



RECEIVED
05/08/2026
TOOWOOMBA
REGIONAL COUNCIL

TRAFFIC IMPACT ASSESSMENT

PROPOSED RECONFIGURATION OF A LOT
229 HURSLEY ROAD, TORRINGTON

Prepared for
TUNNEY INVESTMENTS

1 JUNE 2026

DOCUMENT REGISTER

RTE Reference 26078

Document History

Version	Version date	Details	Reviewed and Authorised	
			Name / Position	Signature
1	1 JUNE 2026	DA	Luke Rytenskild Director RPEQ 6293	

COPYRIGHT NOTICE

© Copyright CRG Traffic Pty Ltd All Rights Reserved. Copyright in the whole and every part of this document belongs to CRG Traffic Pty Ltd and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person without the prior written consent of CRG Traffic Pty Ltd.

COMPANY INFORMATION

CRG Traffic Pty Ltd as trustee for the Rytenskild CRG Trust trading as Rytenskild Traffic Group
ABN 24 401 134 418
ACN 151 846 847
Director: Luke Rytenskild RPEQ 6293

GOLD COAST
Unit 2,
24 Surfers Avenue
Mermaid Beach QLD 4218

BRISBANE
Level 5
320 Adelaide Street
Brisbane QLD 4000

SYDNEY
Level 26
44 Market Street
Sydney NSW 2000

Phone: 1300 220020
Facsimile: 1300 087177
Email: info@rytenskildtraffic.com
Web: www.rytenskildtraffic.com

TABLE OF CONTENTS

1.0	INTRODUCTION	4
2.0	SUBJECT SITE.....	4
2.1	Site and road network.....	4
2.2	Road network	4
2.3	Road Hierarchy	4
2.4	Surveyed Traffic Volumes	8
2.5	Future Traffic Volumes.....	10
3.0	DEVELOPMENT PROPOSAL	14
4.0	DEVELOPMENT TRAFFIC ESTIMATES	17
4.1	Traffic Generation	17
4.2	Traffic Distribution	17
5.0	ROAD NETWORK IMPACTS	20
5.1	Design traffic volumes.....	20
5.2	Turn warrants assessment	20
5.3	Intersection Performance	28
6.0	PROPOSED ROAD NETWORK	29
7.0	SUMMARY OF CONCLUSIONS & RECOMMENDATIONS	30
APPENDICES.....		30
	ATTACHMENT A – SURVEYED TRAFFIC VOLUMES	31
	ATTACHMENT B – CRITERIA FOR EVALUATING SIDRA RESULTS	34
	ATTACHMENT C – SIDRA MODELLING RESULTS	35

1.0 INTRODUCTION

Rytenskild Traffic Engineering (RTE) has been engaged by Tunney Investments to prepare a Traffic Impact Assessment of its proposed reconfiguration of a lot to a residential subdivision at Torrington.

This report forms part of a Development Application for a Reconfiguration of a Lot, to be lodged with the Toowoomba Regional Council.

2.0 SUBJECT SITE

2.1 Site and road network

As shown in Figure 2.1, the subject site is located on the southwestern end of Rielly Street, and is currently vacant. The site is formally identified as Lot 1 on SP349893.

2.2 Road network

Carrington Road forms part of the Toowoomba – Cecil Plains Road corridor and is a state-controlled road. It runs generally in an east – west orientation through the study area and provides regional connectivity between Toowoomba and rural localities to the west. Carrington Road has a posted speed limit of 70km/hr and generally comprises a single traffic lane in each direction with sealed shoulders.

Robson–Hursley Road is a local road that provides access to adjoining properties and industrial land uses within the Torrington area. It has a posted speed limit of 50 km/h and comprises a single traffic lane in each direction.

Rielly Street is a local distributor road serving the surrounding industrial area. It generally runs in a north – south orientation, connecting Carrington Road to the internal local road network within Torrington. Rielly Street accommodates a mix of light and heavy vehicle traffic associated with existing and emerging industrial development and provides access to adjoining properties and local streets within the area.

The Carrington Road / Rielly Street intersection is a priority-controlled T-intersection, with a short turn lane for traffic turning left from Carrington Road into Rielly Street.

The Hursley Road / Molloy Street intersection provides access into the broader local industrial area from Hursley Road. To the east, Tait Street and Lewis Street provide secondary connections to Boundary Street, with basic priority-controlled treatments in place.

Figures 2.2 and 2.3 illustrate the surrounding road hierarchy and typical road environment within the study area.

2.3 Road Hierarchy

As shown in Figure 2.2, the Toowoomba Road Hierarchy plan nominates the following classification for each road within the local area:

- | | |
|--|------------------------|
| • Carrington Road - | Regional Arterial road |
| • Hursley Road - | Sub-Arterial road |
| • Robson – Hursley Road - | Distributor road |
| • Rielly Street, Hillman Street, Tait Street - | Distributor road |
| • Molloy Street (south) - | Local road. |



FIGURE 2.1 – LOCATION OF SUBJECT SITE



FIGURE 2.2 – EXTRACTS FROM TOOWOOMBA REGIONAL PLANNING SCHEME



FIGURE 2.3 – IMAGES OF CARRINGTON RD AND ROBSON HURSLEY RD NEAR SITE

2.4 Surveyed Traffic Volumes

RTE carried out peak period traffic counts at the following intersections on Thursday 15th September 2022:

- Carrington Road / Rielly Street;
- Carrington Road / Robson Hursley Road;
- Hursley Road / Molloy Street.

A summary of the surveyed peak hour traffic volumes are shown in Figures 2.4 and 2.5. Full traffic survey results are provided as Appendix A.

AM PEAK HOUR TRAFFIC VOLUMES (7.45AM - 8.45AM THUR 15 SEP 2022)

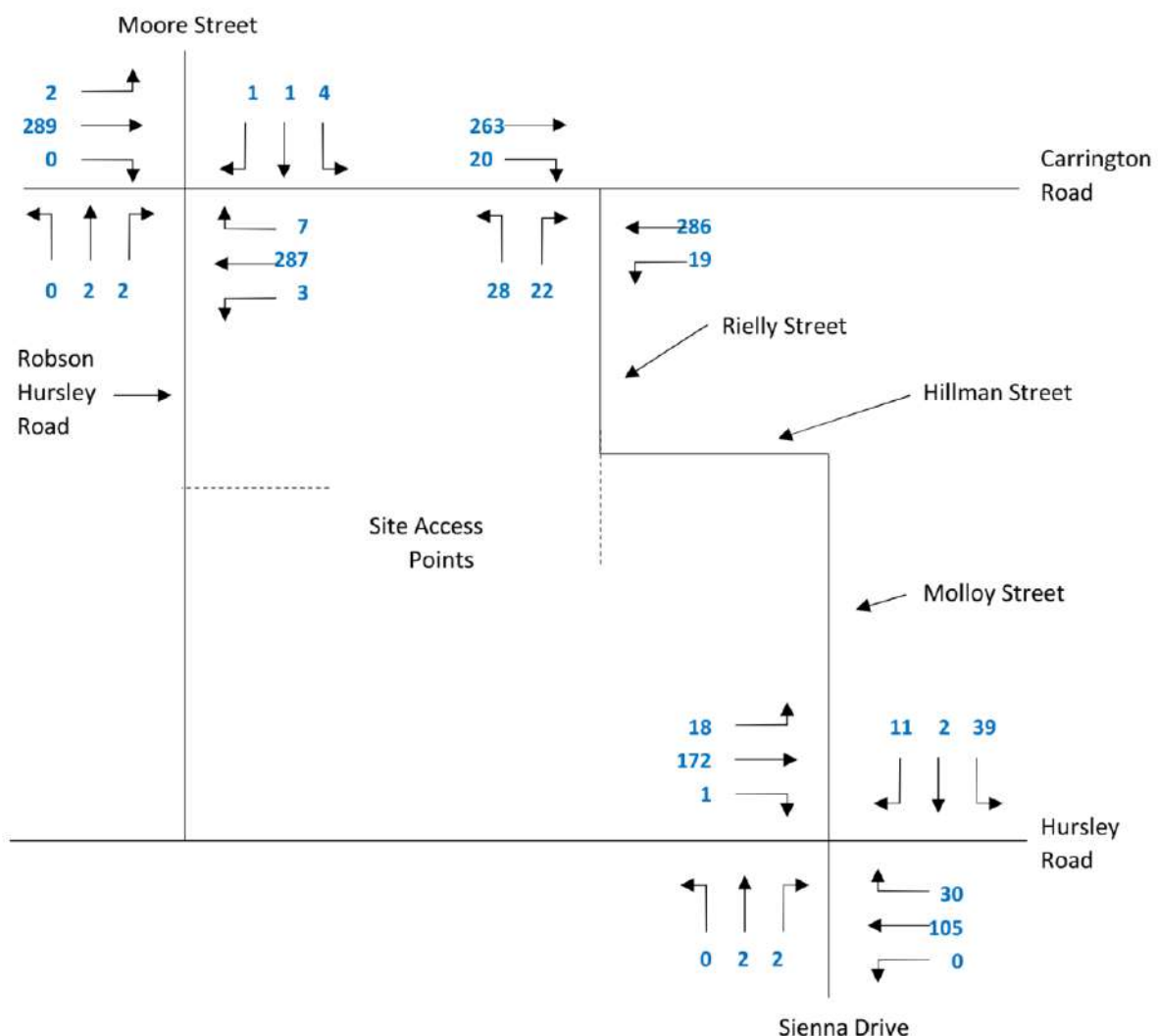


FIGURE 2.4 – SURVEYED PEAK PERIOD TRAFFIC VOLUMES (AM PEAK)

