

Our Reference: 2000360
Your Reference: PLP/2013/347



17 September 2025

ACN 006 197 235
ABN 38 006 197 235

Ballarat Office
Suite 3, 180 Eleanor Drive
LUCAS VIC 3350
03 5327 2000

City of Ballarat
PO Box 655
BALLARAT VIC 3353

Attention: Chris Duckett

To Chris,

RE: CARRINGUM ESTATE – COST APPORTIONMENT FOR BALLARAT-CARNGHAM ROAD / MIRELLE DRIVE INTERSECTION

Please find enclosed the Traffic Review of Carrington Estate, Winter Valley (Memo 002, dated 16 September 2025). This assessment confirms that while Carrington Estate contributes to traffic using Mirelle Drive and the Ballarat - Carngham Road intersection, the majority of traffic pressure originates from external developments beyond the Carrington Estate boundary.

Key survey findings include:

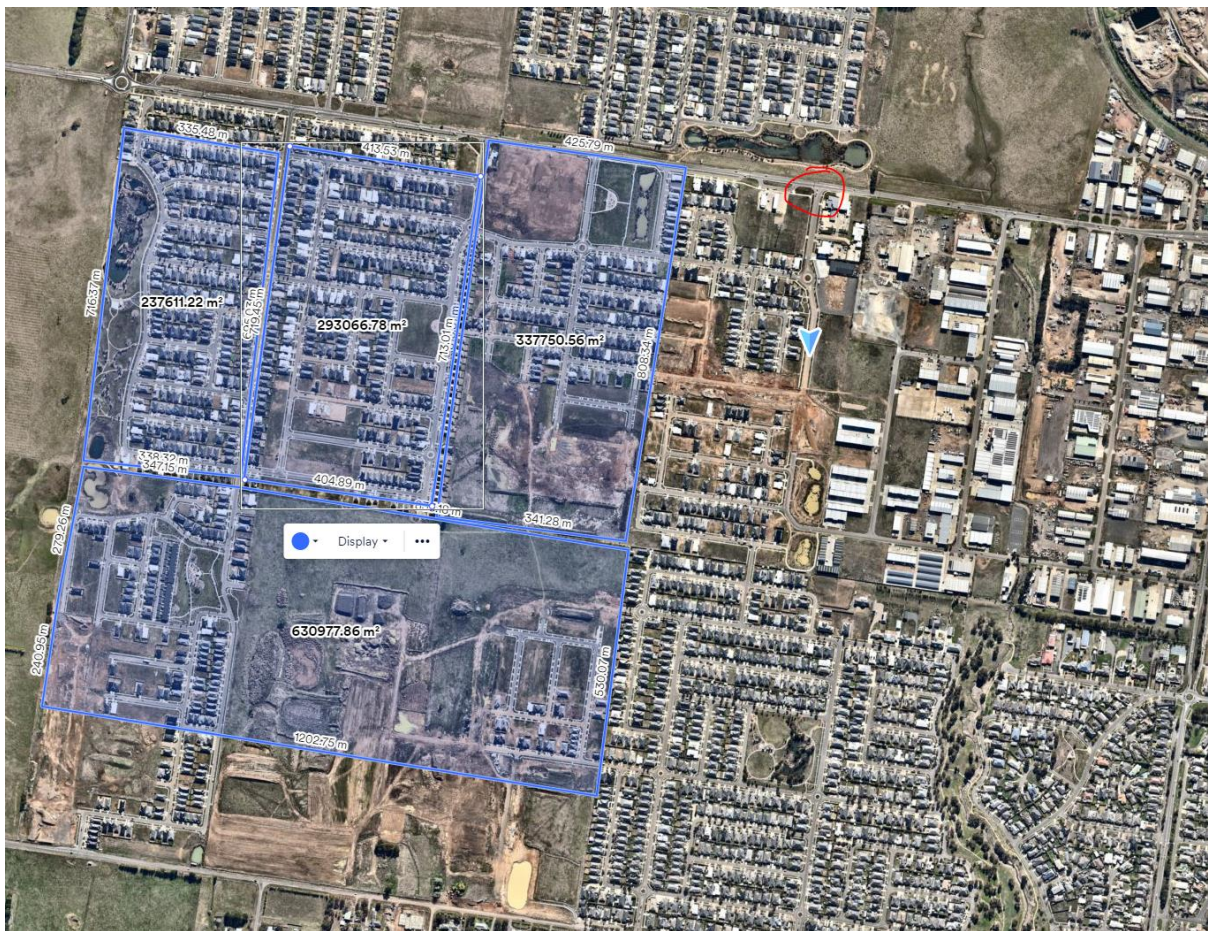
- **Mirelle Drive:** 46% external traffic in the AM peak, 38% in the PM peak, and 31% across the day.
- **Paddys Drive:** 77% external traffic in the AM peak, 42% in the PM peak, and 63% across the day.

These results demonstrate that Carrington is not the dominant generator of traffic. External traffic already accounts for between 40% and 70% of volumes, with the highest loading observed on Paddys Drive. Much of this demand arises from developments to the south and south - west, where gaps in the east - west and north - south road network continue to funnel vehicles through Carrington's internal streets.

At present, Mirelle Drive to the south within Carrington remains unconnected. Once this link is completed, the intersection will become an even more important north - south connection for external users, further increasing a reliance on the Ballarat - Carngham Road / Mirelle Drive intersection by non - Carrington users.

It is also important to recognise the intersection's role as regional infrastructure for public services. Both the established police station and the proposed ambulance station are located on Mirelle Drive outside of the Carrington Estate boundary, meaning the intersection provides critical operational access for emergency services that serve the wider Ballarat community.

Further, once the intersection is signalised, it will provide a safe and practical turning opportunity for residents of the six similarly sized developments located to the west and south-west of Carrington. At present, right-turn movements from those areas onto Ballarat–Carngham Road are particularly difficult during peak hours. This reinforces that the upgraded intersection will act as a regional gateway into the city, serving a broad catchment of users well beyond Carrington.



Taken together, these findings confirm that while Carrington contributes to intersection demand, the primary loading and future growth in traffic will be driven by surrounding developments and regional service needs. Accordingly, we submit that a fair and equitable apportionment of costs would limit Carrington Estate's contribution to 20% of the upgrade, with the remaining 80% allocated to external users and benefitting developments.

This approach ensures Carrington's role is acknowledged, while proportionally recognising that the greater share of benefit and necessity lies outside the estate.

We put forward this position to assist Council in considering an equitable cost-sharing arrangement and would welcome further discussion with you on how best to structure the apportionment moving forward.

Should you require any further information or clarification, please do not hesitate to contact me on 03 5327 2000 or via email at [REDACTED].

Yours sincerely,

[REDACTED]

[REDACTED]
Project Manager
Beveridge Williams

cc: [REDACTED] Landmack Property Group Pty Ltd
Encl. Memo 002

MEMO – 002

Project Number: 2000360

Date: 17 September 2025

Project Name: Carrington Estate, Winter Valley

Subject: Traffic Review of Carrington Estate, Winter Valley

To: Chris Duckett	Company: City of Ballarat	Email: [REDACTED]	Phone: -
From: [REDACTED]	Company: Beveridge Williams	Email: [REDACTED]	Phone: [REDACTED]

Distribution

Cc: [REDACTED]	Company: Landmack Property Group Pty Ltd	Phone: [REDACTED]
Cc: [REDACTED]	Company: Beveridge Williams	Phone: [REDACTED]
Cc: [REDACTED]	Company: Beveridge Williams	Phone: [REDACTED]

Background

Beveridge Williams have been engaged by Landmack Property Group Pty Ltd to assess the existing traffic volumes within the Carrington Estate and determine the level of external traffic travelling through the Estate via Mirelle Drive and Paddy's Drive.

The subject site is located at Carrington Estate, Winter Valley that has Ballarat-Carngham Road border the north, Mirelle Drive to the east, Cruz Road to the south, and Barwon Ave to the west. Ballarat-Carngham Road/Mirelle Drive intersection is currently a give-way T-intersection. It is understood that an upgrade to a signalised intersection is being considered. As part of the assessment, a review of the traffic volumes at this intersection as well as other key internal intersections within the Estate has been completed, along with origin-destination surveys to observe the route taking from external traffic onto Mirelle Drive and Paddy's Drive.

