



TRANSPORT IMPACT ASSESSMENT

PROPOSED RETIREMENT FACILITY AND COMMERCIAL
DEVELOPMENT

LOT 8001 BARINGA DRIVE, BARINGA

Prepared for

PLANTATION RETIREMENT RESORTS

4 SEPTEMBER 2024

DOCUMENT REGISTER

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Prepared by Luke Rytenskild

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1.0 INTRODUCTION

Rytenskild Traffic Engineering (RTE) has been engaged by Plantation Retirement Resorts to prepare a Transport Impact Assessment for its proposed retirement facility and commercial development at Baringa.

This report forms part of a Development Application to be lodged with Economic Development Queensland (EDQ). The following issues have been addressed during the study:

- Car parking supply and design;
- On-site traffic circulation;
- Driveway and access arrangements;
- Pedestrian facilities;
- Bicycle parking and end-of-trip facilities for cyclists;
- Waste collection vehicle access and manoeuvrability;
- Delivery vehicle/loading facilities;
- Road network impact.

2.0 SUBJECT SITE

As shown in Figure 2.1, the subject site is located on the western side of Baringa Drive and the eastern side of Leslie Crescent, and is identified as Lot 4000 on SP312963.

The site is located within the Priority Development Area (PDA), in Sub-precinct 2.8 of the Caloundra South Northern Locality – Precinct 2 and Part of Precinct 6 Plan of Development (POD).

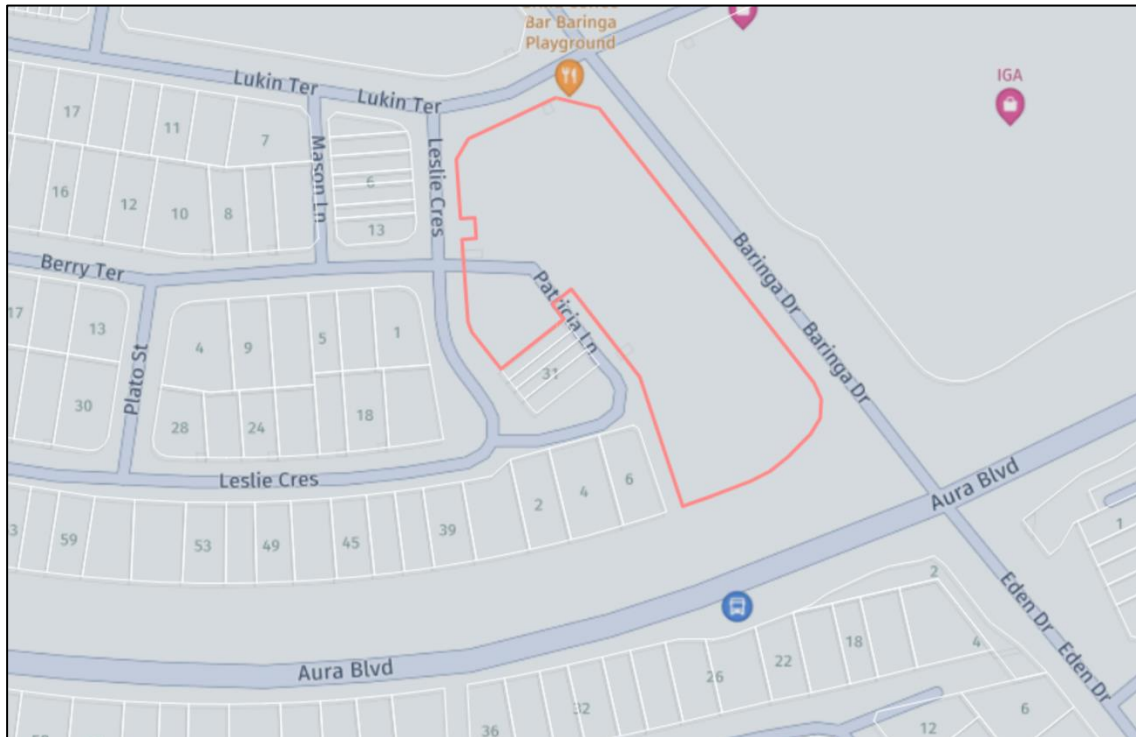


FIGURE 2.1 – LOCATION OF SUBJECT SITE

3.0 ROAD NETWORK

3.1 Surrounding Road Network

Adjacent to the site, Baringa Drive is a divided two-lane road with a single lane of travel in each direction, and has a posted speed limit of 50km/hr.

To the north of the site, Baringa Drive connects to Lukin Terrace via a signalised four-way intersection. Lukin Terrace is a two-lane road with a single lane of travel in each direction, and has a posted speed limit of 40km/hr.

To the south of the site, Baringa Drive connects to Aura Boulevard via a signalised intersection. Aura Boulevard generally comprises of two lanes with a single lane of travel in each direction, and has a posted speed limit of 60km/hr.

The Baringa Drive / Lukin Terrace and Aura Boulevard / Baringa Drive intersections are shown in Figures 3.1 and 3.2.



FIGURE 3.1 – AERIAL OF THE BARINGA DRIVE / LUKIN TERRACE INTERSECTION

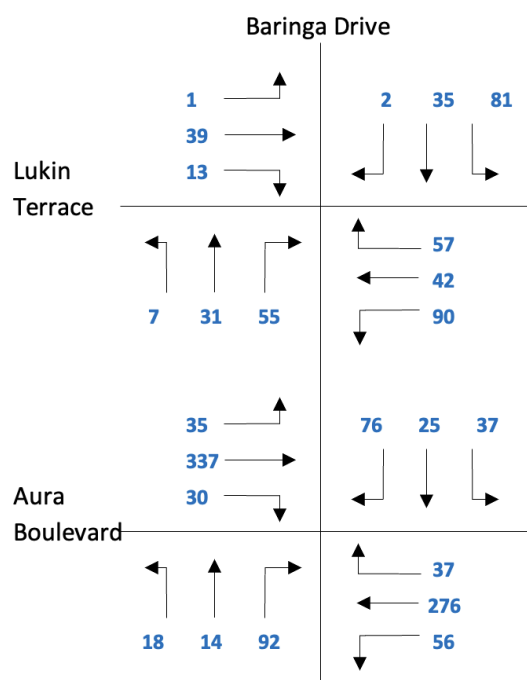


FIGURE 3.2 – AERIAL OF THE AURA BOULEVARD / BARINGA DRIVE INTERSECTION

3.2 Surveyed traffic volumes

RTE carried out traffic surveys at the Baringa Drive / Lukin Terrace and Aura Boulevard / Baringa Drive intersections on Friday 12th July 2024. A summary of the surveyed peak hour volumes is provided in Figure 3.3 below.

AM PEAK HOUR TRAFFIC VOLUMES (7.45AM - 8.45AM FRI 12 JULY 2024)



PM PEAK HOUR TRAFFIC VOLUMES (3.00PM - 4.00PM FRI 12 JULY 2024)

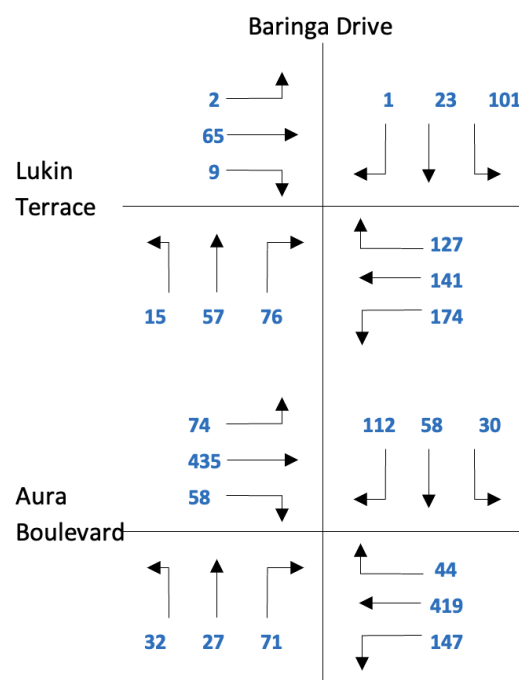


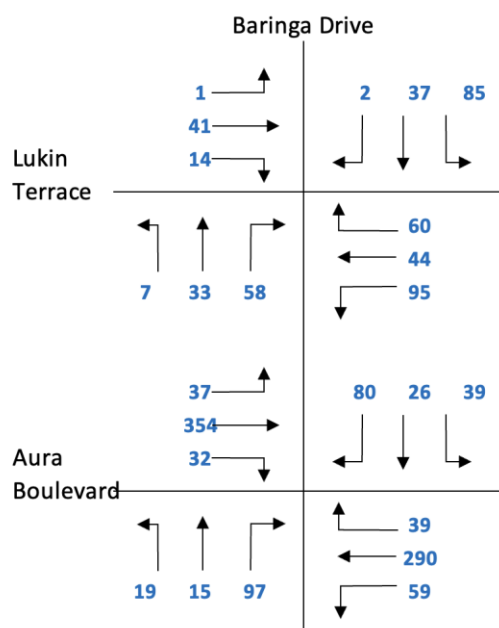
FIGURE 3.3 – SURVEYED PEAK HOUR TRAFFIC VOLUMES AT THE BARINGA DRIVE / LUKIN TERRACE AND AURA BOULEVARD / BARINGA DRIVE INTERSECTIONS

3.3 Forecast future traffic volumes

Projected future (year 2026) background traffic volumes have been estimated through the application of a 2.5% per annum growth rate. Resultant estimates are shown in Figure 3.4.

AM PEAK HOUR TRAFFIC VOLUMES

Background 2026 Peak Traffic



PM PEAK HOUR TRAFFIC VOLUMES

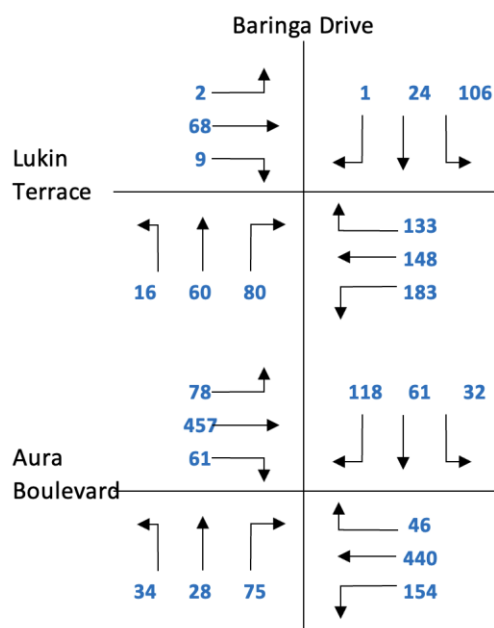


FIGURE 3.4 – PROJECTED FUTURE (YEAR 2026) PEAK HOUR TRAFFIC VOLUMES AT THE BARINGA DRIVE / LUKIN TERRACE AND AURA BOULEVARD / BARINGA DRIVE INTERSECTIONS

4.0 PROPOSED DEVELOPMENT

The proposed plan of development is for a 73-unit plus 1 managers unit, retirement village and mixed-use commercial development featuring a medical centre, food and beverage outlet and office. The proposed area breakdown is as follows.

Commercial Development:

Office:	650m ²
Food and Beverage Outlet:	262m ²

The proposal provides a total of 144 spaces, comprising of:

- Residents - 97 spaces
- Residential visitors - 7 spaces including a PWD space
- Commercial – 40 spaces including a PWD space
- **Total: 144 spaces**

The proposal includes a single access point located towards the southern end of Baringa Drive for both residential and commercial use. Additionally, it is proposed that a separate exit-only access point be provided off Patricia Lane exclusively for service vehicles.

The proposed ground floor plan is shown in Figure 4.1.