**PM PEAK HOUR TRAFFIC VOLUMES
 (3.30PM - 4.30PM THUR 15 SEP 2022)**

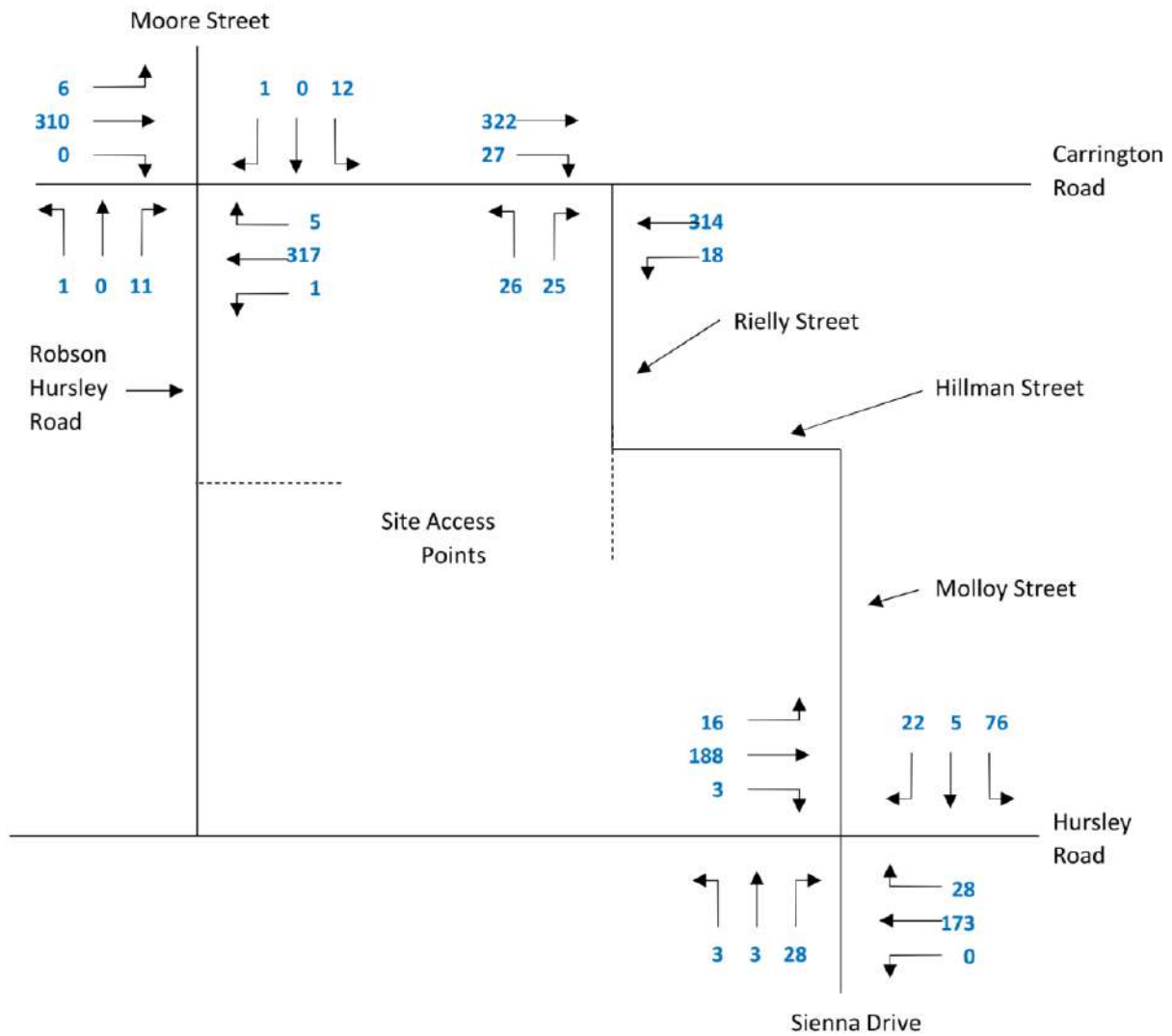


FIGURE 2.5 – SURVEYED PEAK PERIOD TRAFFIC VOLUMES (PM PEAK)

2.5 Future Traffic Volumes

For the purposes of this assessment, an annual growth rate of 2.5% per annum has been applied to the surveyed volumes.

This is a relatively high rate of growth and results in the following background traffic volumes shown in Figures 2.6 – 2.9.

AM PEAK HOUR TRAFFIC VOLUMES Background 2028 Peak Traffic

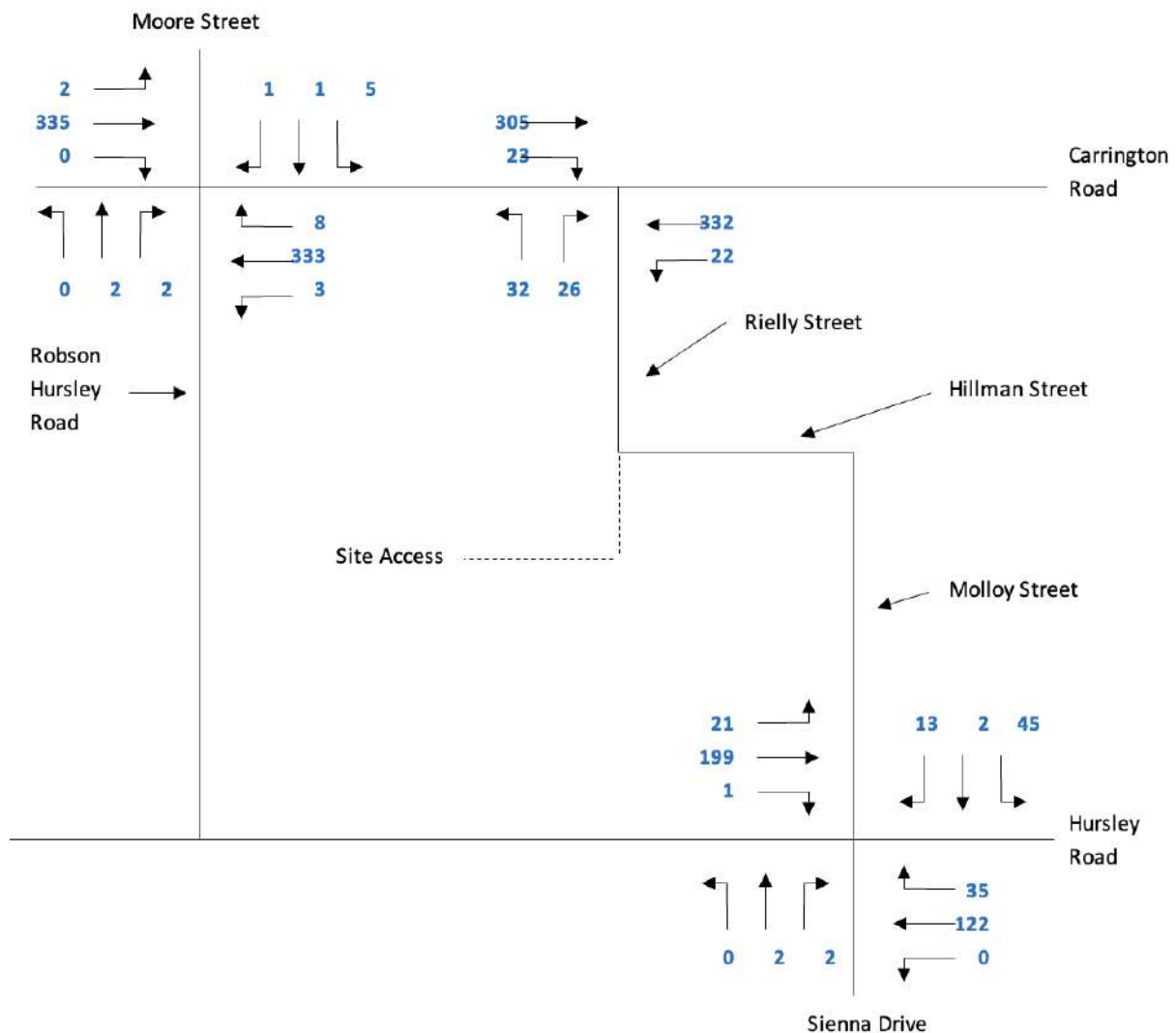


FIGURE 2.6 – BACKGROUND 2028 PEAK PERIOD TRAFFIC VOLUMES (AM PEAK)