Purpose

The purpose of this memorandum is to document the findings from the assessment of the traffic volumes through Carrington Estate and to inform the Client's decision making process regarding the Ballarat-Carngham Road/Mirelle Drive intersection.

Traffic Surveys

To understand the existing traffic conditions at the subject site, Beveridge Williams organised the following surveys on Tuesday 02 September 2025:

1. Turning movement counts (TMC) (7am-7pm).
2. Origin-Destination (OD) surveys (7am-7pm).

The detailed surveys are attached at the end of this document.

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Turning Movement Counts (TMC)

The above TMCs were conducted at the following locations:

1. Ballarat-Carngham Road/Mirelle Drive intersection.
2. Barwon Avenue/Erskine Road.
3. Anglesea Street and Mirelle Drive.
4. Tuckeroo Street and Cruz Road.

Based on the above TMC survey, the peak traffic periods at the surveyed locations were identified and are summarised in the table below.

Table 1: Peak Hours at Surveyed Intersections

Location	Peak	
	AM	PM
Ballarat-Carngham Road/Mirelle Drive intersection	8.00am-9.00am	4.45pm-5:45pm
Barwon Avenue/Erskine Road	8.15am-9.15am	3.15pm-4.15pm
Anglesea Street and Mirelle Drive	8.00am-9.00am	4.30pm-5:30pm
Tuckeroo Street and Cruz Road	7.45am-8.45am	4.30pm-5:30pm

Figure 1 and Figure 2 below present the peak hour traffic volumes at the surveyed locations.

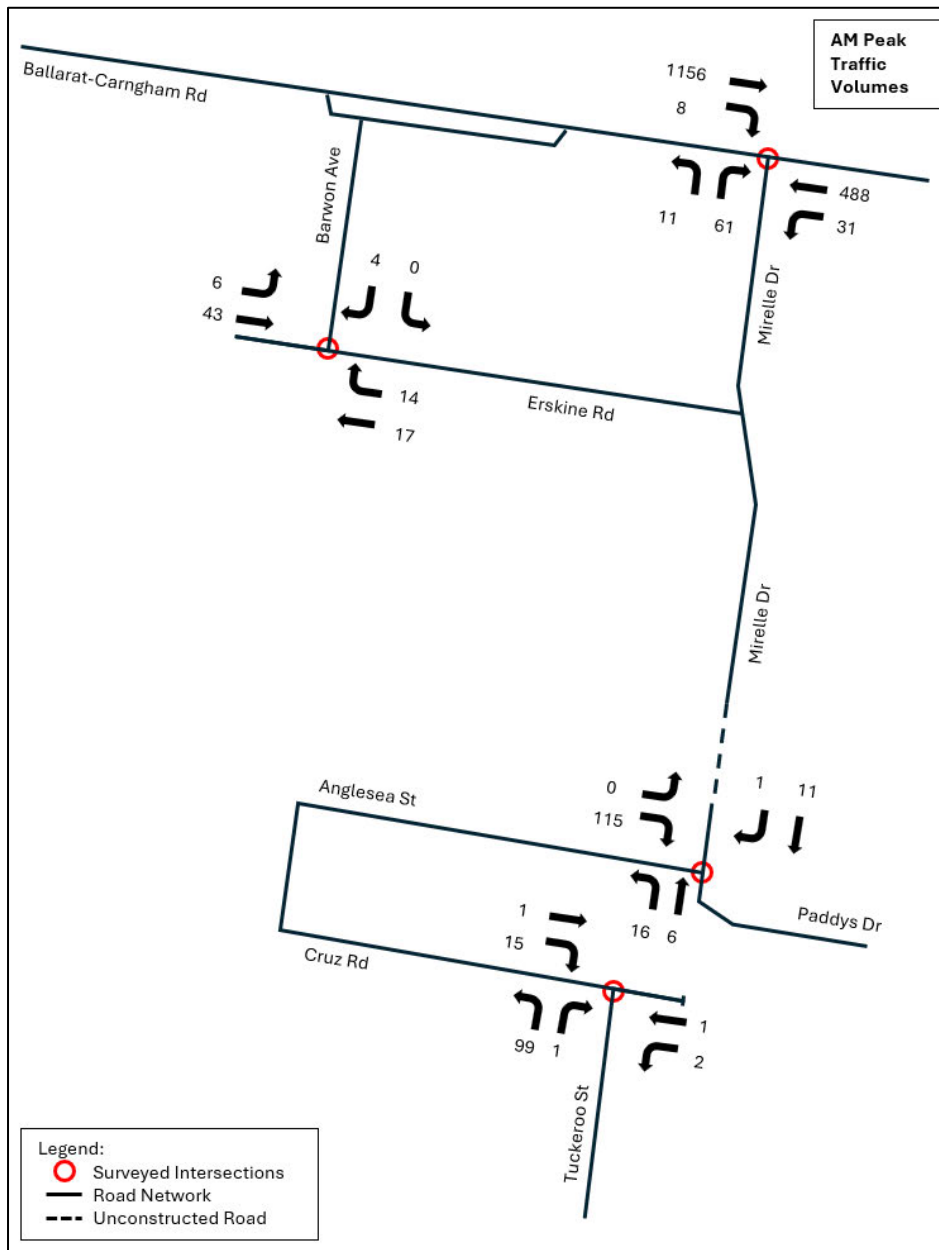


Figure 1: Traffic Volumes - AM Peak

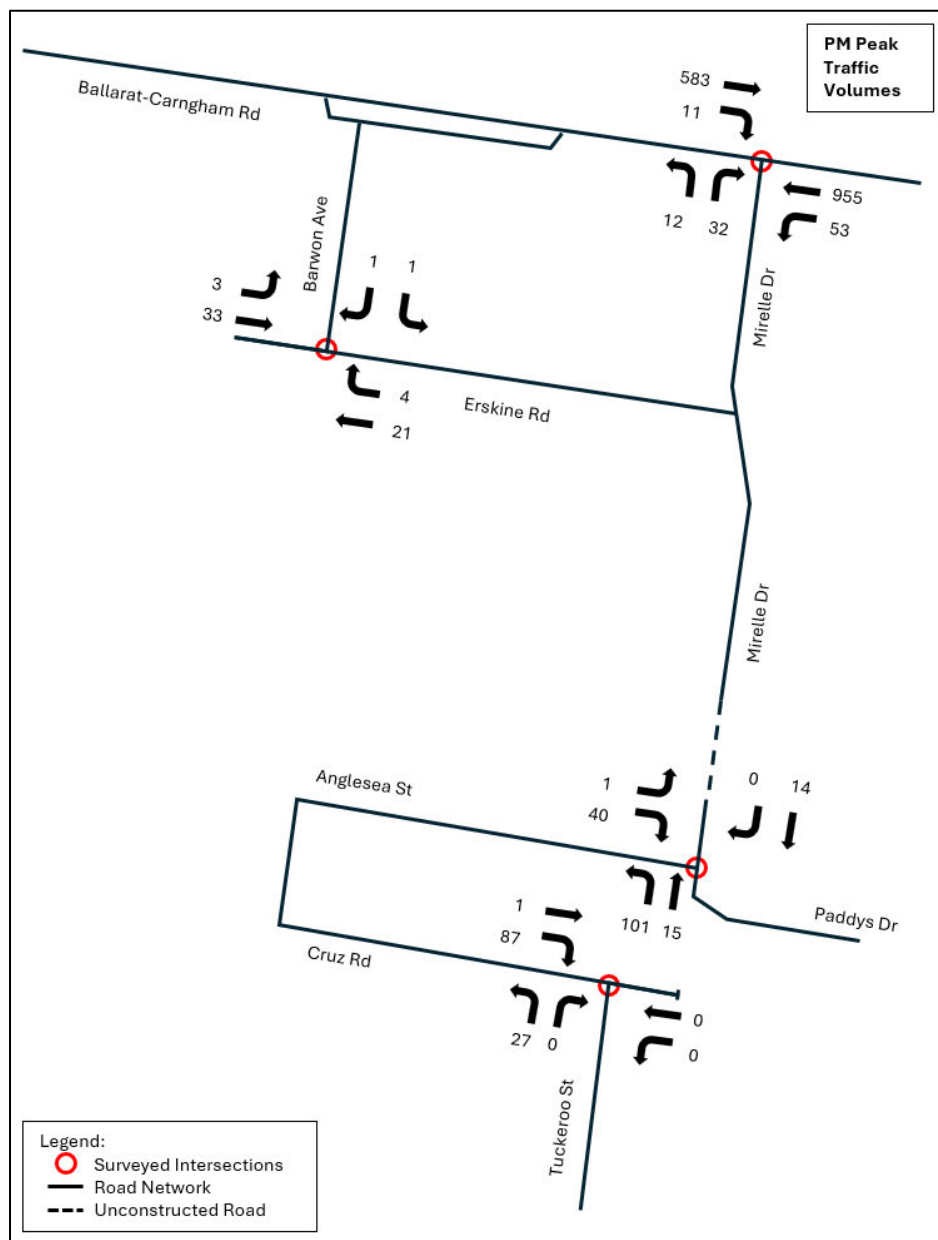


Figure 2: Traffic Volumes – PM Peak

Origin-Destination (OD) Surveys

Figure 3 shows the surveyed routes from the Origin-Destination (OD) surveys. These routes were selected based on the boundary points of the Carrnham Estate to capture the external traffic (i.e. not generated by the Estate) passing through.

