48	37.1
Approach		2678	27	2678	1.0	0.803	4.2	NA	7.3	51.0	0.26	0.23	0.52	55.1
West: Fiddens Wharf Road (W)														
10	L2	192	1	192	0.5	0.255	10.7	LOS A	1.1	7.4	0.54	0.97	0.55	41.4
Approach		192	1	192	0.5	0.255	10.7	LOS A	1.1	7.4	0.54	0.97	0.55	41.4
All Vehicles		4007	61	4007	1.5	0.803	3.4	NA	7.3	51.0	0.20	0.21	0.38	55.5

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

MOVEMENT SUMMARY

 Site: 101 [Proposed PM + GC (Site Folder: General)]

PAC_FIDX
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total HV] veh/h veh/h		DEMAND FLOWS [Total HV] veh/h %		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. Dist] veh m		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Pacific Highway (S)														
1	L2	112	0	112	0.0	0.485	5.7	LOS A	0.0	0.0	0.00	0.07	0.00	55.8
2	T1	1771	7	1771	0.4	0.485	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.3
Approach		1883	7	1883	0.4	0.485	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.1
North: Pacific Highway (N)														
8	T1	1190	5	1190	0.4	0.205	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
9	R2	202	0	202	0.0	0.814	44.1	LOS D	4.6	32.1	0.97	1.31	2.26	27.8
Approach		1392	5	1392	0.4	0.814	6.4	NA	4.6	32.1	0.14	0.19	0.33	53.1
West: Fiddens Wharf Road (W)														
10	L2	228	0	228	0.0	0.455	16.5	LOS B	2.3	16.0	0.75	1.11	1.09	38.3
Approach		228	0	228	0.0	0.455	16.5	LOS B	2.3	16.0	0.75	1.11	1.09	38.3
All Vehicles		3502	12	3502	0.3	0.814	3.9	NA	4.6	32.1	0.11	0.17	0.20	55.2

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