PM PEAK HOUR TRAFFIC VOLUMES

Background 2028 Peak Traffic

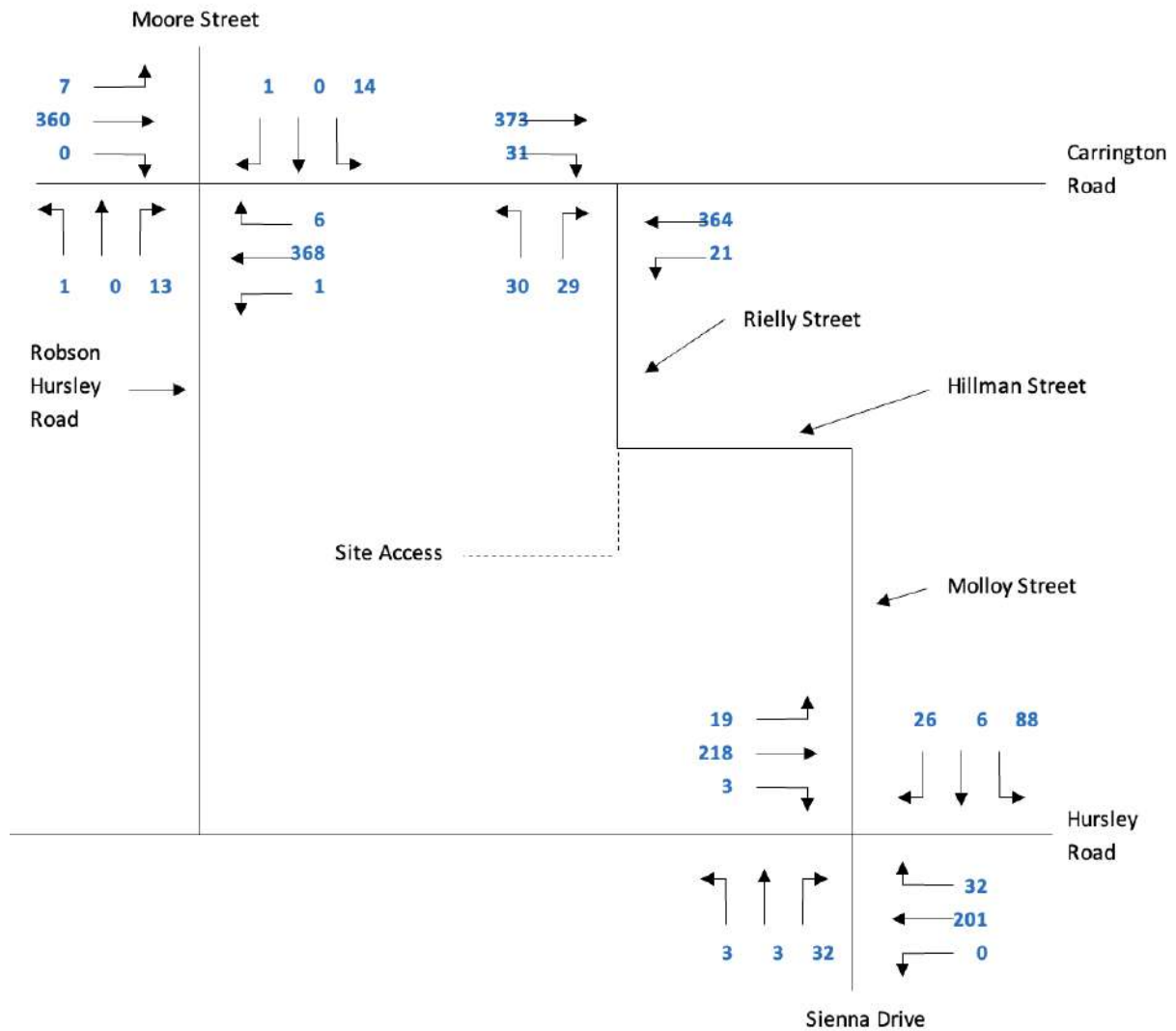


FIGURE 2.7 – BACKGROUND 2028 PEAK PERIOD TRAFFIC VOLUMES (PM PEAK)

AM PEAK HOUR TRAFFIC VOLUMES

Background 2038 Peak Traffic

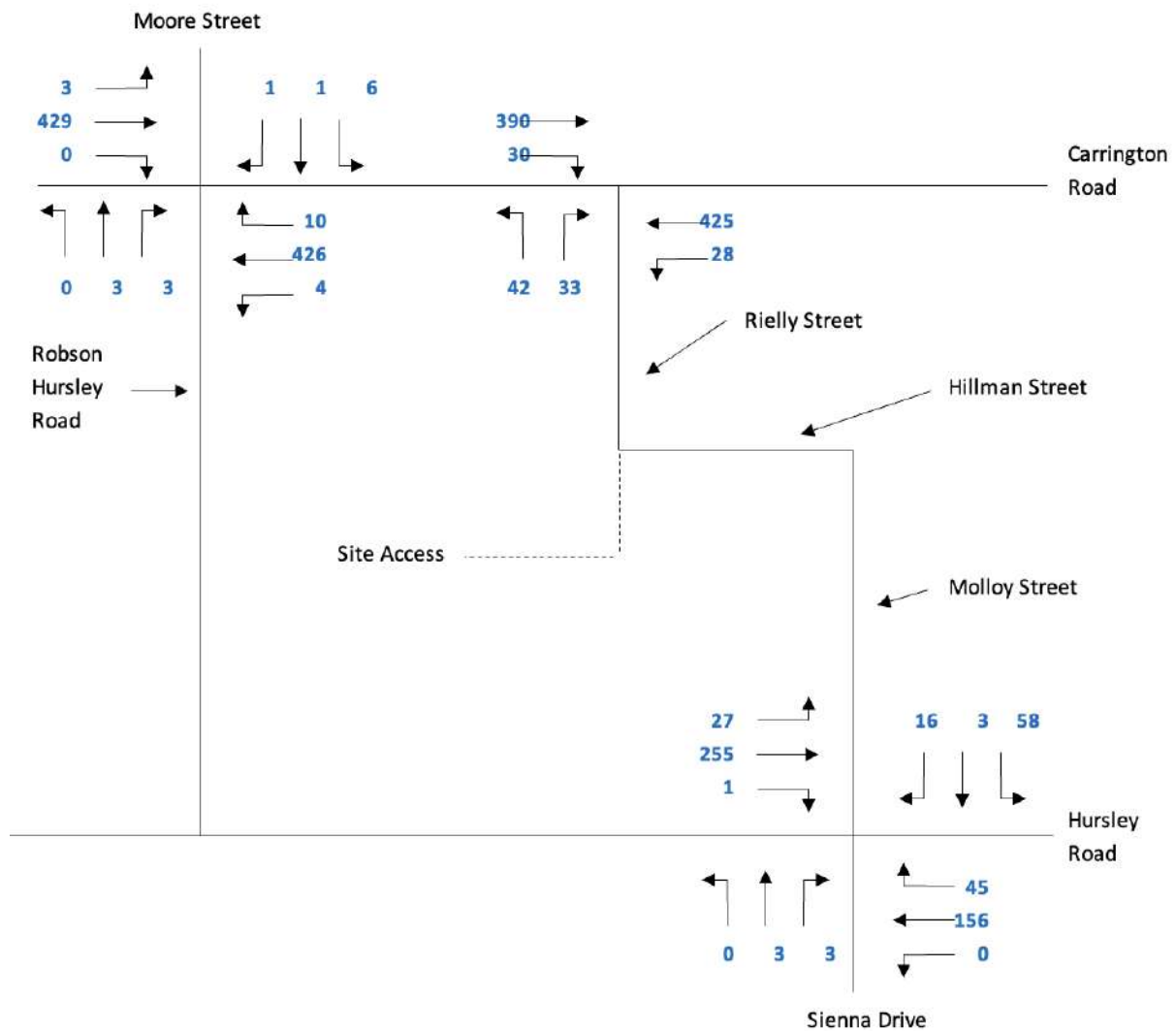


FIGURE 2.8 – BACKGROUND 2028 PEAK PERIOD TRAFFIC VOLUMES (AM PEAK)