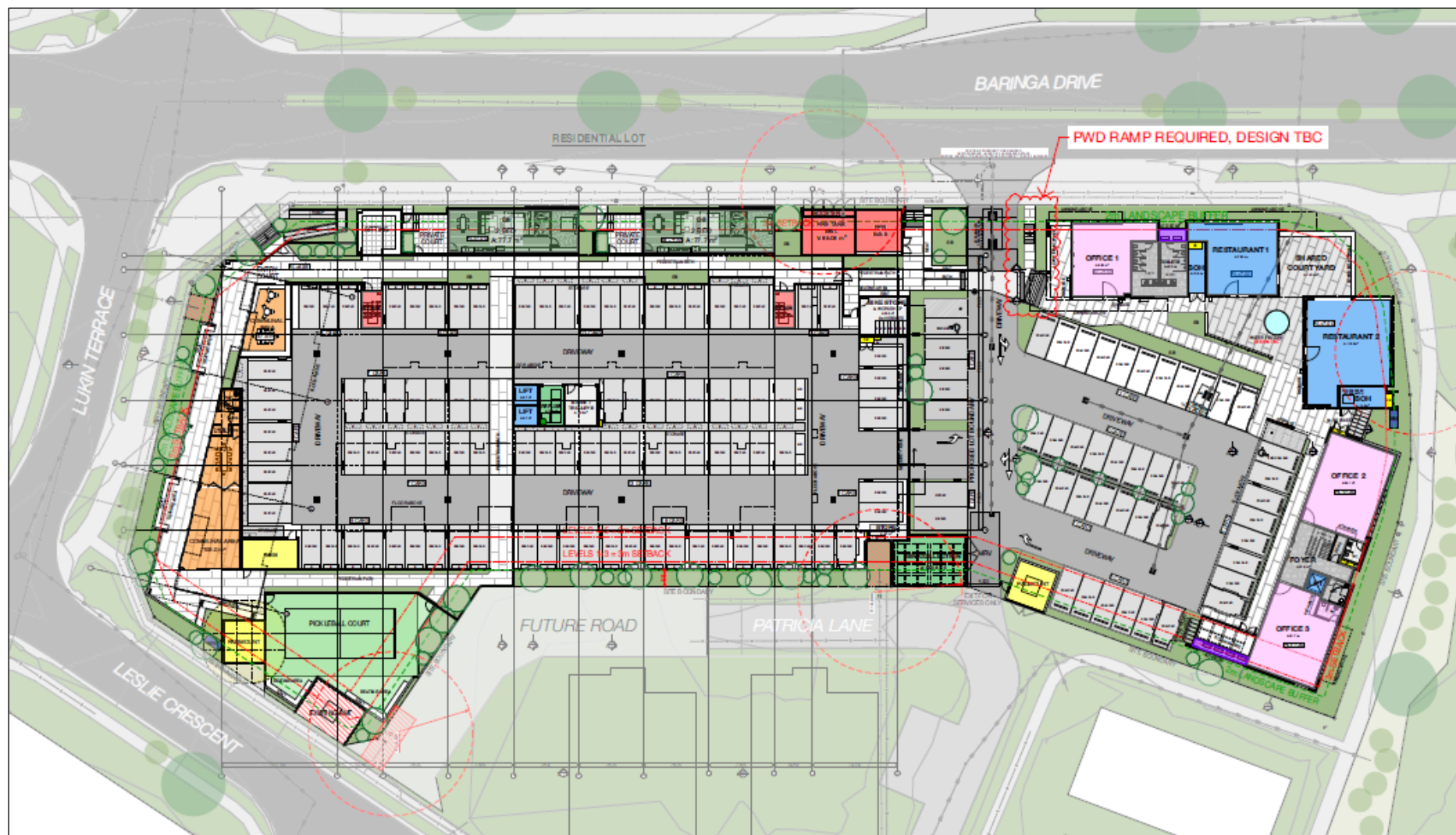


FIGURE 4.1 – PROPOSED GROUND FLOOR PLAN

5.0 CAR PARKING

5.1 Car Parking Supply

The subject site is located in Sub-precinct 2.8 of the Caloundra South Northern Locality – Precinct 2 and Part of Precinct 6 Plan of Development (POD). Appendix H of the POD states that the following car parking rates are applicable to the proposed land uses:

Other Residential:

1 space/unit (covered)
 1 visitor space / 10 units

Business:

1 space / 40m² GFA

Food Premises:

1 space / 20m² GFA

Application of the above rate results in a minimum requirement of 124 car parking spaces, as follows:

Table 5.1: Car Parking requirements under POD

Component	Minimum Car Parking Spaces Required
Retirement Facility (73 units)	73 spaces
Visitors (73 units)	7.3 (8) spaces
Retirement sub-total	81 spaces
Business (Office / medical centre): 1147m ²	28.7 (29) spaces
Food Premises: 278m ²	13.9 (14) spaces
Commercial sub-total	43 spaces
Total	124 spaces

The proposal provides a total of 144 spaces, comprising the following:

- Residents - 97 spaces
- Residential visitors - 7 spaces including a PWD space
- Commercial – 40 spaces including a PWD space
- **Total: 144 spaces**

The proposed car parking provisions therefore exceed the minimum requirements of the Plan of Development.

5.2 Car Parking Design

The geometric layout of the proposed parking facilities has generally been designed to comply with the relevant requirements specified in the AS2890.1: 2004. A summary of the proposed car parking characteristics is provided in Table 4.1.

Table 4.1 – Car Parking Design Characteristics

Design Aspect	Minimum Standard	Proposed Provision	Compliance
Parking space length: - Visitor - Staff	5.4 metres 5.4 metres	5.4 metres 5.4 metres	Compliant Compliant
Parking space width: - Visitor - Staff	2.5 metres 2.4 metres	2.7 metres 2.7 metres	Compliant Compliant
Aisle Width: - Parking aisle - Circulation aisle	5.8 metres 5.5 metres	>5.8 metres >5.5 metres	Compliant Compliant
Maximum Gradient - Parking Bay - Parking Aisle - Ramp	1:20 (5.0%) 1:16 (6.25%) 1:40 (2.5%)	<1:20 (5.0%) <1:20 (5.0%) <1:4 (25%)	Compliant
Maximum Change in Grade	1:8 (12.5%) summit 1:6.67 (15.0%) sag	<1:8 (12.5%) summit <1:8 (12.5%) sag	Compliant
Height Clearance - General Min. - Absolute Min.	2.2 metres N/A	>2.2 metres	Compliant
Parking Aisle Extension	1 metre beyond last bay	2.0 metres	Compliant

The proposed car parking dimensions are shown in Figure 5.1.

A swept path analysis of the proposed car park indicates that the required design vehicle will be able to access and manoeuvre within the facility satisfactorily. Swept path diagrams for B85 and B99 vehicles are provided in Figures 5.2 – 5.7.