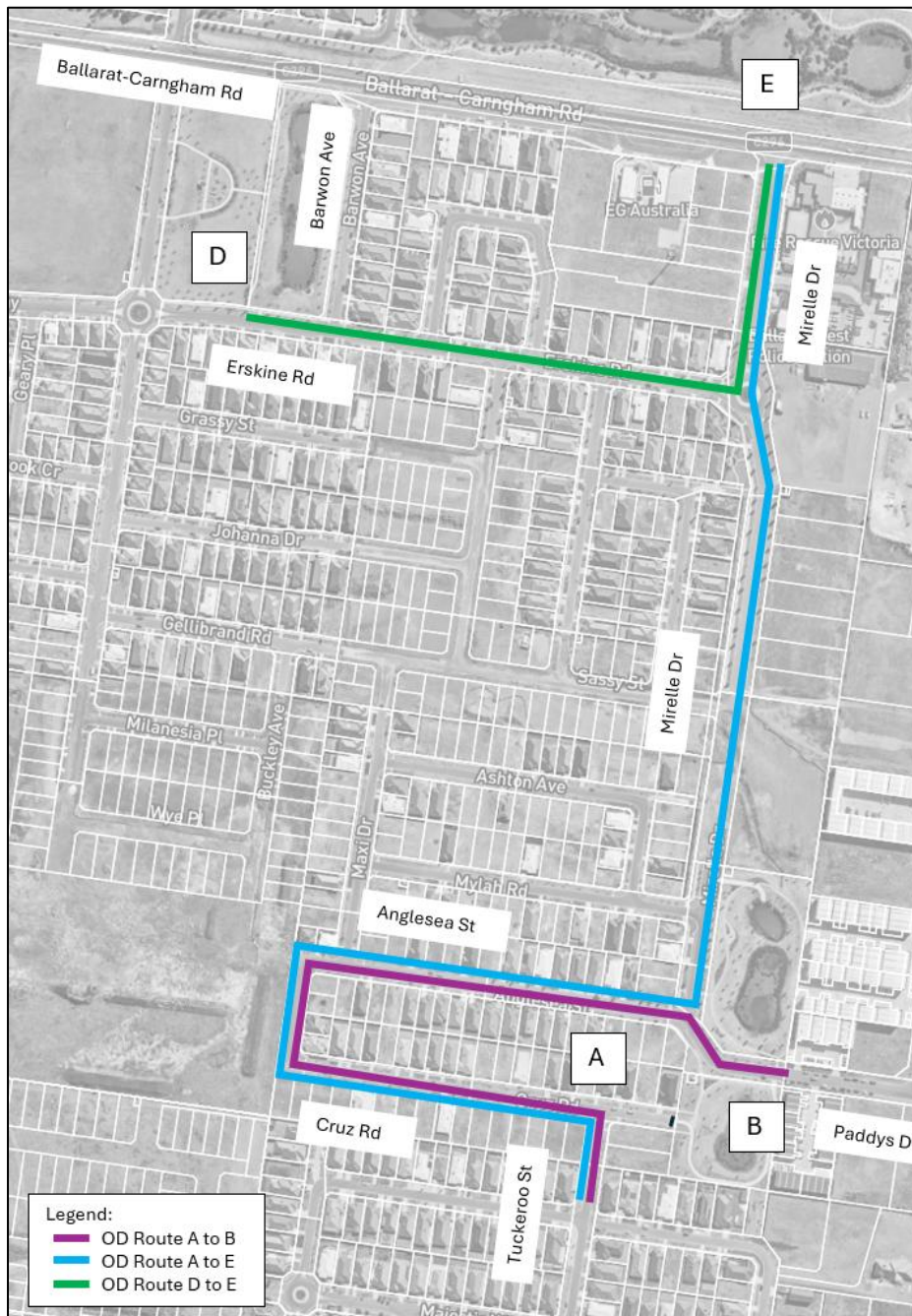


Figure 3: Origin-Destination Survey Routes

Figure 4 shows the peak hour external traffic volumes along the selected OD routes.

It is noted there was an error in the OD surveys and the routes B-A, E-A, and E-D were not processed at the time of writing this memorandum. To supplement the missing data, an assumption has been made using a directional factor derived from the opposite movement that the survey did record. For example:

$$\text{Factor} = \text{Total volume D-E} / \text{Eastbound volume} = 182 \text{ veh} / 292 \text{ veh} = 0.62$$

$$\text{Estimated E-D volume} = 0.62 * \text{Westbound volume}$$

This approach assumes that the proportion of traffic travelling in one direction is reasonably reflective of the reverse movement, which is considered appropriate for the purpose of this assessment. The OD surveys are currently being amended, and updated data will be provided when available.

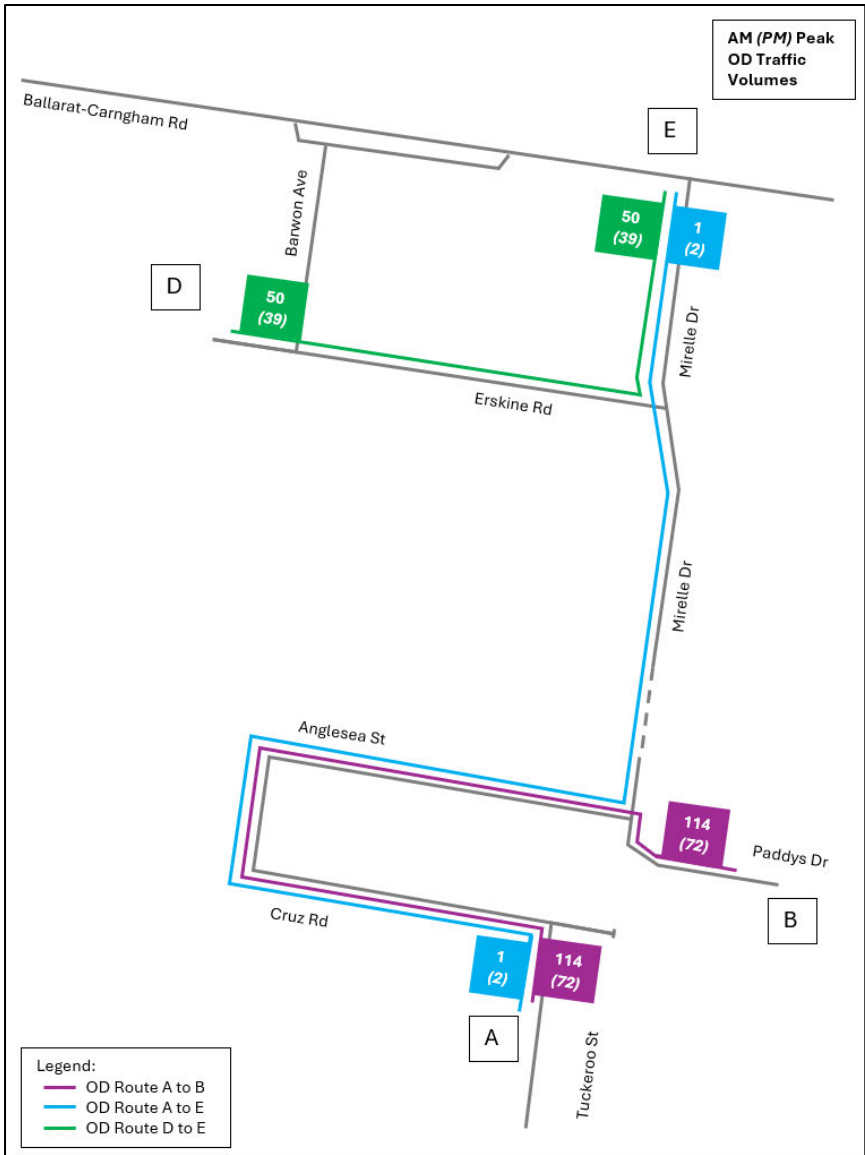


Figure 4: External Traffic Volumes along the OD Routes

Table 2 summarises the total traffic volumes and the peak hour external traffic volumes along Paddys Drive and Mirelle Drive.