PM PEAK HOUR TRAFFIC VOLUMES
Background 2038 Peak Traffic

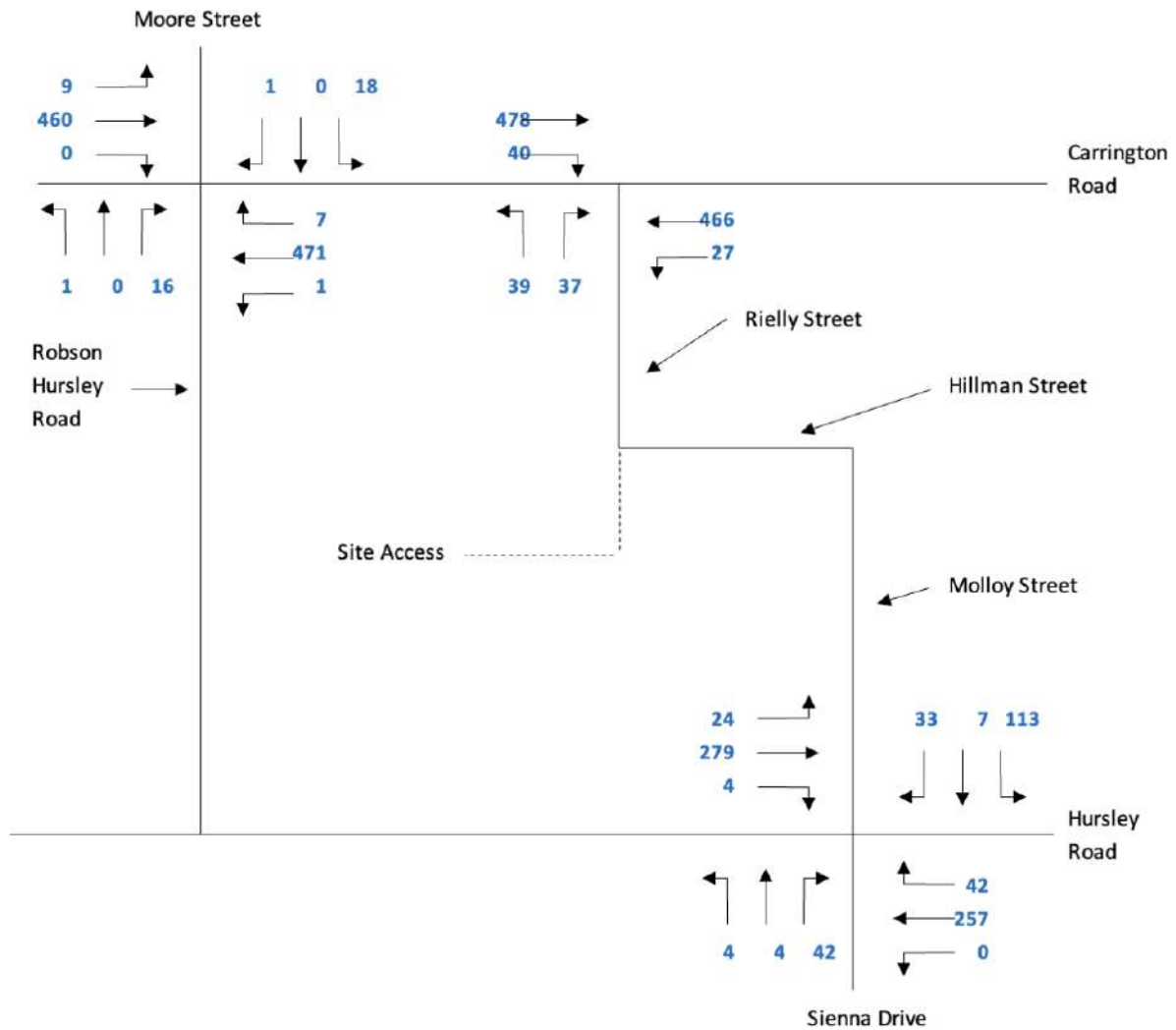


FIGURE 2.9 – BACKGROUND 2028 PEAK PERIOD TRAFFIC VOLUMES (PM PEAK)

3.0 DEVELOPMENT PROPOSAL

The proposed plan of subdivision comprises of 19 residential lots.

A new road is proposed to be constructed, connecting to Rielly Street to the northeast. The proposed road, designated as Driveway 1, enters the site via a split-carriageway configuration separated by a landscaped batter, and terminates with a cul-de-sac at the western end.

A secondary road corridor, designated as Driveway 2, branches south from the main cul-de-sac turnaround. This alignment provides direct access to Lot 12 and is configured to facilitate future road connectivity and access to the masterplanned subdivision area to the south.

The proposed preliminary plan of reconfiguration and concept master plan are shown in Figures 4.1 and 4.2.