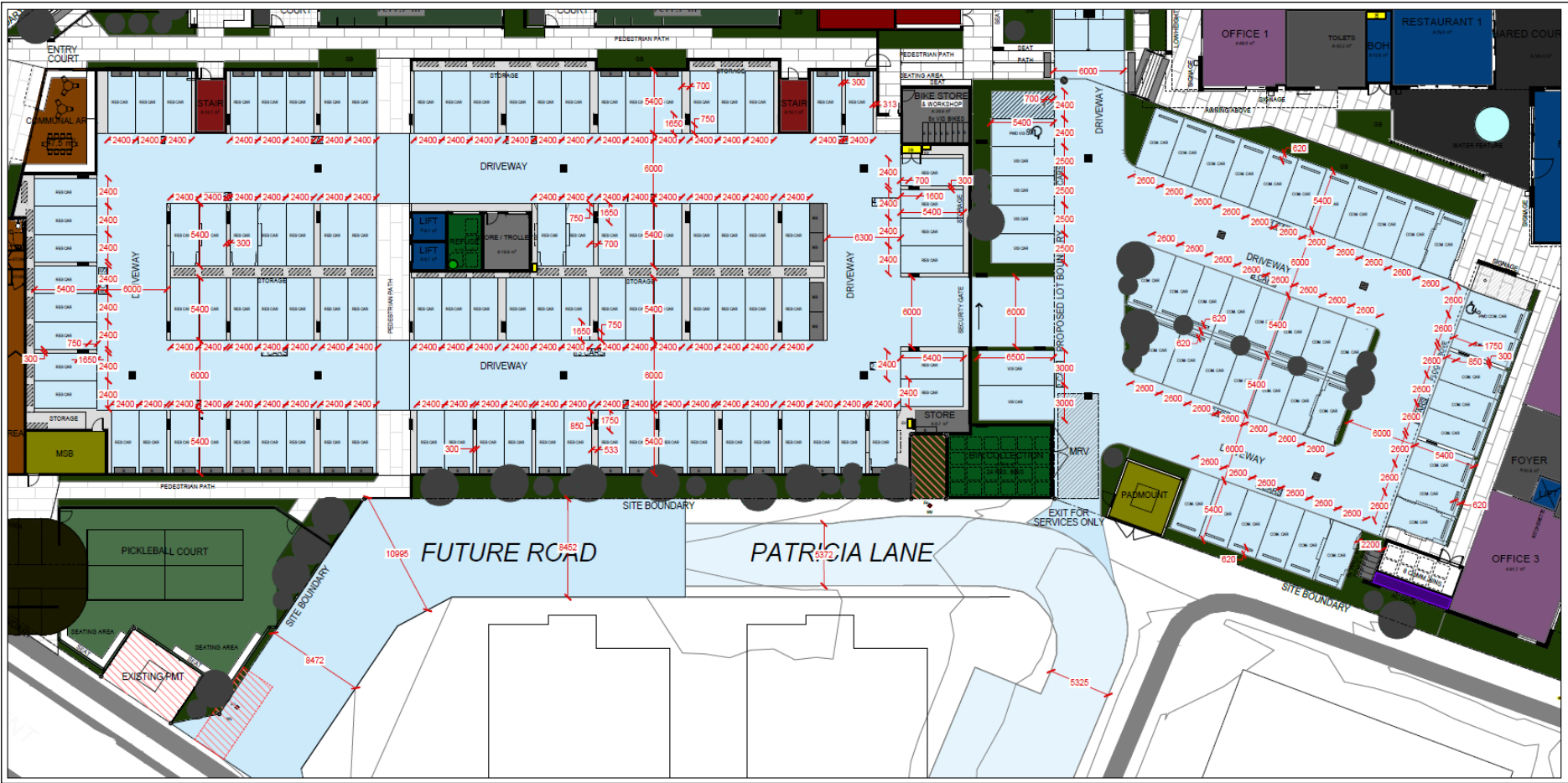


FIGURE 5.1 – DIMENSIONED CAR PARKING PLAN



FIGURE 5.2 – SWEEP PATH OF 85TH PERCENTILE VEHICLES

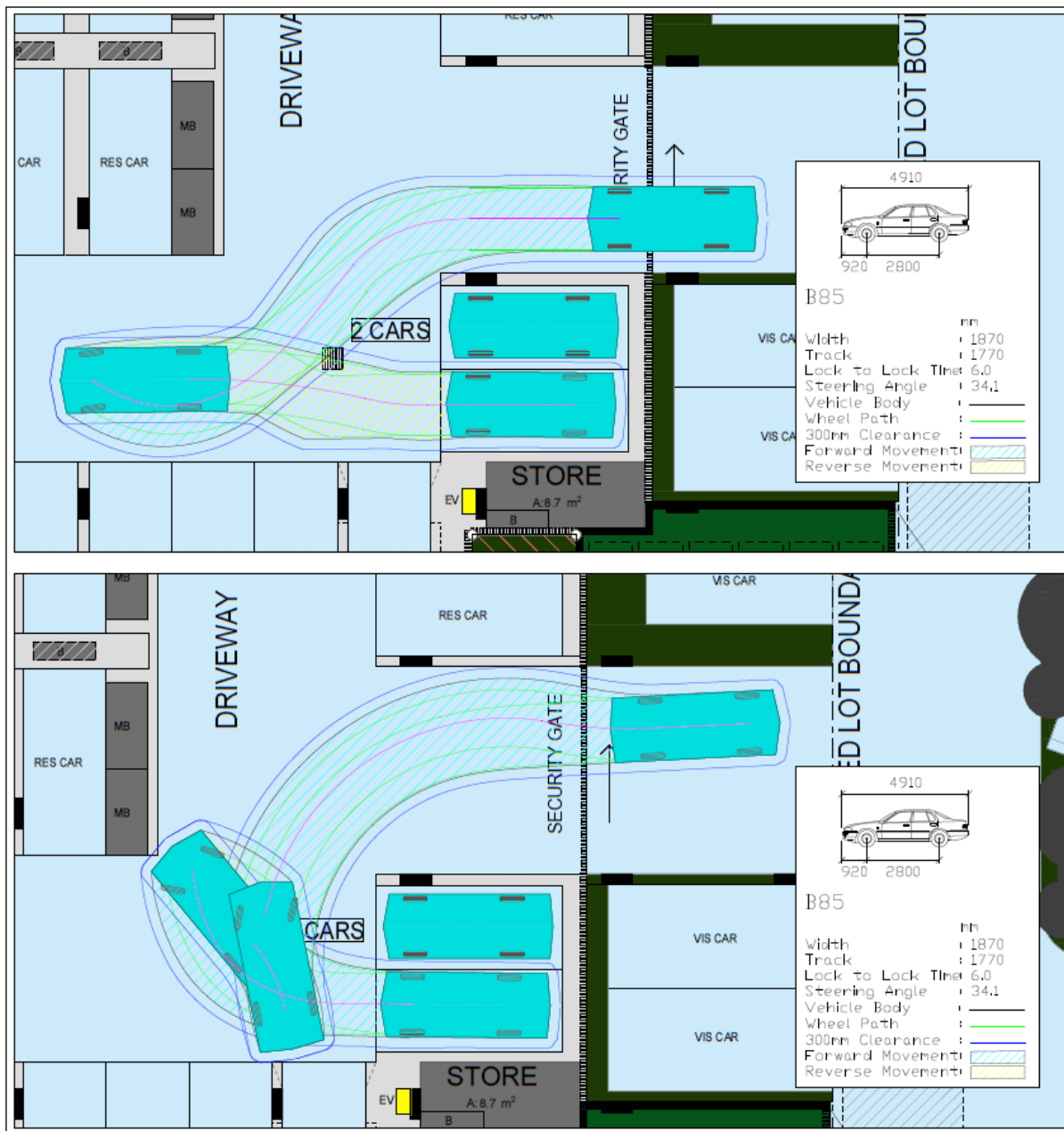


FIGURE 5.3 – SWEEP PATH OF 85TH PERCENTILE VEHICLES

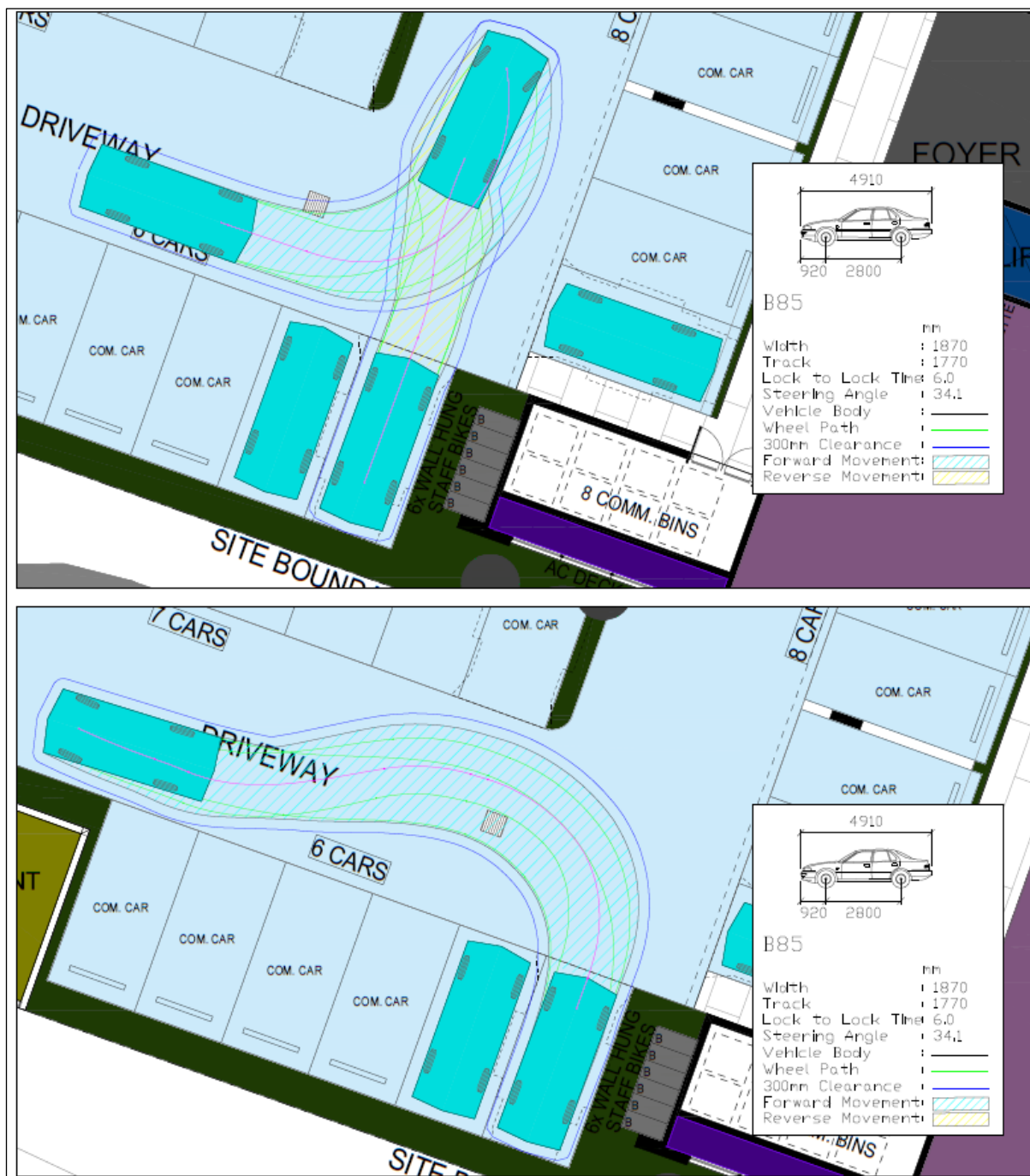


FIGURE 5.4 – SWEEP PATH OF 85TH PERCENTILE VEHICLES

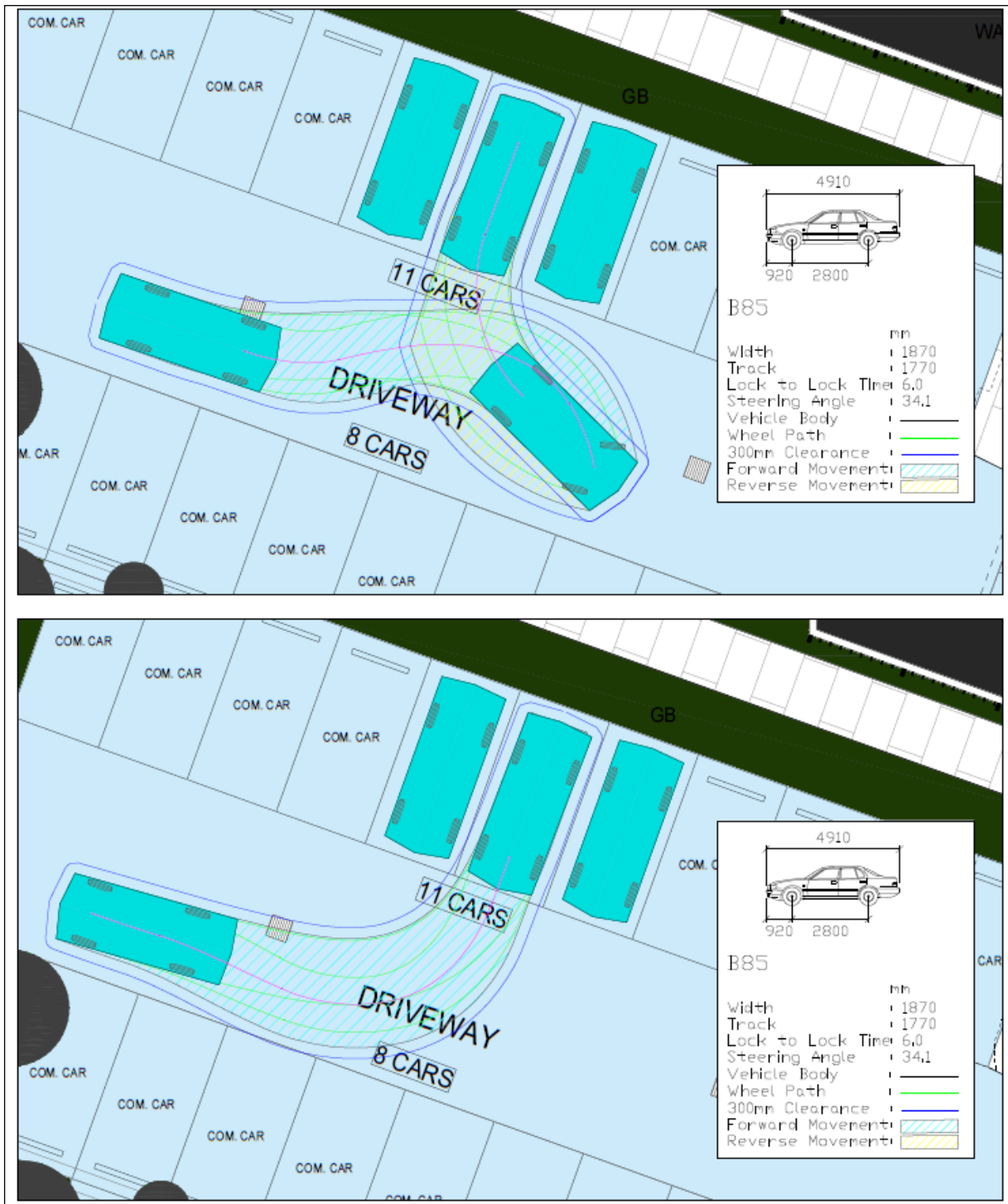


FIGURE 5.5 – SWEEP PATH OF 85TH PERCENTILE VEHICLES

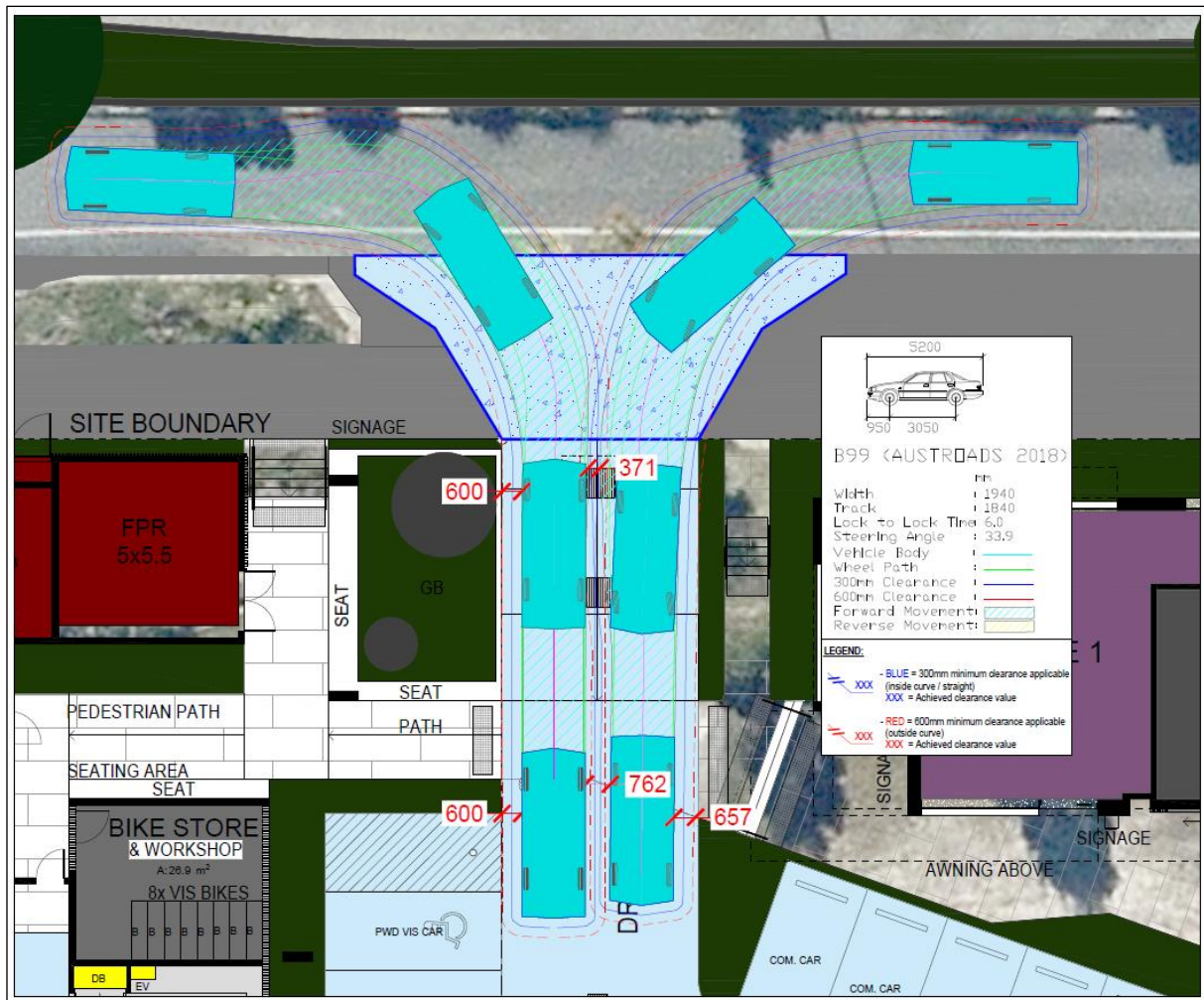


FIGURE 5.6 – SWEEP PATH OF 99TH PERCENTILE VEHICLES

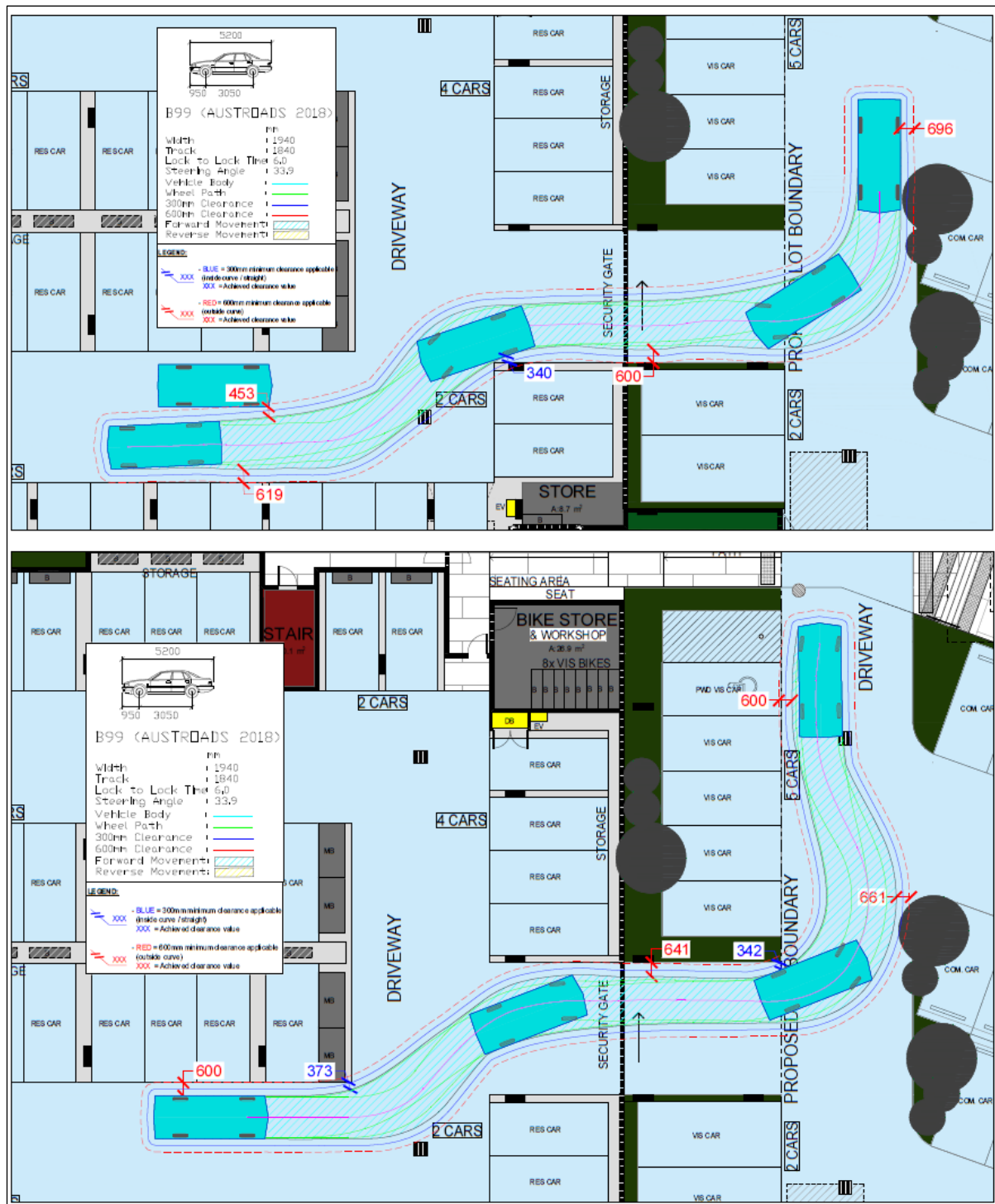


FIGURE 5.7 – SWEEP PATH OF 99TH PERCENTILE VEHICLES

6.0 PROPOSED ACCESS ARRANGEMENTS

The proposal includes a single access point located towards the southern end of Baringa Drive for both residential and commercial use. Additionally, it is proposed that a separate exit-only access point be provided off Patricia Lane exclusively for service vehicles.