As shown in Table 2, Mirelle Drive experiences a considerable volume of external traffic. The external traffic accounts for 46% in the AM peak, 38% in the PM peak, and 31% across the day. Figure 4 illustrates currently the majority of the traffic originates from the west. Figure 4 also shows, there is a small portion of vehicles that travel from Tuckeroo Street (A) to Mirelle Drive (E), noting that Mirelle Drive is not fully constructed and these errant vehicles travelled through the construction site.

Paddys Drive has a similar situation with a high proportion of external traffic – 77% in the AM peak, 42% in the PM peak and 63% across the day, indicating significant through-traffic. These high external volumes are largely attributed to the lack of east-west connectivity in the developments located south of the subject site, which redirects external traffic to travel through the internal road network of the Estate.

Table 2: Two-way Traffic Volumes Summary

Road	Period	Existing Volumes	External Traffic	External Traffic (%)
Mirelle Drive	AM	111	51	46%
	PM	108	41	38%
	7am to 7pm	977	299	31%
Paddys Drive	AM	148	114	77%
	PM	170	72	42%
	7am to 7pm	1233	774	63%

Summary

Based on the findings from the traffic surveys, it is evident that a significant proportion of traffic traveling through the Estate is external in nature, originating from surrounding developments with a small percentage of the observed traffic can be attributable to construction activity.

Mirelle Drive is experiencing a considerable number of external traffic volumes, despite being partially unconstructed. Following the completion of this unconstructed section, the number of external traffic along Mirelle Drive is expected to increase in the future as Mirelle Drive would offer a more direct north-south link and improved access to Ballarat-Carngham Road.

Similarly, Paddys Drive is experiencing significantly high levels of external traffic, largely due to the lack of direct east-west and north-south connectivity in the developments located south of the Estate. This forces external vehicles to rely on the Estate's internal road network for access to high order roads, such as Ballarat-Carngham Road and Wiltshire Lane.

From the assessment it is found that a significant number of external traffic is utilising the Estate's internal roads for access. This is anticipated to increase further following potential future development to the west and completion of Mirelle Drive, suggesting that currently the internal roads are benefitting the wider community outside of site-generated traffic from the Carrington Estate.

ATTACHMENTS – Traffic and Parking Surveys

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Ballarat-Carngham Rd and Mirelle Dr, Dela

GPS -37.568652, 143.799746

Date:	Tue 02/09/25
Weather:	Overcast
Suburban:	Delacombe
Customer:	BW

North:	N/A
East:	Ballarat-Carngham Rd
South:	Mirelle Dr
West:	Ballarat-Carngham Rd

Survey	AM:	7:00 AM-12:00 PM
Period	PM:	12:00 PM-7:00 PM
Traffic	AM:	8:00 AM-9:00 AM
Peak	PM:	4:45 PM-5:45 PM

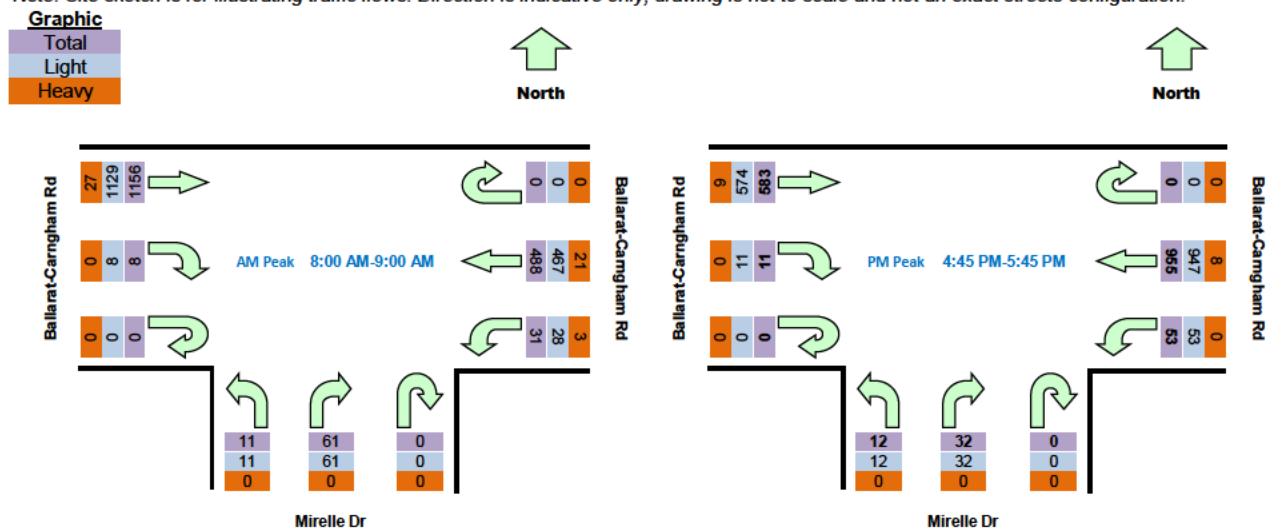
All Vehicles

Time		Approach Ballarat-Carngha			South Approach Mirelle Dr			Approach Ballarat-Carngha			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	0	77	7	0	7	1	0	1	92	993	
7:15	7:30	0	80	11	0	12	2	0	1	108	1213	
7:30	7:45	0	77	4	0	18	5	0	1	164	1455	
7:45	8:00	0	84	8	0	14	2	0	2	215	1665	
8:00	8:15	0	85	8	0	16	4	0	4	288	1755	Peak
8:15	8:30	0	114	5	0	26	2	0	0	309	1665	
8:30	8:45	0	143	3	0	11	2	0	0	320	1451	
8:45	9:00	0	146	15	0	8	3	0	4	239	1199	
9:00	9:15	0	126	10	0	10	1	0	7	161	1039	
9:15	9:30	0	104	1	0	14	0	0	1	122	930	
9:30	9:45	0	91	4	0	10	1	0	1	120	942	
9:45	10:00	0	93	7	0	9	0	0	0	146	924	
10:00	10:15	0	83	4	0	6	2	0	1	110	878	
10:15	10:30	0	110	0	0	4	1	0	0	139	866	
10:30	10:45	0	85	5	0	8	0	0	1	110	843	
10:45	11:00	0	95	1	0	12	1	0	0	100	880	
11:00	11:15	0	83	6	0	7	0	0	2	96	877	
11:15	11:30	0	98	8	0	11	2	0	1	111		
11:30	11:45	0	106	4	0	11	3	0	0	122		
11:45	12:00	0	93	6	0	12	2	0	1	92		
12:00	12:15	0	128	12	0	4	0	0	4	105	962	
12:15	12:30	0	128	6	0	6	0	0	0	91	963	
12:30	12:45	0	117	7	0	11	1	0	2	99	998	
12:45	13:00	0	99	7	0	12	1	0	0	122	998	
13:00	13:15	0	129	6	0	10	2	0	1	106	1017	
13:15	13:30	0	127	8	0	4	2	0	2	123	1022	
13:30	13:45	0	95	6	0	7	1	0	2	126	1034	
13:45	14:00	0	124	4	0	4	1	0	3	124	1049	
14:00	14:15	0	114	9	0	11	2	0	0	123	1093	
14:15	14:30	0	118	5	0	6	0	0	1	148	1194	
14:30	14:45	0	135	5	0	7	1	0	0	104	1286	
14:45	15:00	0	139	7	0	13	1	0	0	144	1495	
15:00	15:15	0	164	4	0	16	0	0	1	175	1600	
15:15	15:30	0	207	6	0	6	2	0	1	148	1607	
15:30	15:45	0	261	14	0	8	4	0	10	164	1602	
15:45	16:00	0	217	9	0	8	4	0	5	166	1525	
16:00	16:15	0	203	6	0	18	5	0	4	131	1525	