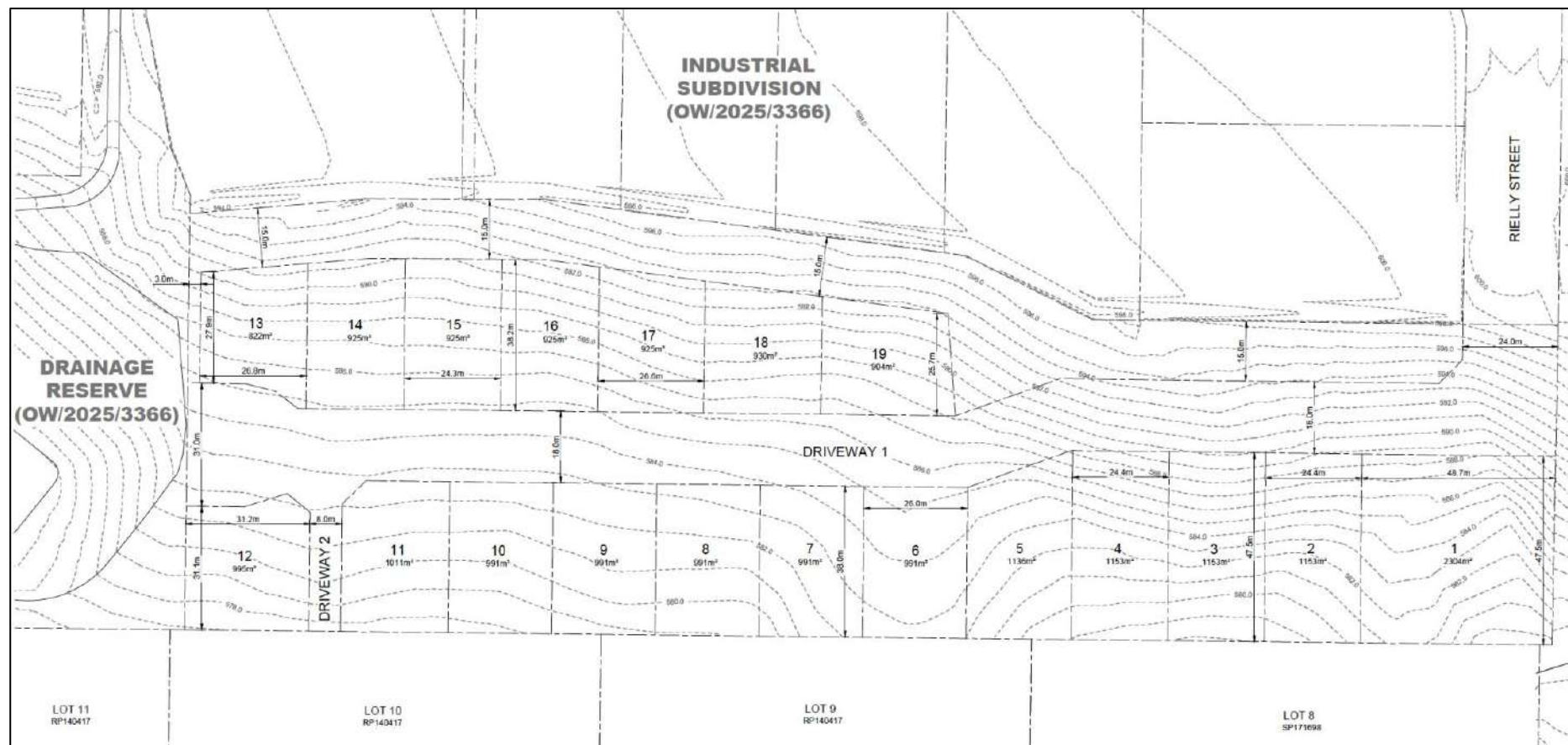


FIGURE 3.1 – PRELIMINARY LOT LAYOUT PLAN

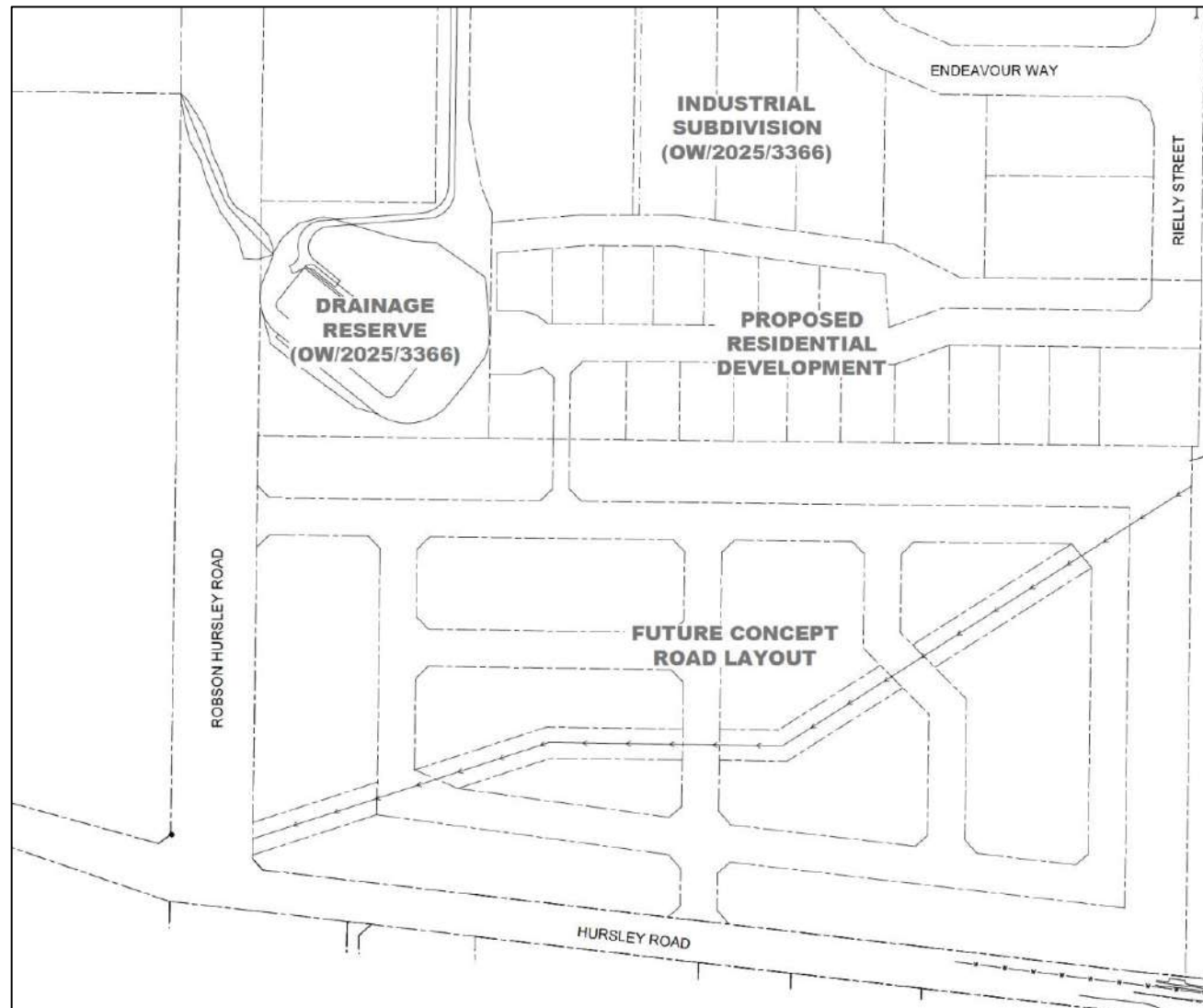


FIGURE 3.2 – PROPOSED CONCEPT MASTER PLAN

4.0 DEVELOPMENT TRAFFIC ESTIMATES

4.1 Traffic Generation

The proposed development comprises 19 residential lots.

A summary of the estimated traffic generation is shown in Table 4.1.

Table 4.1 – Summary of traffic generation estimates

Component	No. Lots	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Subdivision	19	6	13	19	13	6	19

Peak Hour Distribution: AM/PM – 70 /30

4.2 Traffic Distribution

Considering the location of the site in the context of the surrounding road network and land use pattern, it is estimated that traffic generated by the use will distribute throughout the network as shown below and in Figures 4.1 and 4.2:

- 50% to / from the north via Carrington Road; and
- 50% to / from the south via Hursley Road.

It is noted that the proposed internal road layout includes provision for a potential future connection to the south to service the adjoining masterplanned subdivision; however, this connection is not part of the current application and will not be utilised for traffic generation associated with the subject development.

AM PEAK HOUR TRAFFIC VOLUMES
Development Traffic Estimates

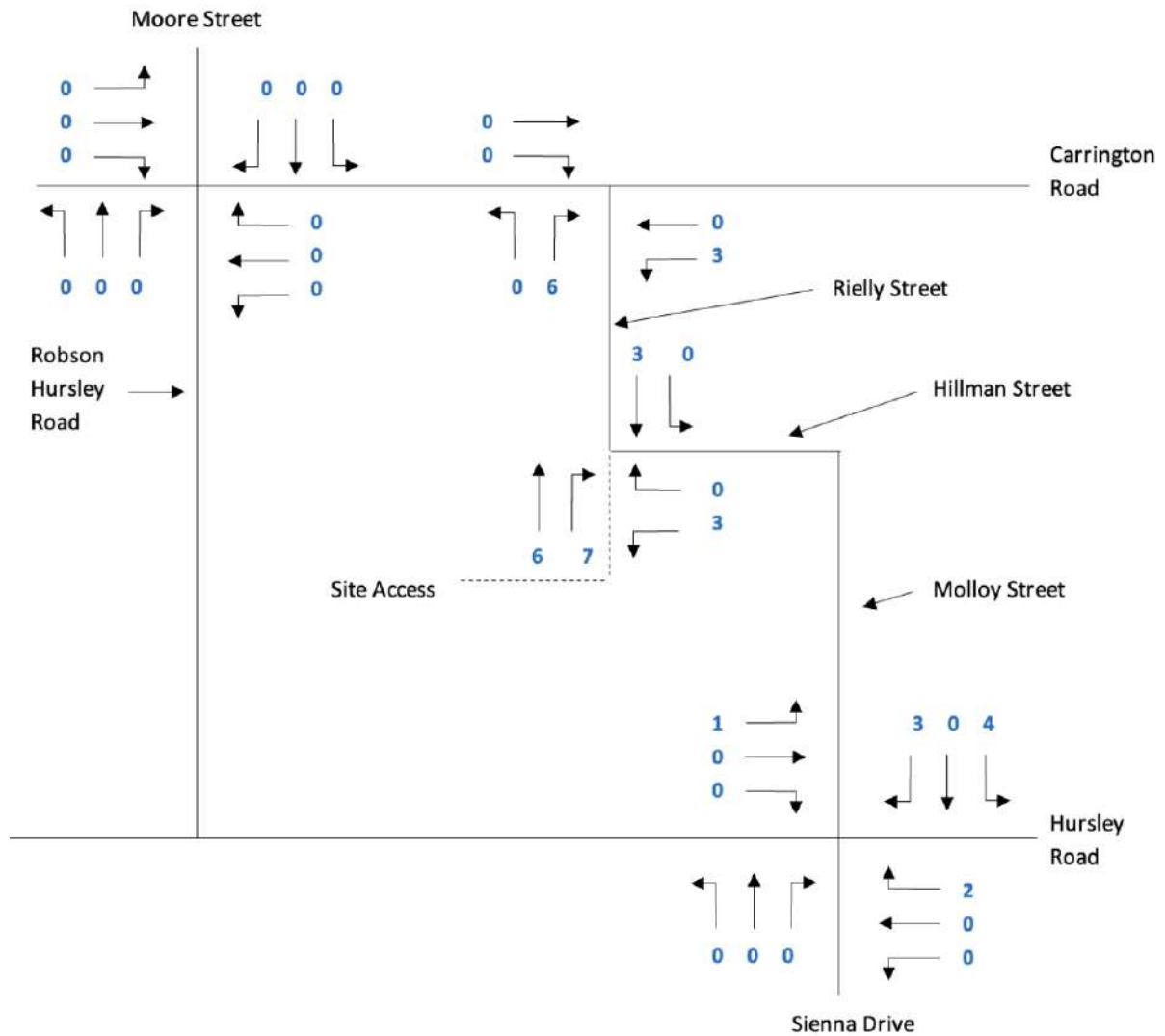


FIGURE 4.1 – ESTIMATED DEVELOPMENT TRAFFIC ESTIMATES (MORNING PEAK)