As shown in Figure 6.1 and 6.2, the proposed vehicle crossovers have been designed to a heavy-duty type standard in accordance with the IPWEA Standard Drawing RS-051. As shown, a pedestrian sight splay has been provided on the departure side of each driveway in accordance with AS2890.1:2004.



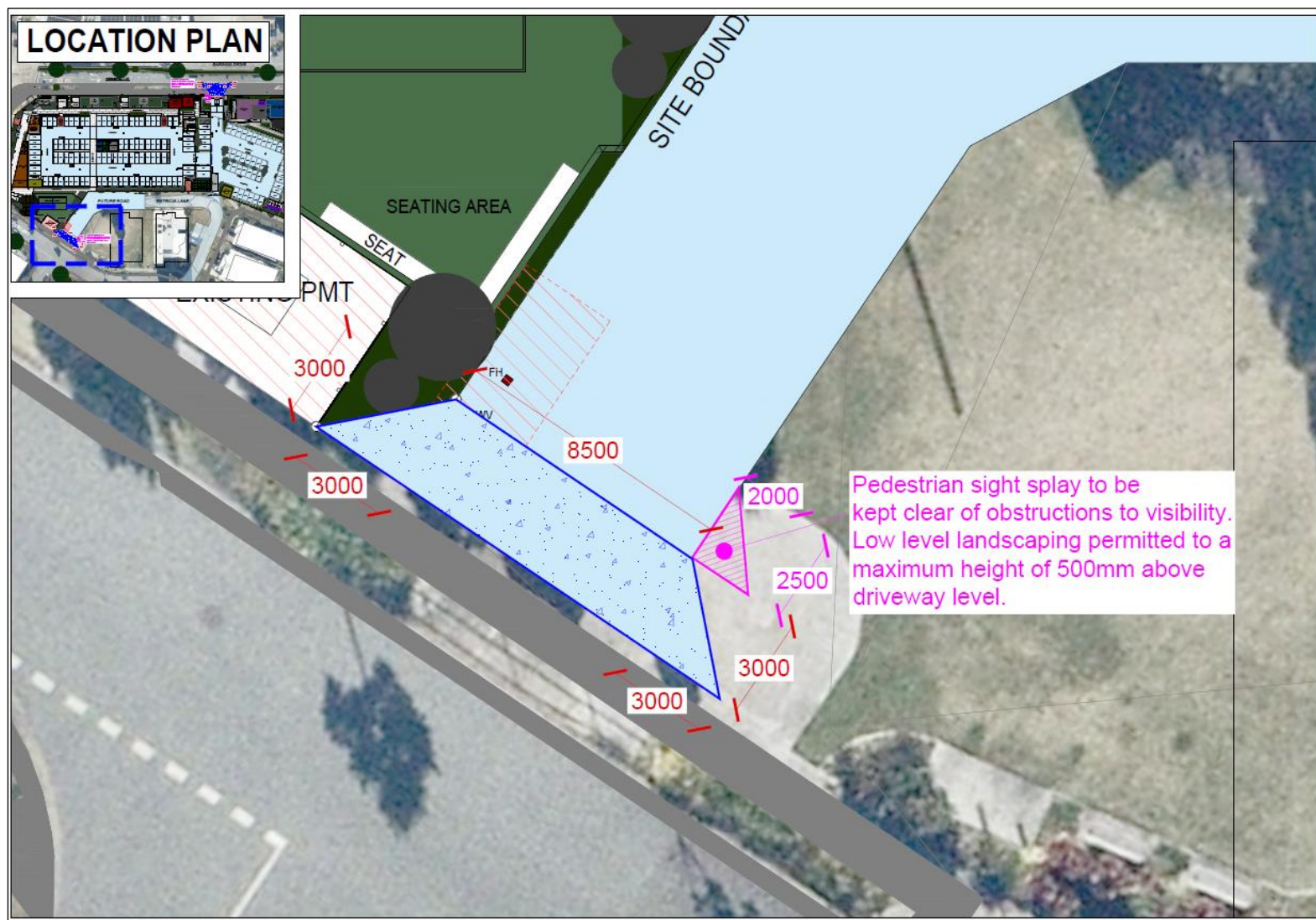


FIGURE 6.1 – PROPOSED LAYOUT AND DIMENSIONS OF VEHICLE CROSSOVER

7.0 PROVISION FOR SERVICE VEHICLES

Appendix H of the Caloundra South Northern Locality – Precinct 2 and Part of Precinct 6 Plan of Development (POD) states that the following service vehicle spaces are required for the proposed land uses:

- | | |
|---|----------------------------|
| • Other Residential (> 20 dwellings) - | Medium Rigid Vehicle (MRV) |
| • Business (> 600m ² GFA) - | 1 x Van, 1 x SRV, 1 x MRV |
| • Food Premises (> 200m ² < 600m ² GFA) - | 1 x Van, 1 x MRV. |

As shown in Figures 7.1 and 7.2, a Small Rigid Vehicle (SRV) can satisfactorily load within the larger visitor car spaces adjacent to the MRV loading bay and bin collection point.