16:15	16:30	0	190	9	0	9	3	0	2	152	1575	
16:30	16:45	0	215	5	0	10	0	0	4	150	1619	
16:45	17:00	0	227	8	0	9	5	0	5	155	1646	Peak
17:00	17:15	0	256	13	0	4	2	0	0	142	1611	
17:15	17:30	0	231	18	0	7	3	0	4	146	1525	
17:30	17:45	0	241	14	0	12	2	0	2	140	1390	
17:45	18:00	0	201	7	0	11	5	0	1	149	1224	
18:00	18:15	0	185	7	0	10	0	0	0	129	1056	
18:15	18:30	0	166	9	0	4	0	0	0	95		
18:30	18:45	0	141	2	0	10	2	0	1	89		
18:45	19:00	0	104	9	0	5	2	0	2	84		

Peak Time		Approach Ballarat-Carngha			South Approach Mirelle Dr			Approach Ballarat-Carngha			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	
8:00	9:00	0	488	31	0	61	11	0	8	1156	1755
16:45	17:45	0	955	53	0	32	12	0	11	583	1646

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

Time		Approach Ballarat-Carngha			South Approach Mirelle Dr			Approach Ballarat-Carngha		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	0	69	7	0	7	1	0	1	90
7:15	7:30	0	71	11	0	12	2	0	1	106
7:30	7:45	0	61	4	0	18	5	0	1	162
7:45	8:00	0	74	8	0	14	2	0	2	211
8:00	8:15	0	80	8	0	16	4	0	4	281
8:15	8:30	0	108	4	0	26	2	0	0	301
8:30	8:45	0	140	3	0	11	2	0	0	314
8:45	9:00	0	139	13	0	8	3	0	4	233
9:00	9:15	0	119	10	0	10	1	0	5	157
9:15	9:30	0	99	1	0	14	0	0	1	116
9:30	9:45	0	84	3	0	10	1	0	0	113
9:45	10:00	0	89	7	0	8	0	0	0	137
10:00	10:15	0	81	4	0	6	1	0	1	105
10:15	10:30	0	101	0	0	4	1	0	0	132

10:30	10:45	0	79	4	0	8	0	0	0	104
10:45	11:00	0	92	0	0	11	1	0	0	95
11:00	11:15	0	75	6	0	7	0	0	1	95
11:15	11:30	0	93	8	0	11	2	0	1	106
11:30	11:45	0	96	4	0	11	3	0	0	114
11:45	12:00	0	91	6	0	12	2	0	1	89
12:00	12:15	0	124	11	0	4	0	0	4	100
12:15	12:30	0	116	6	0	5	0	0	0	86
12:30	12:45	0	113	7	0	11	1	0	2	96
12:45	13:00	0	96	6	0	11	1	0	0	112
13:00	13:15	0	126	5	0	9	2	0	1	101
13:15	13:30	0	125	8	0	4	2	0	2	117
13:30	13:45	0	91	6	0	7	1	0	2	119
13:45	14:00	0	118	3	0	4	1	0	3	121
14:00	14:15	0	112	9	0	10	2	0	0	117
14:15	14:30	0	114	4	0	6	0	0	1	145
14:30	14:45	0	133	5	0	7	1	0	0	102
14:45	15:00	0	135	7	0	13	1	0	0	137
15:00	15:15	0	161	4	0	14	0	0	1	172
15:15	15:30	0	203	6	0	6	2	0	1	142
15:30	15:45	0	256	13	0	7	4	0	10	157
15:45	16:00	0	214	9	0	8	4	0	5	163
16:00	16:15	0	197	6	0	18	5	0	4	129
16:15	16:30	0	186	9	0	9	3	0	2	148
16:30	16:45	0	214	5	0	10	0	0	4	145
16:45	17:00	0	226	8	0	9	5	0	5	150
17:00	17:15	0	252	13	0	4	2	0	0	141
17:15	17:30	0	229	18	0	7	3	0	4	144
17:30	17:45	0	240	14	0	12	2	0	2	139
17:45	18:00	0	198	7	0	11	5	0	1	148
18:00	18:15	0	184	7	0	10	0	0	0	126
18:15	18:30	0	165	8	0	4	0	0	0	90
18:30	18:45	0	138	2	0	10	2	0	1	87
18:45	19:00	0	104	8	0	5	2	0	2	82

Peak Time		Approach Ballarat-Carngha			South Approach Mirelle Dr			Approach Ballarat-Carngha			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	
8:00	9:00	0	467	28	0	61	11	0	8	1129	1704
16:45	17:45	0	947	53	0	32	12	0	11	574	1629

Heavy Vehicles

Time		Approach Ballarat-Carngha			South Approach Mirelle Dr			Approach Ballarat-Carngha		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	0	8	0	0	0	0	0	0	2
7:15	7:30	0	9	0	0	0	0	0	0	2
7:30	7:45	0	16	0	0	0	0	0	0	2
7:45	8:00	0	10	0	0	0	0	0	0	4
8:00	8:15	0	5	0	0	0	0	0	0	7
8:15	8:30	0	6	1	0	0	0	0	0	8
8:30	8:45	0	3	0	0	0	0	0	0	6

8:45	9:00	0	7	2	0	0	0	0	0	6
9:00	9:15	0	7	0	0	0	0	0	2	4
9:15	9:30	0	5	0	0	0	0	0	0	6
9:30	9:45	0	7	1	0	0	0	0	1	7
9:45	10:00	0	4	0	0	1	0	0	0	9
10:00	10:15	0	2	0	0	0	1	0	0	5
10:15	10:30	0	9	0	0	0	0	0	0	7
10:30	10:45	0	6	1	0	0	0	0	1	6
10:45	11:00	0	3	1	0	1	0	0	0	5
11:00	11:15	0	8	0	0	0	0	0	1	1
11:15	11:30	0	5	0	0	0	0	0	0	5
11:30	11:45	0	10	0	0	0	0	0	0	8
11:45	12:00	0	2	0	0	0	0	0	0	3
12:00	12:15	0	4	1	0	0	0	0	0	5
12:15	12:30	0	12	0	0	1	0	0	0	5
12:30	12:45	0	4	0	0	0	0	0	0	3
12:45	13:00	0	3	1	0	1	0	0	0	10
13:00	13:15	0	3	1	0	1	0	0	0	5
13:15	13:30	0	2	0	0	0	0	0	0	6
13:30	13:45	0	4	0	0	0	0	0	0	7
13:45	14:00	0	6	1	0	0	0	0	0	3
14:00	14:15	0	2	0	0	1	0	0	0	6
14:15	14:30	0	4	1	0	0	0	0	0	3
14:30	14:45	0	2	0	0	0	0	0	0	2
14:45	15:00	0	4	0	0	0	0	0	0	7
15:00	15:15	0	3	0	0	2	0	0	0	3
15:15	15:30	0	4	0	0	0	0	0	0	6
15:30	15:45	0	5	1	0	1	0	0	0	7
15:45	16:00	0	3	0	0	0	0	0	0	3
16:00	16:15	0	6	0	0	0	0	0	0	2
16:15	16:30	0	4	0	0	0	0	0	0	4
16:30	16:45	0	1	0	0	0	0	0	0	5
16:45	17:00	0	1	0	0	0	0	0	0	5
17:00	17:15	0	4	0	0	0	0	0	0	1
17:15	17:30	0	2	0	0	0	0	0	0	2
17:30	17:45	0	1	0	0	0	0	0	0	1
17:45	18:00	0	3	0	0	0	0	0	0	1
18:00	18:15	0	1	0	0	0	0	0	0	3
18:15	18:30	0	1	1	0	0	0	0	0	5
18:30	18:45	0	3	0	0	0	0	0	0	2
18:45	19:00	0	0	1	0	0	0	0	0	2

Peak Time		Approach Ballarat-Carngha			South Approach Mirelle Dr			Approach Ballarat-Carngha			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	
8:00	9:00	0	21	3	0	0	0	0	0	27	51
16:45	17:45	0	8	0	0	0	0	0	0	9	17

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Erskine Rd and Barwon Ave, Winter Valley