PM PEAK HOUR TRAFFIC VOLUMES
Development Traffic Estimates

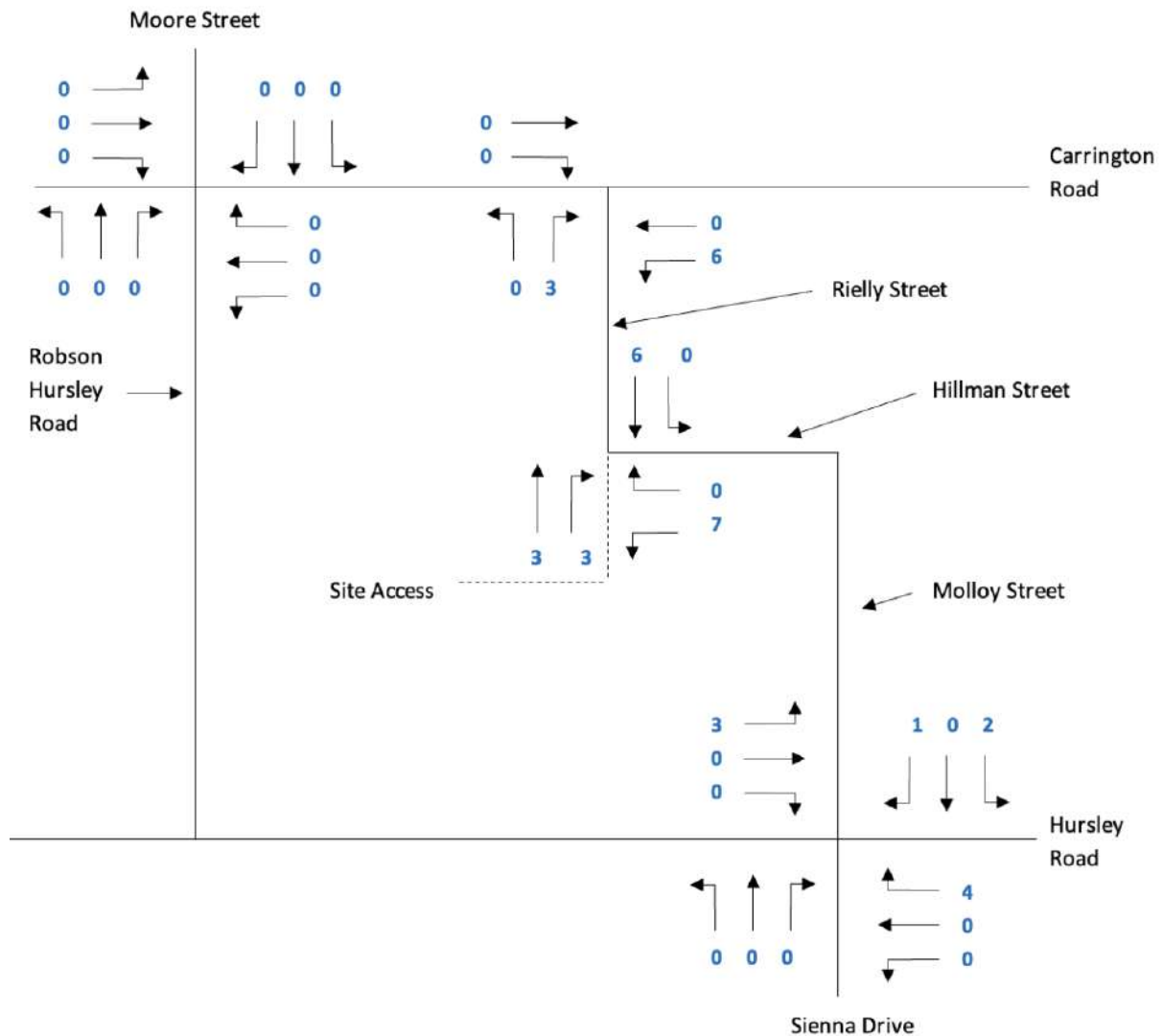


FIGURE 4.2 – ESTIMATED DEVELOPMENT TRAFFIC ESTIMATES (AFTERNOON PEAK)

5.0 ROAD NETWORK IMPACTS

5.1 Design traffic volumes

Design traffic volumes have been derived by:

- Applying a 2.5% per annum growth rate to surveyed (background) volumes, to estimate year 2028 and 2038 BASE volumes.
- Adding the development traffic estimates to the BASE volumes to estimated DESIGN volumes for the years 2028 and 2038.

DESIGN volumes for the years 2028 and 2038 are shown as Figures 5.1 – 5.2.

5.2 Turn warrants assessment

A turn warrants assessment has been carried out for each intersection for the year 2038 base and design traffic conditions. As shown in Figures 5.3 – 5.4, the turn treatments shown in Table 5.1 are warranted.

Table 5.1 – Turn treatments at various intersections

Intersection	Movement	Existing treatment	Treatment warranted (2034 design)
Carrington Rd / Robson-Hursley Rd	Left turn to Robson-Hursley Rd	TYPE BAL	TYPE BAL
	Right turn to Robson-Hursley Rd	TYPE BAR	TYPE CHR
Carrington Rd / Rielly St	Left turn to Rielly St	TYPE AUL	TYPE AUL
	Right turn to Rielly St	TYPE BAR	TYPE CHR
Hursley Rd / Molloy St	Left turn to Molloy St	TYPE AUL(S)	Type AUL(S)
	Right turn to Molloy St	TYPE CHR	TYPE CHR

AM PEAK HOUR TRAFFIC VOLUMES
Design 2028 Peak Traffic

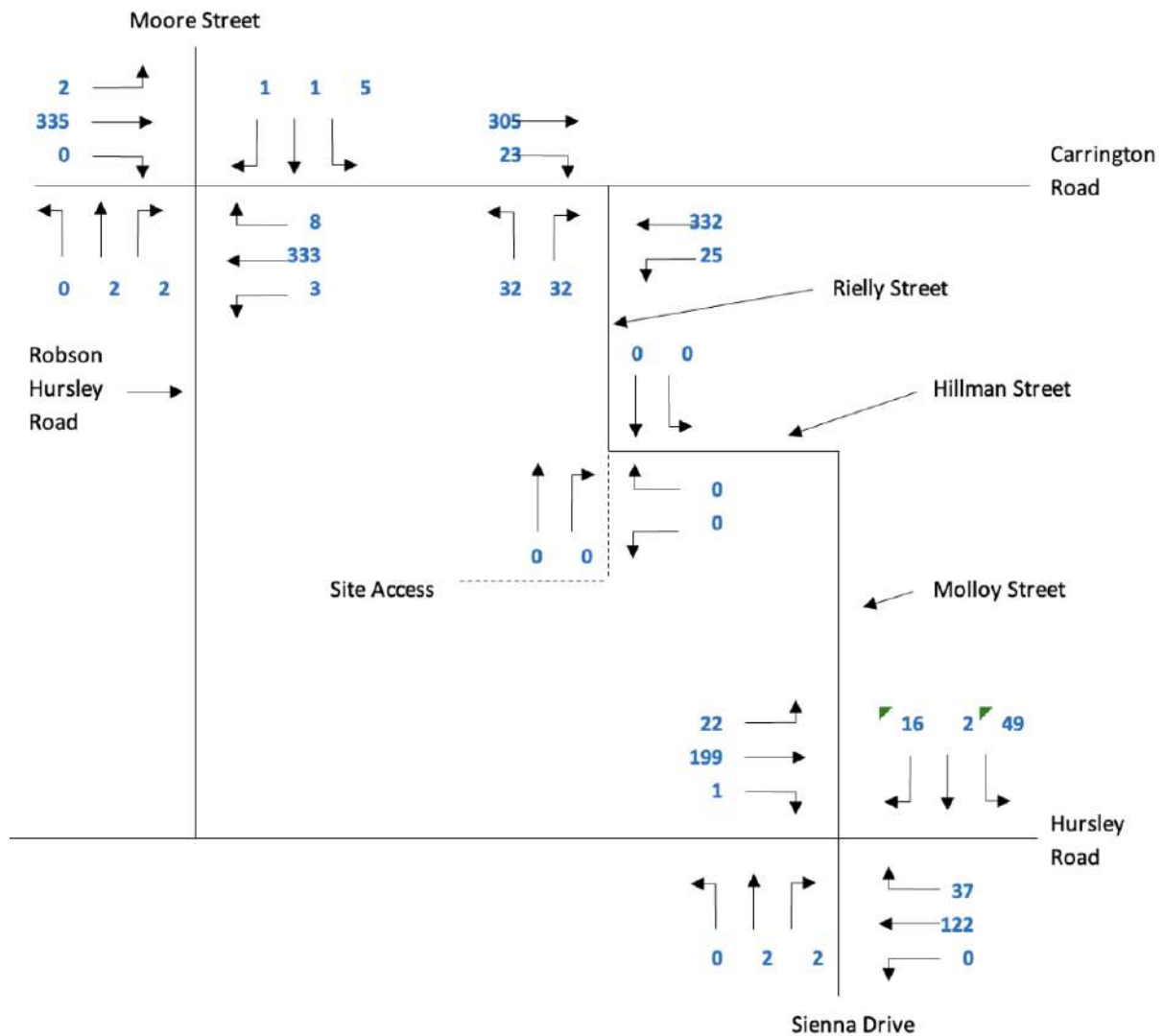


FIGURE 5.1 – DESIGN 2028 TRAFFIC VOLUMES (MORNING PEAK)