The proposal provides a loading zone suitable for a Medium Rigid Vehicle (MRV). As shown in Figures 7.3 and 7.4, both a MRV and WCV can satisfactorily manoeuvre through the site and exit in a forward gear via the exclusive service vehicle exit point.

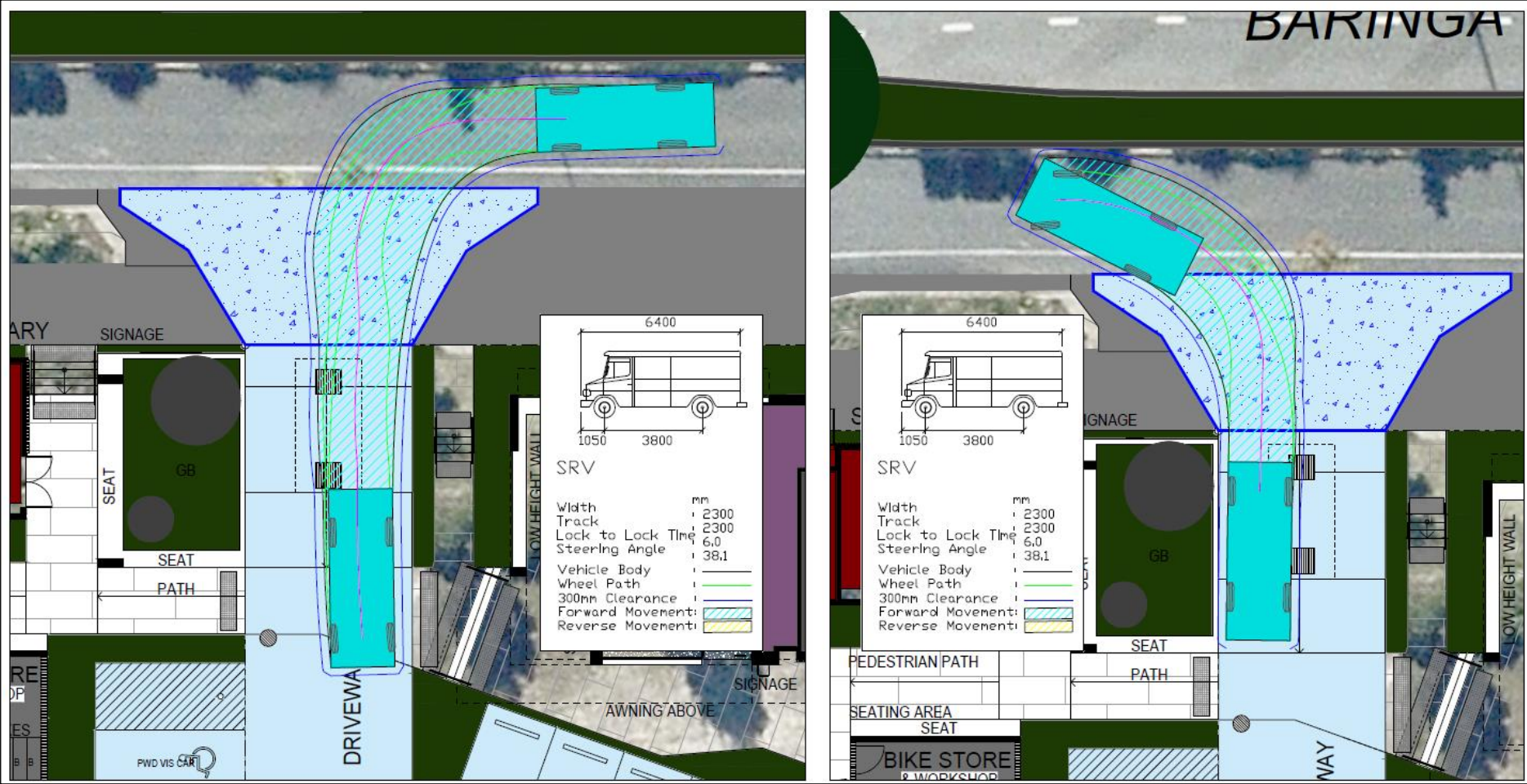


FIGURE 7.1 – SWEEP PATH OF A SMALL RIGID VEHICLE (SRV)

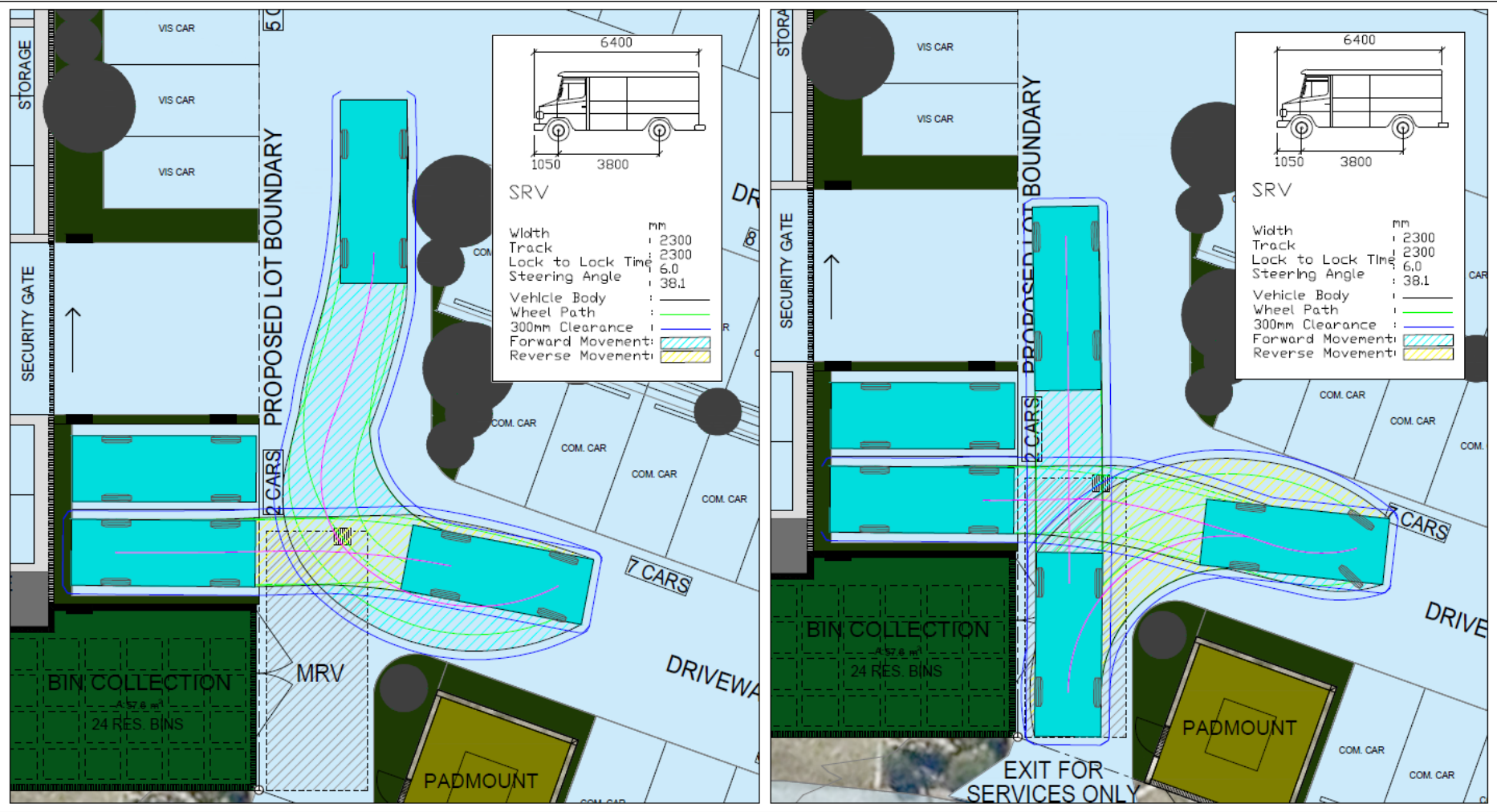


FIGURE 7.2 – SWEEP PATH OF A SMALL RIGID VEHICLE (SRV)

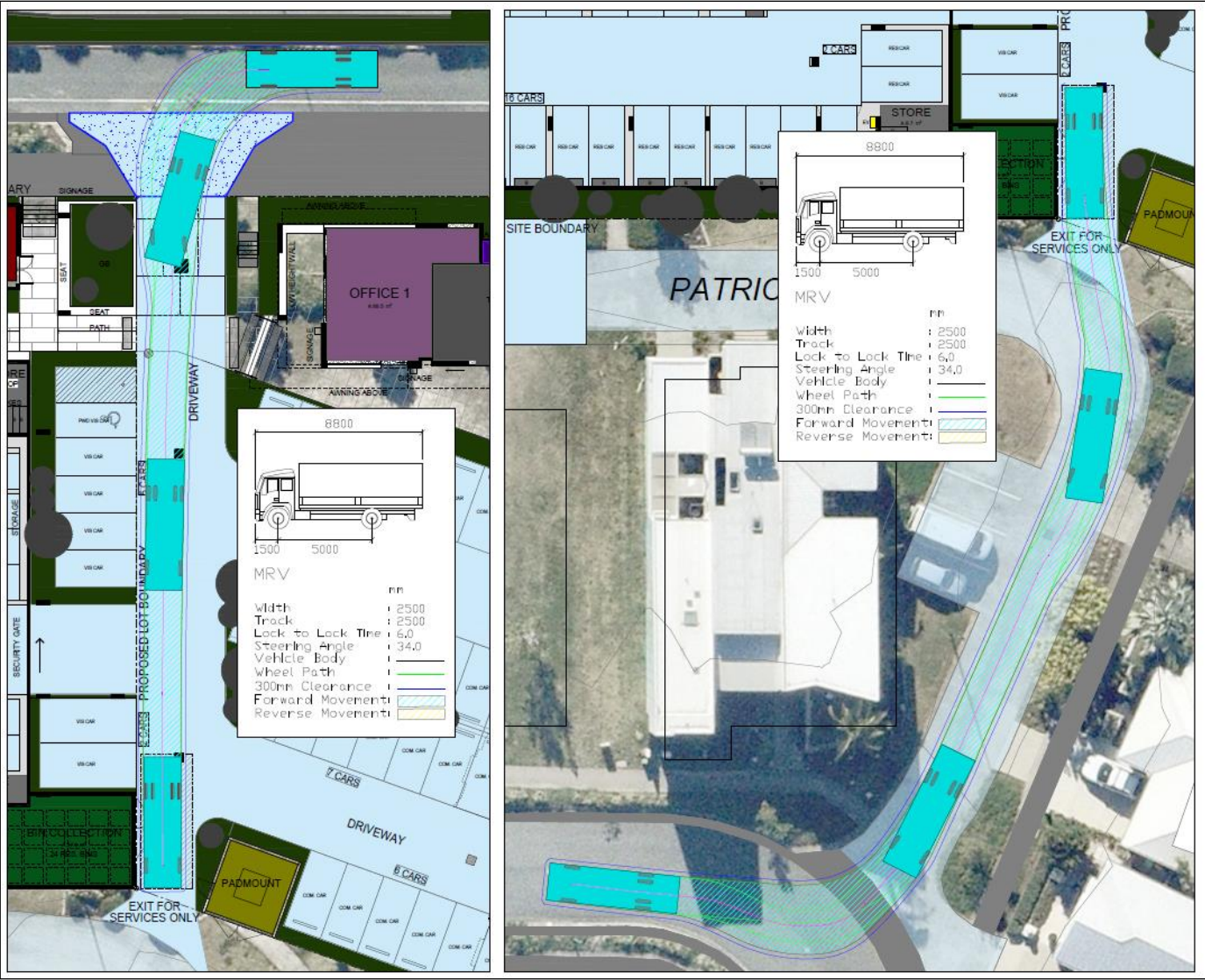


FIGURE 7.3 – SWEEP PATH OF A MEDIUM RIGID VEHICLE (MRV)