GPS -37.569951, 143.795753

Date:	Tue 02/09/25
Weather:	Overcast
Suburban:	Winter Valley
Customer:	BW

North:	Barwon Ave
East:	Erskine Rd
South:	N/A
West:	Erskine Rd

Survey	AM:	7:00 AM-12:00 PM
Period	PM:	12:00 PM-7:00 PM
Traffic	AM:	8:15 AM-9:15 AM
Peak	PM:	3:15 PM-4:15 PM

All Vehicles

Time		North Approach Barwon Ave			East Approach Erskine Rd			West Approach Erskine Rd			Hourly Total	
Period Start	Period End	U	R	L	U	R	WB	U	EB	L	Hour	Peak
7:00	7:15	0	0	0	0	1	0	1	5	0	33	
7:15	7:30	0	0	1	0	1	0	0	5	0	40	
7:30	7:45	0	0	2	0	1	0	0	7	1	55	
7:45	8:00	0	0	2	0	1	1	0	4	0	69	
8:00	8:15	0	0	1	0	1	5	0	6	1	82	
8:15	8:30	0	0	0	0	1	4	0	16	1	84	Peak
8:30	8:45	0	0	0	0	9	5	0	6	5	67	
8:45	9:00	0	1	0	0	3	5	0	12	0	50	
9:00	9:15	0	3	0	0	1	3	0	9	0	33	
9:15	9:30	0	0	0	0	0	0	0	5	0	18	
9:30	9:45	0	0	0	0	0	0	0	8	0	14	
9:45	10:00	0	0	1	0	0	0	0	2	1	15	
10:00	10:15	0	0	0	0	0	0	0	1	0	18	
10:15	10:30	0	0	0	0	0	0	0	1	0	29	
10:30	10:45	0	1	0	0	0	2	0	5	1	33	
10:45	11:00	0	0	1	0	0	1	0	5	0	33	
11:00	11:15	0	0	1	0	0	4	0	7	0	35	
11:15	11:30	0	0	0	0	0	1	0	4	0		
11:30	11:45	1	0	0	0	0	1	0	7	0		
11:45	12:00	2	0	0	0	0	3	0	4	0		
12:00	12:15	0	0	0	0	0	3	0	1	0	29	
12:15	12:30	0	0	0	0	0	1	0	3	0	33	
12:30	12:45	0	0	0	0	1	2	1	8	0	35	
12:45	13:00	0	0	0	0	1	1	0	7	0	32	
13:00	13:15	0	0	1	0	1	0	0	6	0	28	
13:15	13:30	0	1	0	0	3	1	0	1	0	30	
13:30	13:45	0	0	0	0	2	2	0	5	0	31	
13:45	14:00	0	0	0	0	0	4	0	1	0	30	
14:00	14:15	0	1	0	0	1	2	0	6	0	34	
14:15	14:30	0	1	0	0	1	1	0	3	1	38	
14:30	14:45	0	0	0	0	0	3	0	5	0	42	
14:45	15:00	0	0	0	0	1	1	0	6	1	54	
15:00	15:15	0	0	1	0	2	5	0	5	1	64	
15:15	15:30	0	0	0	0	1	3	0	6	1	65	Peak
15:30	15:45	0	1	0	0	0	8	1	8	2	65	Peak
15:45	16:00	0	0	1	0	1	7	0	10	0	56	
16:00	16:15	0	0	0	0	2	3	1	9	0	41	

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Cruz Rd and Tuckeroo St, Winter Valley

GPS -37.575509, 143.798150

Date:	Tue 02/09/25
Weather:	Overcast
Suburban:	Winter Valley
Customer:	BW

North:	N/A
East:	Cruz Rd
South:	Tuckeroo St
West:	Cruz Rd

Survey	AM:	7:00 AM-12:00 PM
Period	PM:	12:00 PM-7:00 PM
Traffic	AM:	7:45 AM-8:45 AM
Peak	PM:	4:30 PM-5:30 PM

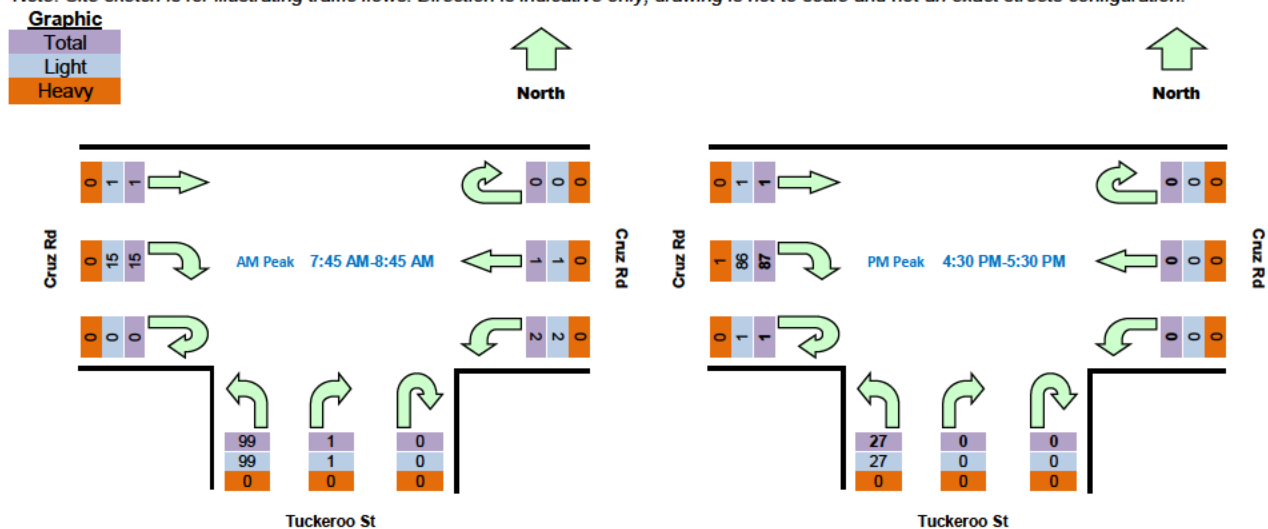
All Vehicles

Time		East Approach Cruz Rd			South Approach Tuckeroo St			West Approach Cruz Rd			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	0	0	0	0	0	6	0	3	1	64	
7:15	7:30	0	1	0	0	0	13	0	3	0	76	
7:30	7:45	0	0	0	0	1	11	0	2	0	101	
7:45	8:00	0	0	0	0	0	17	0	6	0	119	Peak
8:00	8:15	0	1	0	0	0	18	0	2	1	111	
8:15	8:30	0	0	2	0	1	37	0	2	0	101	
8:30	8:45	0	0	0	0	0	27	0	5	0	72	
8:45	9:00	0	1	0	0	0	12	0	2	0	53	
9:00	9:15	0	0	0	0	0	8	0	4	0	48	
9:15	9:30	0	0	0	0	0	7	0	6	0	49	
9:30	9:45	0	0	0	0	0	9	0	4	0	45	
9:45	10:00	0	0	0	0	0	6	1	3	0	47	
10:00	10:15	0	0	0	0	0	6	0	7	0	47	
10:15	10:30	0	0	0	0	0	2	0	7	0	41	
10:30	10:45	0	0	0	0	0	6	0	9	0	39	
10:45	11:00	0	1	1	0	0	0	1	5	2	31	
11:00	11:15	0	0	0	0	0	4	0	3	0	31	
11:15	11:30	0	0	0	0	0	5	0	2	0		
11:30	11:45	0	0	0	0	0	2	0	5	0		
11:45	12:00	0	0	0	0	0	6	0	4	0		
12:00	12:15	0	1	0	0	0	5	0	5	1	44	
12:15	12:30	0	0	0	0	0	5	0	5	0	44	
12:30	12:45	0	0	0	0	0	5	0	8	0	47	
12:45	13:00	0	0	0	0	0	5	0	4	0	44	
13:00	13:15	0	0	0	0	0	8	0	4	0	47	
13:15	13:30	0	0	0	0	0	4	0	9	0	49	
13:30	13:45	0	0	0	0	0	3	0	7	0	58	
13:45	14:00	0	0	0	0	0	4	0	8	0	64	
14:00	14:15	0	0	0	0	0	11	0	3	0	71	
14:15	14:30	0	0	0	0	0	10	1	11	0	76	
14:30	14:45	0	0	0	0	0	8	0	8	0	67	
14:45	15:00	0	0	0	0	0	13	0	6	0	75	
15:00	15:15	0	0	0	0	0	8	0	11	0	83	
15:15	15:30	0	0	0	0	0	1	0	12	0	86	
15:30	15:45	0	0	0	0	0	8	0	16	0	99	
15:45	16:00	0	0	1	0	0	9	0	17	0	99	
16:00	16:15	0	0	0	0	0	3	0	19	0	109	