PM PEAK HOUR TRAFFIC VOLUMES
Design 2028 Peak Traffic

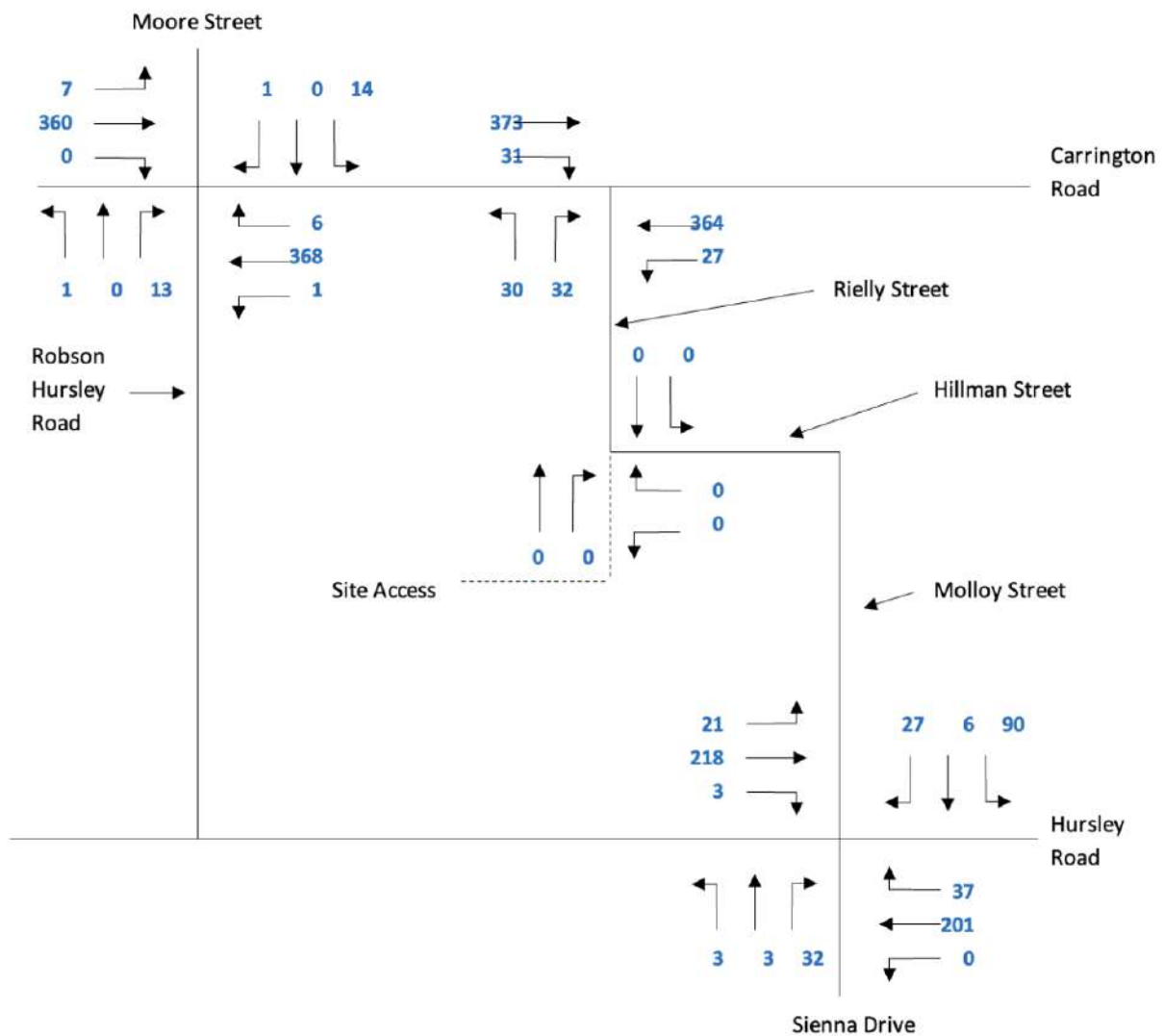


FIGURE 5.2 – DESIGN 2028 TRAFFIC VOLUMES (AFTERNOON PEAK)

AM PEAK HOUR TRAFFIC VOLUMES
Design 2038 Peak Traffic

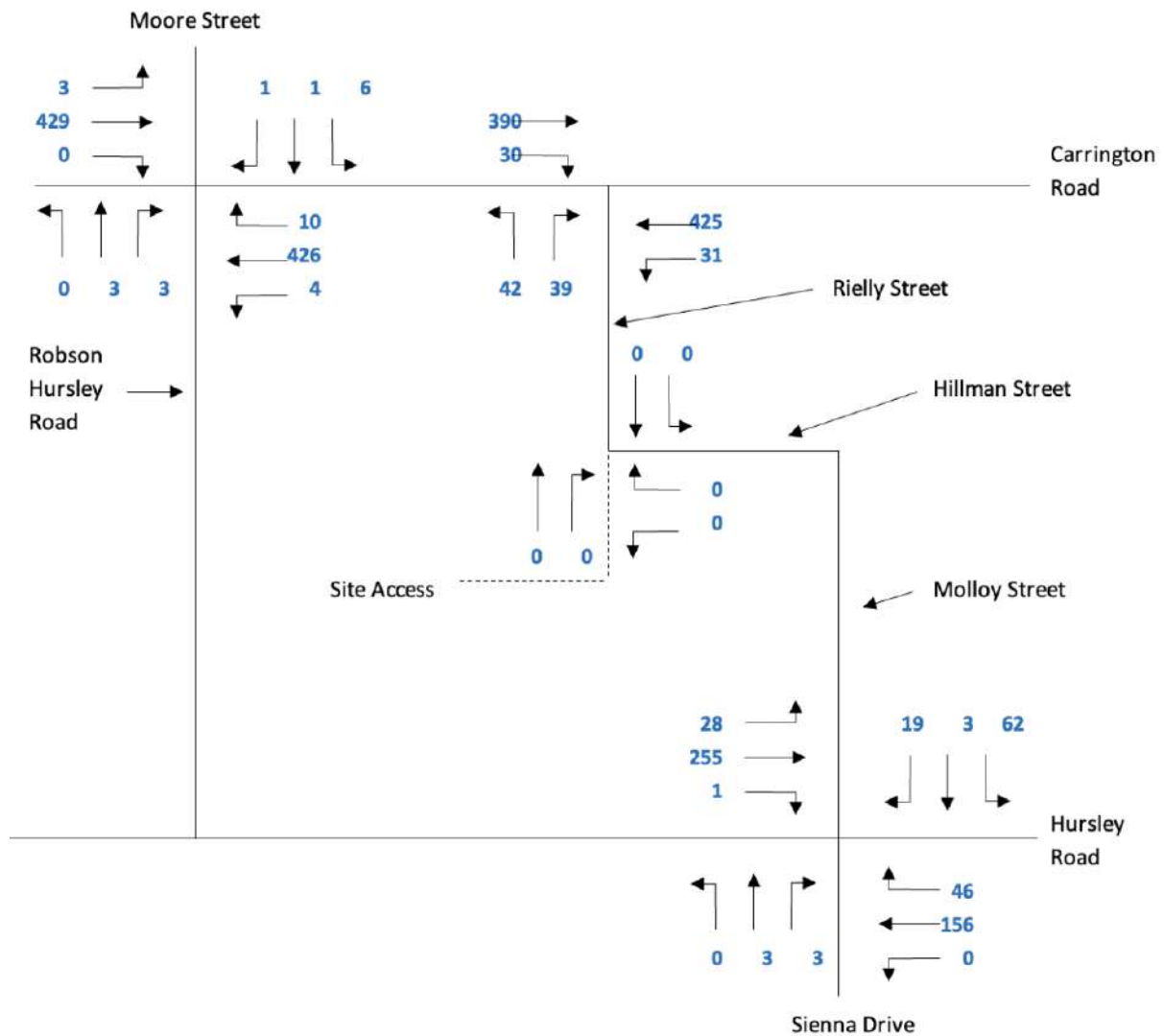


FIGURE 5.3 – DESIGN 2038 TRAFFIC VOLUMES (MORNING PEAK)