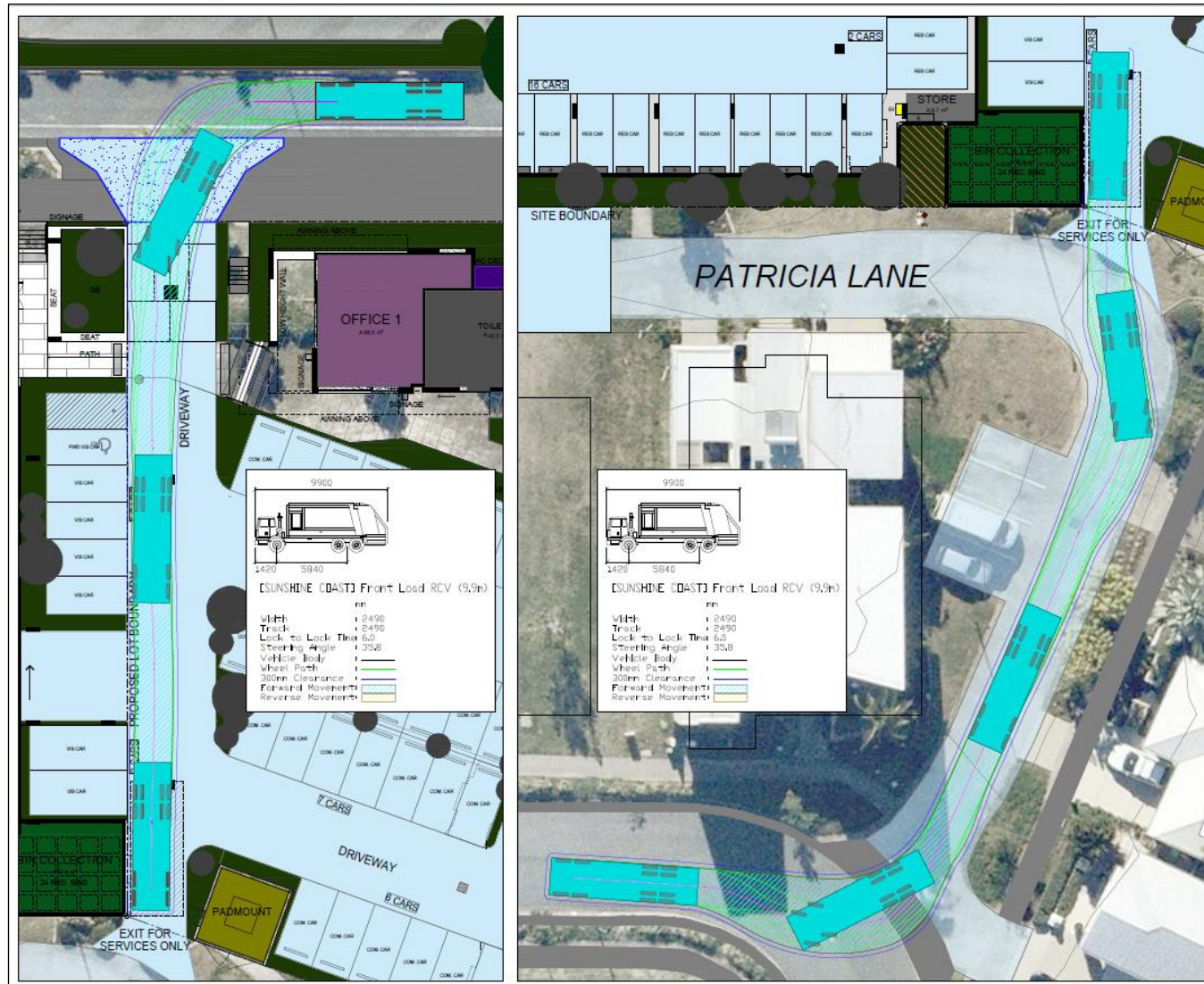


FIGURE 7.4 – SWEEP PATH OF A WASTE COLLECTION VEHICLE (WCV)

8.0 PROVISION FOR CYCLISTS

Appendix H of the Caloundra South Northern Locality – Precinct 2 and Part of Precinct 6 Plan of Development (POD) states that the following bicycle parking and end of trip facilities are required for the proposed land uses:

- Other Residential - 1 space per unit for residents + 1 space per 10 units for visitors
- Business - 1 employee space / 190m² GFA + 3 customer spaces
- Food Premises - 1 employee space / 190m² GFA + 3 customer spaces

Application of the above rates results in the following minimum requirements for the proposal:

Table 8.1: Bicycle Parking requirements under POD

Component	Minimum Car Parking Spaces Required
Retirement Facility (73 units)	73 spaces
Visitors (73 units)	7.3 (8) spaces
Retirement sub-total	81 spaces
Business (Office / medical centre): 1147m ²	6 spaces for employees / 3 visitor spaces
Food Premises: 278m ²	2 spaces for employees / 3 visitor spaces
Commercial sub-total	8 spaces for employees / 6 visitor spaces

It is noted that the above rate for residential is considered to be excessive where such facilities are provided in a common facility, particularly for a retirement development where there is typically a lower demand for bicycle travel. Austroads only requires parking at a rate of 1 space / 3 units where parking is provided in a common facility.

The proposal provides 77 secured bicycle spaces for residents and employees, and 8 spaces for residential visitors. Visitor parking (6 spaces) for the commercial uses will be provided near the tenancies.

9.0 TRAFFIC IMPACT

9.1 General

The surrounding road network forms part of a master plan which has been designed to cater for development that is consistent with the Plan of Development. Given that the proposed uses and scale of development is consistent with the Plan of Development, it is considered that the surrounding road network has been designed to cater for the proposal. Notwithstanding this, a review of the operation of nearby intersections has been carried out.

9.2 Road Network Operations

Development traffic estimates

The following trip generation rates are typically applied to the proposed land uses:

Office -	2 peak hour trips per 100m ² of GFA
Medical Centre -	4 peak hour trips per 100m ² of GFA
Food premises -	4 peak hour trips per 100m ² of GFA
Retirement units -	0.2 peak hour trips per dwelling

It is noted that the above reduced traffic generation rates are considered to be appropriate given the accessible location of the site within a master planned community. As shown in Table 9.1 below, the proposal has a traffic-generating potential of approximately 59.

Table 9.1 - Estimated Development Traffic Generation

Component	Morning Peak Hour			Afternoon Peak Hour		
	In	Out	Total	In	Out	Total
Independent Living Units: 73 units	9	6	15	6	9	15
Office: 677sqm	8	5	13	5	8	13
Food and Beverage Outlet: 278sqm	7	5	12	5	7	12
Medical Centre: 470sqm	11	8	19	8	11	19
Total:	35	24	59	24	35	59

Peak Hour Distribution: AM/PM – 60/40

The following trip distribution is considered to be reasonable and is based on surveyed traffic volumes:

- 30% to and from the north
 - 15% to and from the east along Lukin Terrace
 - 10% to and from the north along Baringa Drive
 - 5% to and from the west along Lukin Terrace
- 70% to and from the south
 - 40% to and from the west along Aura Boulevard
 - 20% to and from the east along Aura Boulevard
 - 10% to and from the south along Aura Boulevard

Resultant estimates of peak hour development traffic movements are shown in Figure 9.1.

Intersection performance

Road network modelling using SIDRA software has been carried out at the Aura Boulevard / Baringa Drive intersection for the year 2026 (anticipated year of commencement).

A summary of the SIDRA results are provided as Appendix B. As shown, the modelling indicates that each intersection will function satisfactorily under projected future traffic volumes.

10.0 SUMMARY OF CONCLUSIONS & RECOMMENDATIONS

- The proposed plan of development is for a 73-unit retirement village and mixed-use commercial development featuring a medical centre, food and beverage outlet and office.
- The proposal includes the following car parking breakdown:
 - 97 residential spaces;
 - 7 visitor residential spaces;
 - 40 commercial spaces.
 - **Total: 144 spaces**
- The minimum number of car parking spaces required under the Transport and Parking code is the provision of at least 124 car parking spaces. The proposed car parking provisions therefore exceed the minimum requirements of the Plan of Development.
- The geometric layout of the proposed parking facilities has generally been designed to comply with the relevant requirements specified in the AS2890.1: 2004.
- The proposal includes a single access point located towards the southern end of Baringa Drive for both residential and commercial use. Additionally, it is proposed that a separate exit-only access point be provided off Patricia Lane exclusively for service vehicles.
- The proposed vehicle crossovers have been designed to a heavy-duty type standard in accordance with the IPWEA Standard Drawing RS-051. As shown, a pedestrian sight splay has been provided on the departure side of each driveway in accordance with AS2890.1:2004.
- In accordance with the Transport and Parking Code, the proposal for the Retirement Facility necessitates the provision of service vehicles up to the size of a Medium Rigid Vehicle (MRV).
- As shown by swept path analysis, a MRV can satisfactorily manoeuvre through the site and exit in a forward gear.
- It is estimated that the proposal would generate in the order of 59 vehicles per hour during its peak periods of generation. It is noted that the above reduced traffic generation rates are considered to be appropriate given the accessible location of the site within a master planned community
- The SIDRA output for the year 2026 (with development) is shown in Appendix C. As shown, the modelling indicates that the proposed surveyed intersection and access site intersection will function satisfactorily with the proposed development.

APPENDICES

APPENDIX A – TRAFFIC COUNT DATA
APPENDIX B – DEVELOPMENT TRAFFIC ESTIMATES
APPENDIX C – SIDRA RESULTS

APPENDIX A – TRAFFIC COUNT DATA

MANUAL TRAFFIC SURVEY RESULTS



Unit Type: Camera
RTE ID: 24127
Location: Aura Blvd / Baringa Dr, Baringa
Date: Friday, 12 July 2024
Comments: Fine weather