16:15	16:30	0	0	0	0	0	8	0	18	0	112	
16:30	16:45	0	0	0	0	0	8	0	16	0	116	Peak
16:45	17:00	0	0	0	0	0	10	1	26	0	113	
17:00	17:15	0	0	0	0	0	3	0	22	0	107	
17:15	17:30	0	0	0	0	0	6	0	23	1	101	
17:30	17:45	0	0	0	1	0	7	0	13	0	88	
17:45	18:00	0	0	0	0	0	9	0	22	0	81	
18:00	18:15	0	0	0	0	0	4	0	15	0	68	
18:15	18:30	0	0	0	0	0	3	1	13	0		
18:30	18:45	0	0	0	0	0	7	0	7	0		
18:45	19:00	0	1	0	0	2	3	0	12	0		

Peak Time		East Approach Cruz Rd			South Approach Tuckerroo S			West Approach Cruz Rd			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	
7:45	8:45	0	1	2	0	1	99	0	15	1	119
16:30	17:30	0	0	0	0	0	27	1	87	1	116

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

Time		East Approach Cruz Rd			South Approach Tuckerroo S			West Approach Cruz Rd		
Period Start	Period End	U	WB	L	U	R	L	U	R	EB
7:00	7:15	0	0	0	0	0	6	0	3	1
7:15	7:30	0	1	0	0	0	13	0	3	0
7:30	7:45	0	0	0	0	1	11	0	2	0
7:45	8:00	0	0	0	0	0	17	0	6	0
8:00	8:15	0	1	0	0	0	18	0	2	1
8:15	8:30	0	0	2	0	1	37	0	2	0
8:30	8:45	0	0	0	0	0	27	0	5	0
8:45	9:00	0	1	0	0	0	12	0	2	0
9:00	9:15	0	0	0	0	0	8	0	4	0
9:15	9:30	0	0	0	0	0	6	0	5	0
9:30	9:45	0	0	0	0	0	9	0	4	0
9:45	10:00	0	0	0	0	0	6	1	3	0
10:00	10:15	0	0	0	0	0	6	0	7	0
10:15	10:30	0	0	0	0	0	2	0	7	0

Peak Time		East Approach Cruz Rd			South Approach Tuckeroo S			West Approach Cruz Rd			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	
7:45	8:45	0	0	0	0	0	0	0	0	0	0
16:30	17:30	0	0	0	0	0	0	0	1	0	1

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Anglesea St and Mirelle Dr, Winter Valley

GPS -37.574818, 143.798942

Date:	Tue 02/09/25
Weather:	Overcast
Suburban:	Winter Valley
Customer:	BW

North:	Mirelle Dr
East:	N/A
South:	Mirelle Dr
West:	Anglesea St

Survey	AM:	7:00 AM-12:00 PM
Period	PM:	12:00 PM-7:00 PM
Traffic	AM:	8:00 AM-9:00 AM
Peak	PM:	4:30 PM-5:30 PM

All Vehicles

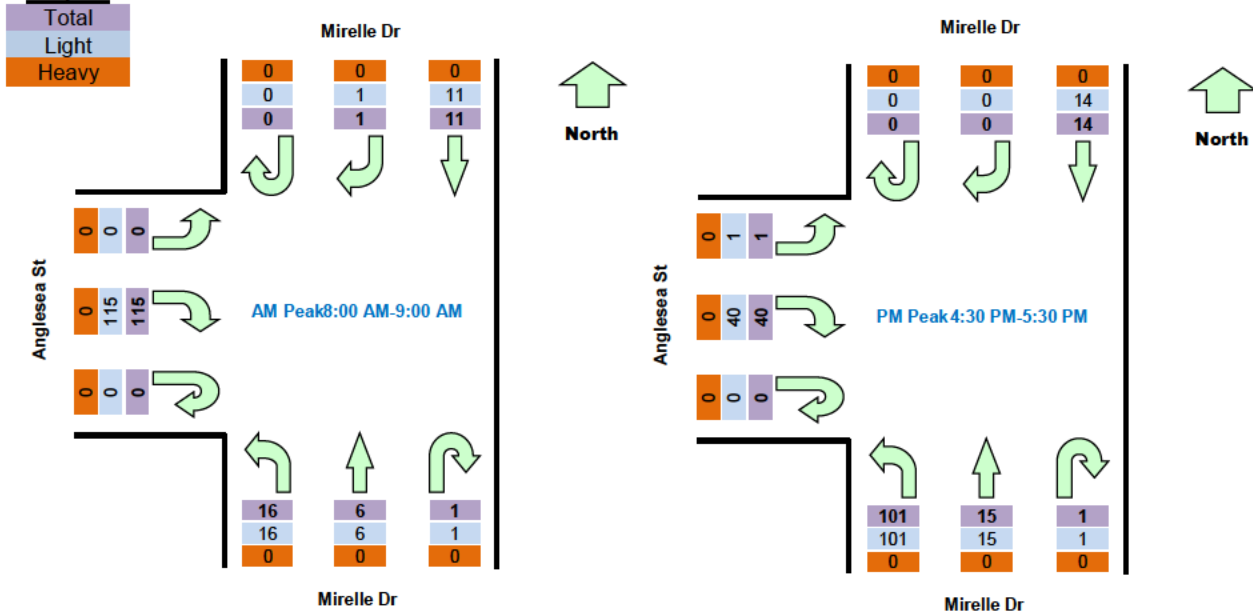
Time		North Approach Mirelle Dr			South Approach Mirelle Dr			West Approach Anglesea St			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
7:00	7:15	0	1	0	0	3	4	0	8	0	92	
7:15	7:30	0	0	1	0	2	4	0	14	0	104	
7:30	7:45	0	0	2	0	2	3	0	18	0	127	
7:45	8:00	0	0	3	0	3	5	0	19	0	149	
8:00	8:15	0	1	2	0	0	2	0	23	0	150	Peak
8:15	8:30	0	0	2	0	0	2	0	40	0	141	
8:30	8:45	0	0	3	0	1	6	0	37	0	119	
8:45	9:00	0	0	4	1	5	6	0	15	0	86	
9:00	9:15	0	0	3	0	2	7	0	7	0	77	
9:15	9:30	0	1	3	0	0	7	0	10	1	74	
9:30	9:45	0	0	2	0	0	4	0	8	0	65	
9:45	10:00	0	0	0	1	4	5	0	10	2	69	
10:00	10:15	0	0	0	0	0	8	0	8	0	64	
10:15	10:30	0	0	1	0	2	5	0	5	0	64	
10:30	10:45	0	0	0	0	2	10	0	5	1	70	
10:45	11:00	0	0	1	0	4	5	0	7	0	69	
11:00	11:15	0	0	1	0	3	5	0	7	0	70	
11:15	11:30	0	0	3	0	3	4	0	9	0		
11:30	11:45	0	0	1	0	2	9	0	5	0		
11:45	12:00	0	0	1	2	3	4	0	8	0		
12:00	12:15	0	0	0	0	2	5	0	5	0	66	
12:15	12:30	0	0	1	0	3	9	0	4	0	76	
12:30	12:45	0	0	3	0	2	7	0	6	0	77	
12:45	13:00	0	1	1	0	4	4	0	9	0	78	
13:00	13:15	0	0	2	0	5	5	0	10	0	75	
13:15	13:30	0	0	4	0	1	9	0	4	0	71	
13:30	13:45	0	0	2	0	4	7	0	5	1	81	
13:45	14:00	0	0	2	0	2	7	0	5	0	93	
14:00	14:15	0	0	2	0	3	4	0	9	0	112	
14:15	14:30	0	0	2	0	1	13	0	12	0	125	
14:30	14:45	0	0	5	0	3	10	0	13	0	121	
14:45	15:00	0	0	2	0	1	11	0	21	0	122	

15:00	15:15	0	1	2	0	3	16	0	9	0	129	
15:15	15:30	0	0	5	0	3	12	0	4	0	138	
15:30	15:45	0	0	2	0	4	19	0	7	0	152	
15:45	16:00	0	0	3	0	6	22	0	11	0	161	
16:00	16:15	0	0	6	0	3	22	0	9	0	168	
16:15	16:30	0	0	1	0	3	22	0	12	0	168	
16:30	16:45	0	0	7	1	4	19	0	9	1	172	Peak
16:45	17:00	0	0	4	0	7	26	0	12	0	158	
17:00	17:15	0	0	1	0	3	26	0	10	0	147	
17:15	17:30	0	0	2	0	1	30	0	9	0	140	
17:30	17:45	0	0	0	0	2	20	0	5	0	124	
17:45	18:00	0	0	1	0	1	24	0	12	0	115	
18:00	18:15	0	0	1	0	3	19	0	10	0	100	
18:15	18:30	0	0	2	0	6	16	0	2	0		
18:30	18:45	0	0	0	0	3	8	0	7	0		
18:45	19:00	0	0	0	0	2	14	0	6	1		

Peak Time		North Approach Mirelle Dr			South Approach Mirelle Dr			West Approach Anglesea St			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
8:00	9:00	0	1	11	1	6	16	0	115	0	150
16:30	17:30	0	0	14	1	15	101	0	40	1	172

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic



Light Vehicles

Time		North Approach Mirelle Dr			South Approach Mirelle Dr			West Approach Anglesea St		
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
7:00	7:15	0	1	0	0	3	4	0	8	0
7:15	7:30	0	0	1	0	2	4	0	14	0
7:30	7:45	0	0	2	0	2	3	0	18	0

7:45	8:00	0	0	3	0	3	5	0	19	0
8:00	8:15	0	1	2	0	0	2	0	23	0
8:15	8:30	0	0	2	0	0	2	0	40	0
8:30	8:45	0	0	3	0	1	6	0	37	0
8:45	9:00	0	0	4	1	5	6	0	15	0
9:00	9:15	0	0	3	0	2	7	0	7	0
9:15	9:30	0	0	3	0	0	7	0	10	0
9:30	9:45	0	0	2	0	0	4	0	8	0
9:45	10:00	0	0	0	1	4	5	0	10	2
10:00	10:15	0	0	0	0	0	8	0	8	0
10:15	10:30	0	0	1	0	2	5	0	5	0
10:30	10:45	0	0	0	0	2	10	0	5	1
10:45	11:00	0	0	1	0	4	5	0	7	0
11:00	11:15	0	0	1	0	3	5	0	7	0
11:15	11:30	0	0	3	0	3	4	0	8	0
11:30	11:45	0	0	1	0	2	9	0	5	0
11:45	12:00	0	0	1	2	3	4	0	8	0
12:00	12:15	0	0	0	0	2	5	0	5	0
12:15	12:30	0	0	1	0	3	9	0	4	0
12:30	12:45	0	0	3	0	2	7	0	5	0
12:45	13:00	0	1	1	0	4	4	0	9	0
13:00	13:15	0	0	2	0	5	5	0	10	0
13:15	13:30	0	0	4	0	1	9	0	4	0
13:30	13:45	0	0	1	0	4	7	0	5	1
13:45	14:00	0	0	2	0	2	7	0	5	0
14:00	14:15	0	0	2	0	2	4	0	9	0
14:15	14:30	0	0	2	0	1	13	0	12	0
14:30	14:45	0	0	5	0	3	10	0	13	0
14:45	15:00	0	0	2	0	1	11	0	21	0
15:00	15:15	0	1	2	0	3	16	0	9	0
15:15	15:30	0	0	4	0	2	12	0	4	0
15:30	15:45	0	0	2	0	4	19	0	6	0
15:45	16:00	0	0	3	0	6	22	0	10	0
16:00	16:15	0	0	6	0	3	22	0	9	0
16:15	16:30	0	0	1	0	3	22	0	12	0
16:30	16:45	0	0	7	1	4	19	0	9	1
16:45	17:00	0	0	4	0	7	26	0	12	0
17:00	17:15	0	0	1	0	3	26	0	10	0
17:15	17:30	0	0	2	0	1	30	0	9	0
17:30	17:45	0	0	0	0	2	20	0	5	0
17:45	18:00	0	0	1	0	1	24	0	12	0
18:00	18:15	0	0	1	0	3	19	0	10	0

[illegible][illegible]

TRANS TRAFFIC SURVEY

trafficsurvey.com.au



ORIGIN DESTINATION SURVEY

Date: Tuesday, 2 September 2025

Vehicle Class

All

Time		A						D					
From	To	SB	NB	to B	to C	to D	to E	WB	EB	to A	to B	to C	to E
7:00	7:15	3	6	6	0	0	0	1	6	0	0	0	2
7:15	7:30	3	13	13	0	0	0	0	5	0	0	0	5
7:30	7:45	2	12	12	0	0	0	0	8	0	0	0	5
7:45	8:00	6	17	17	0	0	0	1	4	0	0	0	3
8:00	8:15	2	18	18	0	0	0	5	7	0	0	0	7
8:15	8:30	4	38	36	0	0	0	4	17	0	0	0	10
8:30	8:45	5	27	27	0	0	0	5	11	0	0	0	7
8:45	9:00	2	12	12	0	0	1	6	12	0	0	0	7
9:00	9:15	4	8	8	0	0	0	6	9	0	0	0	4
9:15	9:30	6	7	6	0	0	0	0	5	0	0	0	3
9:30	9:45	4	9	9	0	0	0	0	8	0	0	0	6
9:45	10:00	3	6	6	0	0	0	0	3	0	0	0	3
10:00	10:15	7	6	6	0	0	0	0	1	0	0	0	0
10:15	10:30	7	2	2	0	0	0	0	1	0	0	0	1
10:30	10:45	9	6	5	0	0	0	3	6	0	0	0	0
10:45	11:00	6	0	0	0	0	0	1	5	1	1	0	5
11:00	11:15	3	4	4	0	0	0	4	7	0	0	0	5
11:15	11:30	2	5	5	0	0	0	1	4	0	0	0	4
11:30	11:45	5	2	2	0	0	0	1	7	0	0	0	6
11:45	12:00	4	6	6	0	0	1	3	4	0	0	0	2
12:00	12:15	5	5	4	0	0	0	3	1	0	0	0	0
12:15	12:30	5	5	5	0	0	0	1	3	0	0	0	1
12:30	12:45	8	5	5	0	0	0	3	9	0	0	0	7
12:45	13:00	4	5	5	0	0	0	1	7	0	1	0	6

13:00	13:15	4	8	8	0	0	0	0	6	0	0	0	4
13:15	13:30	9	4	4	0	0	0	2	1	0	0	0	1
13:30	13:45	7	3	3	0	0	0	2	5	0	0	0	2
13:45	14:00	8	4	4	0	0	0	4	1	0	0	0	1
14:00	14:15	3	11	8	0	0	0	3	6	0	0	0	4
14:15	14:30	11	10	10	0	0	0	2	4	0	0	0	2
14:30	14:45	8	8	8	0	0	0	3	5	0	0	0	4
14:45	15:00	6	13	12	0	1	1	1	7	0	0	0	5
15:00	15:15	11	8	8	0	0	0	5	6	0	0	0	3
15:15	15:30	12	1	1	0	0	1	3	7	0	0	0	3
15:30	15:45	16	8	8	0	0	0	10	11	0	0	0	3
15:45	16:00	18	9	8	0	0	0	7	10	0	0	0	7
16:00	16:15	19	3	3	0	0	0	4	10	0	0	0	10
16:15	16:30	18	8	8	0	0	0	5	5	0	0	0	2
16:30	16:45	16	8	8	0	0	0	3	7	0	0	0	5
16:45	17:00	26	10	10	0	0	0	1	1	0	0	0	1
17:00	17:15	22	3	3	0	0	0	8	9	0	0	0	4
17:15	17:30	23	6	6	0	0	0	2	7	0	0	0	3
17:30	17:45	14	8	5	0	0	0	3	7	0	0	0	2
17:45	18:00	22	9	9	0	0	0	6	6	0	0	0	4
18:00	18:15	15	4	4	0	0	0	0	6	0	0	0	4
18:15	18:30	13	3	2	0	0	0	3	3	0	0	0	2
18:30	18:45	7	7	5	0	0	0	3	8	0	0	0	3
18:45	19:00	12	5	2	0	0	0	1	4	0	0	0	4
7:00	19:15	429	385	366	0	1	4	130	292	1	2	0	182