Class Light

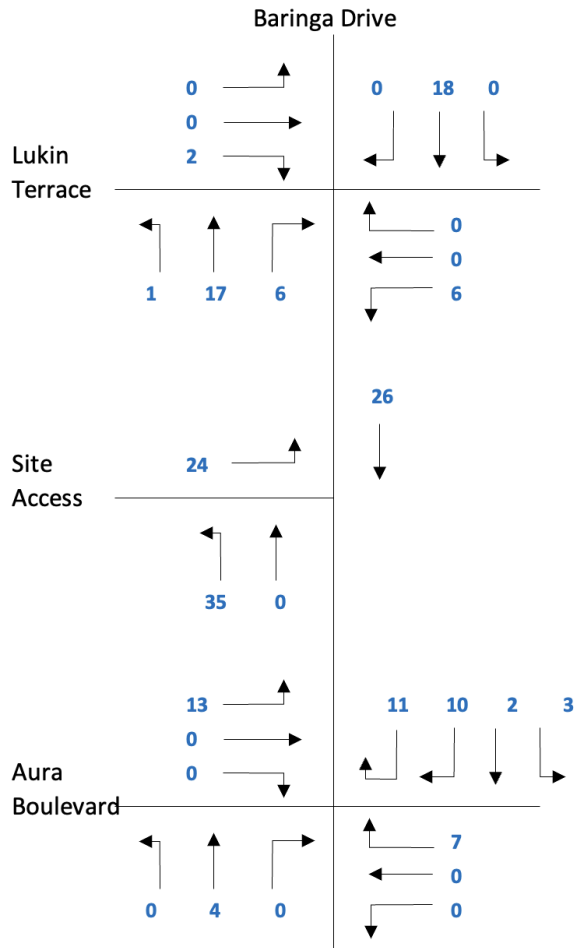
Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
7:00	3	4	3	3	12	11	45	4	5	74	1	4	169	
7:15	4	8	2	3	23	13	75	3	9	98	3	6	247	
7:30	4	4	3	4	33	13	63	6	3	122	2	8	265	
7:45	4	5	9	3	39	13	50	11	8	143	5	6	296	977
8:00	7	8	14	9	46	6	73	26	9	142	4	2	346	1154
8:15	13	7	36	20	37	8	65	31	18	198	3	1	437	1344
8:30	13	11	27	25	28	10	74	37	13	103	5	15	361	1440
8:45	14	17	14	6	25	3	67	8	11	99	9	6	279	1423
9:00	4	13	6	3	15	1	64	12	10	86	4	14	232	1309
9:15	2	10	2	2	18	8	71	3	10	59	9	8	202	1074
9:30	5	18	6	3	22	5	66	5	11	82	5	6	234	947
9:45	7	15	5	2	12	7	56	7	13	71	3	14	212	880
AM PEAK HR	25	73	33	14	92	17	268	35	55	326	27	34	947	
Time	N-Thru	N-Right	N-Left	S-Thru	S-Right	S-Left	E-Thru	E-Right	E-Left	W-Thru	W-Right	W-Left	Total	Cumul Tot
14:30	10	16	8	19	19	5	47	26	4	120	3	6	283	
14:45	29	11	24	8	19	3	79	13	8	118	9	15	336	
15:00	15	30	17	6	17	9	87	13	41	105	6	12	358	
15:15	7	19	8	5	13	3	78	12	29	111	9	8	302	1279
15:30	14	21	8	3	14	7	107	8	38	123	15	6	364	1360
15:45	8	13	12	7	14	3	94	13	30	116	15	13	338	1362
16:00	5	18	11	6	19	5	94	19	22	88	10	6	303	1307
16:15	19	16	6	6	16	5	113	11	26	130	7	10	365	1370
16:30	10	17	2	8	21	6	103	23	19	98	12	11	330	1336
16:45	10	21	2	6	17	10	105	10	39	88	15	5	328	1326
17:00	22	20	6	7	18	4	87	9	22	98	7	12	312	1335
17:15	10	19	11	5	16	8	88	12	34	80	14	23	320	1290
17:30	16	25	6	4	11	4	57	6	31	87	12	17	276	1236
17:45	5	25	3	5	9	5	67	7	19	69	10	15	239	1147
PM PEAK HR	58	110	28	27	71	31	404	44	145	422	58	72	1236	

APPENDIX B – DEVELOPMENT TRAFFIC ESTIMATES

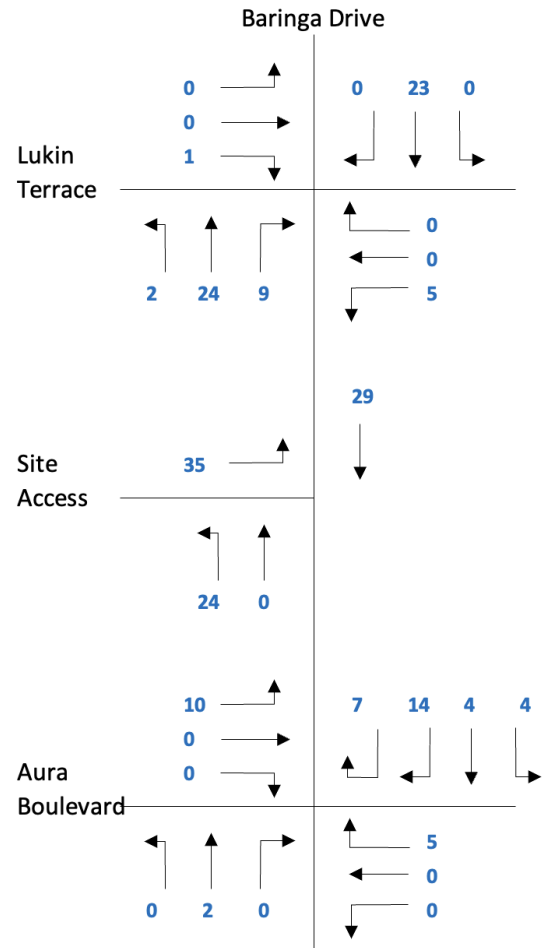
TRAFFIC GENERATION

AM PEAK HOUR TRAFFIC VOLUMES

Development Traffic Estimates



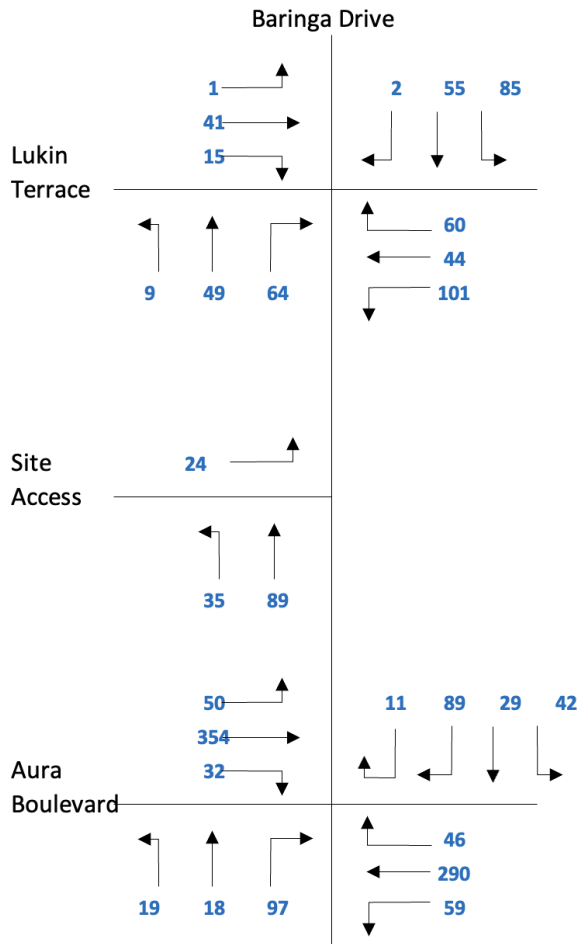
PM PEAK HOUR TRAFFIC VOLUMES



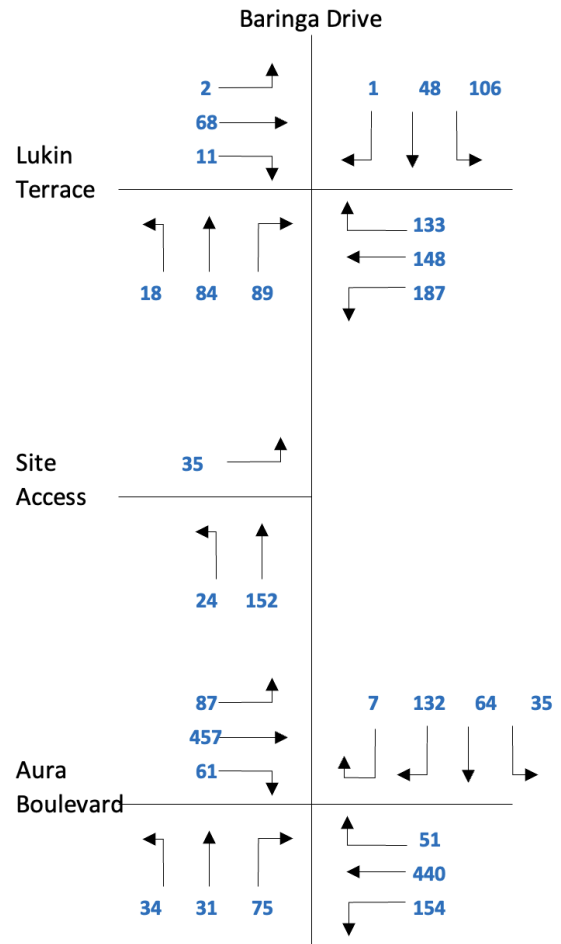
DESIGN 2026 PEAK TRAFFIC

AM PEAK HOUR TRAFFIC VOLUMES

Design 2026 Peak Traffic



PM PEAK HOUR TRAFFIC VOLUMES



APPENDIX C – SIDRA RESULTS

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'		Good operation.
'B'	Good operation. 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 in the table below which relates AVD to LOS. The AVDs listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (i.e. inner city conditions) and on some roads (i.e. 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 signals**¹ 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.

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

AURA BOULEVARD / BARINGA DRIVE INTERSECTION

2026 AM Peak – Background Traffic, without development

2026 PM Peak – Background Traffic, without development

2026 AM Peak – Design Traffic, with development

2026 PM Peak – Design Traffic, with development

SITE LAYOUT

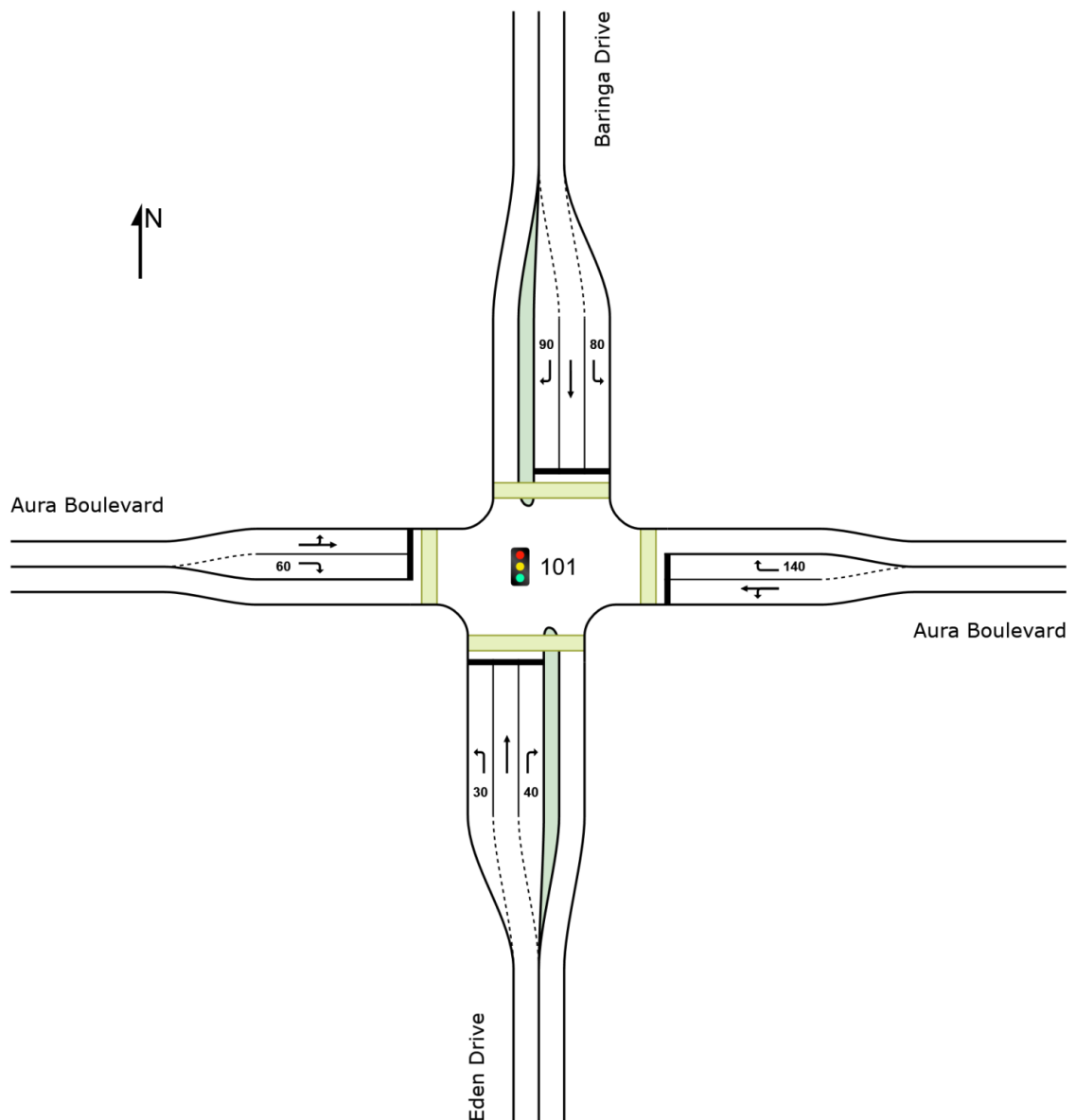
 **Site: 101 [Background 2026 Peak Traffic AM (Site Folder: Aura Blvd / Baringa Dr)]**

Aura Boulevard / Baringa Drive

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



2026 AM Peak – Background Traffic, without development

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h		veh/h					veh	m				
South: Eden Drive															
1	L2	All MCs	20	3.0	20	3.0	0.077	34.5	LOS C	0.6	4.4	0.90	0.70	0.90	37.2
2	T1	All MCs	16	3.0	16	3.0	0.058	28.7	LOS C	0.5	3.4	0.89	0.62	0.89	35.1
3	R2	All MCs	102	3.0	102	3.0	*0.655	42.6	LOS D	3.7	26.9	1.00	0.83	1.14	34.3
Approach			138	3.0	138	3.0	0.655	39.9	LOS D	3.7	26.9	0.97	0.79	1.08	34.8
East: Aura Boulevard															
4	L2	All MCs	62	3.0	62	3.0	0.565	26.1	LOS C	10.4	74.7	0.87	0.76	0.87	42.9
5	T1	All MCs	305	3.0	305	3.0	0.565	20.5	LOS C	10.4	74.7	0.87	0.76	0.87	44.4
6	R2	All MCs	41	3.0	41	3.0	*0.263	40.2	LOS D	1.4	10.1	0.97	0.73	0.97	29.2
Approach			408	3.0	408	3.0	0.565	23.4	LOS C	10.4	74.7	0.88	0.76	0.88	42.6
North: Baringa Drive															
7	L2	All MCs	41	3.0	41	3.0	*0.158	35.1	LOS D	1.3	9.2	0.91	0.73	0.91	31.0
8	T1	All MCs	27	3.0	27	3.0	0.100	29.0	LOS C	0.8	6.0	0.90	0.65	0.90	34.9
9	R2	All MCs	84	3.0	84	3.0	0.540	41.5	LOS D	3.0	21.6	1.00	0.78	1.03	28.6
Approach			153	3.0	153	3.0	0.540	37.6	LOS D	3.0	21.6	0.96	0.74	0.98	30.2
West: Aura Boulevard															
10	L2	All MCs	39	3.0	39	3.0	0.631	26.7	LOS C	12.0	86.2	0.89	0.78	0.89	37.4
11	T1	All MCs	373	3.0	373	3.0	*0.631	21.1	LOS C	12.0	86.2	0.89	0.78	0.89	44.3
12	R2	All MCs	34	3.0	34	3.0	0.216	40.0	LOS D	1.1	8.3	0.96	0.72	0.96	35.3
Approach			445	3.0	445	3.0	0.631	23.1	LOS C	12.0	86.2	0.90	0.77	0.90	43.0
All Vehicles			1144	3.0	1144	3.0	0.655	27.1	LOS C	12.0	86.2	0.91	0.76	0.92	40.1

2026 PM Peak – Background Traffic, without development

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h		veh/h					veh	m				
South: Eden Drive															
1	L2	All MCs	36	3.0	36	3.0	0.143	39.4	LOS D	1.3	9.1	0.91	0.72	0.91	35.5
2	T1	All MCs	29	3.0	29	3.0	0.112	33.5	LOS C	1.0	7.5	0.91	0.66	0.91	32.8
3	R2	All MCs	79	3.0	79	3.0	0.496	45.8	LOS D	3.2	22.7	0.99	0.76	0.99	33.4
Approach			144	3.0	144	3.0	0.496	41.7	LOS D	3.2	22.7	0.96	0.73	0.96	33.8
East: Aura Boulevard															
4	L2	All MCs	162	3.0	162	3.0	0.828	33.9	LOS C	24.6	176.5	0.96	0.95	1.09	39.1
5	T1	All MCs	463	3.0	463	3.0	*0.828	28.3	LOS C	24.6	176.5	0.96	0.95	1.09	40.4
6	R2	All MCs	48	3.0	48	3.0	0.355	46.4	LOS D	1.9	13.9	0.99	0.74	0.99	27.2
Approach			674	3.0	674	3.0	0.828	30.9	LOS C	24.6	176.5	0.97	0.93	1.08	39.1
North: Baringa Drive															
7	L2	All MCs	34	3.0	34	3.0	0.135	39.3	LOS D	1.2	8.6	0.91	0.72	0.91	29.4
8	T1	All MCs	64	3.0	64	3.0	*0.244	34.4	LOS C	2.3	16.7	0.93	0.71	0.93	32.4
9	R2	All MCs	124	3.0	124	3.0	*0.781	49.7	LOS D	5.4	38.4	1.00	0.92	1.28	26.1
Approach			222	3.0	222	3.0	0.781	43.7	LOS D	5.4	38.4	0.97	0.83	1.12	28.2
West: Aura Boulevard															
10	L2	All MCs	82	3.0	82	3.0	0.760	34.1	LOS C	19.9	143.0	0.92	0.86	0.97	35.7
11	T1	All MCs	481	3.0	481	3.0	0.760	28.5	LOS C	19.9	143.0	0.92	0.86	0.97	42.6
12	R2	All MCs	64	3.0	64	3.0	*0.471	51.4	LOS D	2.6	18.7	1.00	0.75	1.00	33.1
Approach			627	3.0	627	3.0	0.760	31.6	LOS C	19.9	143.0	0.93	0.85	0.97	38.7
All Vehicles			1667	3.0	1667	3.0	0.828	33.8	LOS C	24.6	176.5	0.95	0.87	1.03	37.1

2026 AM Peak – Design Traffic, with development

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Eden Drive															
1	L2	All MCs	20	3.0	20	3.0	0.077	34.5	LOS C	0.6	4.4	0.90	0.70	0.90	37.2
2	T1	All MCs	19	3.0	19	3.0	0.069	28.8	LOS C	0.6	4.1	0.89	0.63	0.89	35.0
3	R2	All MCs	102	3.0	102	3.0	0.562	40.6	LOS D	3.6	25.8	1.00	0.79	1.03	35.0
Approach			141	3.0	141	3.0	0.562	38.1	LOS D	3.6	25.8	0.97	0.76	1.00	35.3
East: Aura Boulevard															
4	L2	All MCs	62	3.0	62	3.0	0.590	27.1	LOS C	10.7	76.5	0.89	0.77	0.89	42.5
5	T1	All MCs	305	3.0	305	3.0	0.590	21.5	LOS C	10.7	76.5	0.89	0.77	0.89	43.9
6	R2	All MCs	48	3.0	48	3.0	*0.311	40.5	LOS D	1.7	12.0	0.97	0.74	0.97	29.1
Approach			416	3.0	416	3.0	0.590	24.5	LOS C	10.7	76.5	0.90	0.77	0.90	42.0
North: Baringa Drive															
7	L2	All MCs	44	3.0	44	3.0	*0.170	35.2	LOS D	1.4	9.9	0.91	0.73	0.91	31.0
8	T1	All MCs	31	3.0	31	3.0	0.112	29.1	LOS C	0.9	6.8	0.90	0.66	0.90	34.9
9	R2	All MCs	94	3.0	94	3.0	*0.599	41.0	LOS D	3.8	26.9	1.00	0.81	1.07	28.8
9u	U	All MCs	12	1.0	12	1.0	0.599	42.2	LOS D	3.8	26.9	1.00	0.81	1.07	18.7
Approach			180	2.9	180	2.9	0.599	37.6	LOS D	3.8	26.9	0.96	0.76	1.00	29.7
West: Aura Boulevard															
10	L2	All MCs	53	3.0	53	3.0	0.681	28.2	LOS C	13.0	93.0	0.92	0.81	0.94	36.5
11	T1	All MCs	373	3.0	373	3.0	*0.681	22.6	LOS C	13.0	93.0	0.92	0.81	0.94	43.4
12	R2	All MCs	34	3.0	34	3.0	0.216	40.0	LOS D	1.1	8.3	0.96	0.72	0.96	35.3
Approach			459	3.0	459	3.0	0.681	24.6	LOS C	13.0	93.0	0.93	0.81	0.94	42.0
All Vehicles			1196	3.0	1196	3.0	0.681	28.1	LOS C	13.0	93.0	0.93	0.78	0.94	39.4

2026 PM Peak – Design Traffic, with development

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV] veh/h %		Arrival 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	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Eden Drive															
1	L2	All MCs	36	3.0	36	3.0	0.143	39.4	LOS D	1.3	9.1	0.91	0.72	0.91	35.5
2	T1	All MCs	33	3.0	33	3.0	0.124	33.6	LOS C	1.2	8.3	0.91	0.66	0.91	32.8
3	R2	All MCs	79	3.0	79	3.0	0.434	44.4	LOS D	3.1	22.2	0.98	0.76	0.98	33.8
Approach			147	3.0	147	3.0	0.434	40.8	LOS D	3.1	22.2	0.95	0.73	0.95	34.0
East: Aura Boulevard															
4	L2	All MCs	162	3.0	162	3.0	0.855	37.1	LOS D	26.0	186.7	0.98	1.00	1.15	37.9
5	T1	All MCs	463	3.0	463	3.0	*0.855	31.5	LOS C	26.0	186.7	0.98	1.00	1.15	39.0
6	R2	All MCs	54	3.0	54	3.0	0.394	46.6	LOS D	2.2	15.5	0.99	0.74	0.99	27.1
Approach			679	3.0	679	3.0	0.855	34.0	LOS C	26.0	186.7	0.98	0.98	1.14	37.8
North: Baringa Drive															
7	L2	All MCs	37	3.0	37	3.0	0.147	39.4	LOS D	1.3	9.4	0.91	0.72	0.91	29.4
8	T1	All MCs	67	3.0	67	3.0	*0.256	34.5	LOS C	2.4	17.5	0.93	0.71	0.93	32.4
9	R2	All MCs	139	3.0	139	3.0	*0.817	50.2	LOS D	6.4	45.9	1.00	0.95	1.33	25.9
9u	U	All MCs	7	1.0	7	1.0	0.817	51.4	LOS D	6.4	45.9	1.00	0.95	1.33	16.4
Approach			251	2.9	251	2.9	0.817	44.5	LOS D	6.4	45.9	0.97	0.85	1.16	27.7
West: Aura Boulevard															
10	L2	All MCs	92	3.0	92	3.0	0.801	38.1	LOS D	21.7	155.8	0.95	0.92	1.05	34.1
11	T1	All MCs	481	3.0	481	3.0	0.801	32.6	LOS C	21.7	155.8	0.95	0.92	1.05	41.2
12	R2	All MCs	64	3.0	64	3.0	*0.471	52.4	LOS D	2.6	18.7	1.00	0.75	1.00	33.1
Approach			637	3.0	637	3.0	0.801	35.4	LOS D	21.7	155.8	0.96	0.90	1.04	37.0
All Vehicles			1714	3.0	1714	3.0	0.855	36.6	LOS D	26.0	186.7	0.97	0.91	1.09	35.8