PM PEAK HOUR TRAFFIC VOLUMES
Design 2038 Peak Traffic

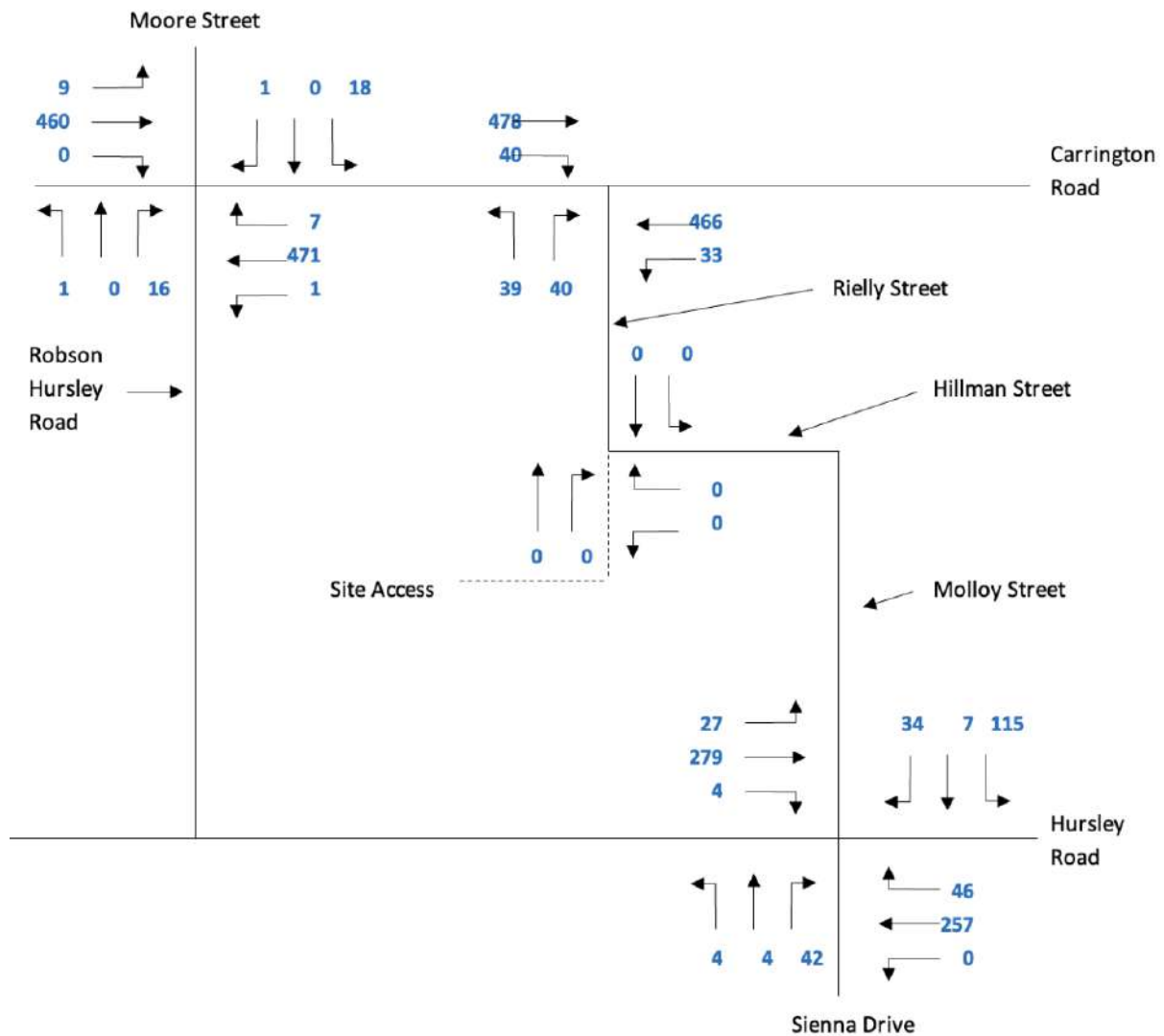
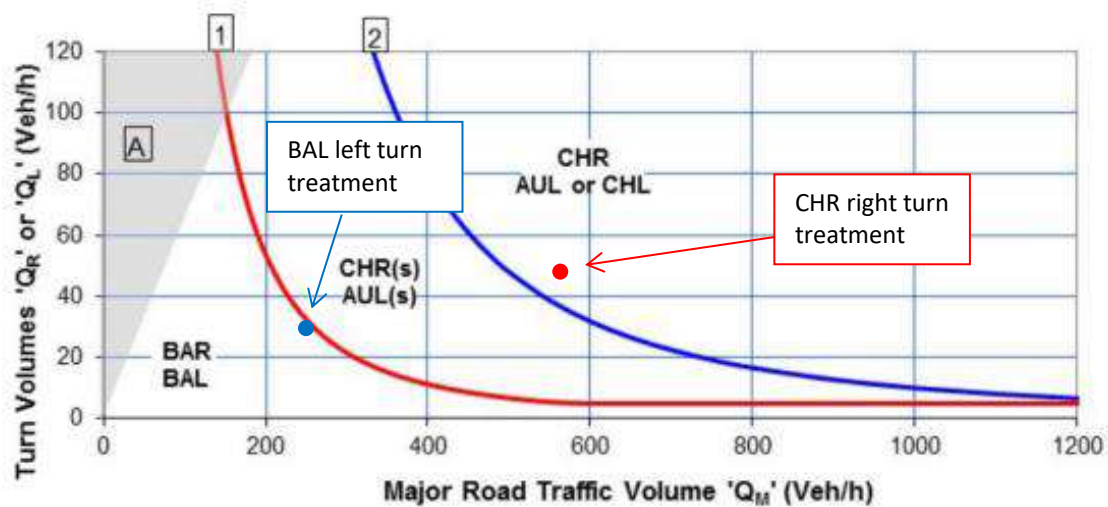


FIGURE 5.4 – DESIGN 2038 TRAFFIC VOLUMES (AFTERNOON PEAK)



(b) 70 km/h < Design Speed < 100 km/h

**FIGURE 5.5 – TURN WARRANTS AT THE CARRINGTON RD / RIELLY ST INTERSECTION
YEAR 2038 DESIGN TRAFFIC CONDITIONS**



(b) 70 km/h < Design Speed < 100 km/h

**FIGURE 5.6 – TURN WARRANTS AT THE HURSLEY RD / MOLLOY ST INTERSECTION
YEAR 2038 DESIGN TRAFFIC CONDITIONS**

As indicated by Table 5.1, upgrade works are warranted at the Carrington Road / Rielly Street intersection to a Type CHR treatment.

It is noted that the above works are warranted regardless of the proposed development.

As shown in Figure 5.6, there is a passing lane available at the Carrington Road / Rielly Street intersection, for eastbound traffic to pass vehicles turning right into Rielly Street. The implementation of a dedicated right turn lane is not considered to be desirable given the position of driveways along the northern side of the road. As indicated by the SIDRA modelling provided in the following section, queuing will be minimal and the existing arrangements



FIGURE 6.6 – EXISTING CARRINGTON ROAD / RIELLY STREET INTERSECTION

5.3 Intersection Performance

A SIDRA analysis has been carried out for the following intersections:

- Carrington Road / Rielly Street; and
- Hursley Road / Molloy Street.

The results of the SIDRA analysis are presented in Appendix B and summarised below in Tables 5.2 – 5.4.

Table 5.2: SIDRA Results (Carrington Road / Rielly Street)

Scenario	Degree of Saturation	Total Average Delay (seconds)	Queue Length (metres)
2028 AM Peak BACKGROUND	0.203	1.6	3.2
2028 PM Peak BACKGROUND	0.254	1.8	4.0
2038 AM Peak BACKGROUND	0.267	2.1	5.7
2038 PM Peak BACKGROUND	0.335	2.5	8.4
2028 AM Peak DESIGN	0.204	1.8	3.8
2028 PM Peak DESIGN	0.254	1.9	4.3
2038 AM Peak DESIGN	0.267	2.3	6.7
2038 PM Peak DESIGN	0.336	2.6	9.1

Table 5.3: SIDRA Results (Hursley Road / Molloy Street)

Scenario	Degree of Saturation	Total Average Delay (seconds)	Queue Length (metres)
2028 AM Peak BACKGROUND	0.124	1.9	2.2
2028 PM Peak BACKGROUND	0.172	2.9	5.1
2038 AM Peak BACKGROUND	0.159	2.1	3.1
2038 PM Peak BACKGROUND	0.260	3.4	7.8
2028 AM Peak DESIGN	0.124	2.1	2.5
2028 PM Peak DESIGN	0.178	2.9	5.2
2038 AM Peak DESIGN	0.159	2.2	3.5
2038 PM Peak DESIGN	0.267	3.5	8.2

As demonstrated in Tables 5.2 and 5.3, the proposed surveyed intersections will operate within acceptable criteria with the proposed development under projected years 2028 and 2038 traffic conditions.

6.0 PROPOSED ROAD NETWORK

The proposed internal road network has been designed to comply with the relevant standards contained within the Toowoomba Regional Planning Scheme Policy, including applicable local road design requirements for residential streets, as well as relevant provisions of Austroads Guide to Road Design and AS2890.1 where applicable.

The development provides a single primary access from Rielly Street via a local residential access road (Driveway 1), constructed in accordance with typical access street standards for low density residential subdivisions. The entry arrangement incorporates a split carriageway treatment transitioning into a standard two-way residential street, designed to accommodate service vehicles, waste collection vehicles, and emergency vehicles.

The internal road terminates in a cul-de-sac designed to comply with Council requirements for the required design vehicles without the need for reversing movements for service vehicles. All lot frontages are provided with direct access from the internal road network in accordance with standard residential subdivision layout practice.

A secondary internal road (Driveway 2) extends south from the cul-de-sac to provide direct access to Lot 12. This road corridor has been aligned to allow for future extension and connection to adjoining land to the south, consistent with planned future urban expansion in the locality. This future connection is indicative only and is not required for the safe or efficient operation of the current development.

Sight distance, horizontal and vertical geometry, and intersection treatments at Rielly Street are to be designed and constructed in accordance with Toowoomba Regional Council access requirements for local roads, ensuring appropriate safe intersection performance and vehicular movements.

Overall, the proposed road network is consistent with Council standards for residential subdivisions and provides a safe, functional, and compliant access arrangement for the 19-lot development.

7.0 SUMMARY OF CONCLUSIONS & RECOMMENDATIONS

- The subject site is located west of Rielly Street and east of Robson-Hursley Road at Torrington and comprises a 19-lot residential subdivision with a new internal road network providing access via Rielly Street. Provision is made for a potential future southern connection to adjoining land; however, this connection does not form part of the current proposal.
- The surrounding road network, including Carrington Road, Hursley Road, Rielly Street and Robson-Hursley Road, generally functions as part of the local distributor road network within the Toowoomba road hierarchy, with Carrington Road classified as an arterial road and Hursley Road as a sub-arterial road.
- The proposed development generates traffic based on a rate of 1 trip per dwelling, resulting in approximately 19 vehicles per peak hour (two-way), which is expected to be readily accommodated within the existing road network.
- Traffic distribution from the site is expected to be split approximately 50% via Carrington Road (north) and 50% via Hursley Road (south), with access to Rielly Street forming the primary site access point.
- Intersection analysis indicates that the surrounding network will continue to operate within acceptable performance standards under both background and design traffic conditions.
- Modelling identifies that a Type CHR treatment is warranted at the Carrington Road / Rielly Street intersection. Existing passing opportunities at this location are considered appropriate in lieu of a dedicated right turn lane, given adjacent access constraints along Carrington Road.
- No other development-specific intersection upgrades are required, and the existing road network is considered to have sufficient capacity to accommodate the proposed development.

APPENDICES

ATTACHMENT A – SURVEYED TRAFFIC VOLUMES

ATTACHMENT B – CRITERIA FOR EVALUATING SIDRA RESULTS

ATTACHMENT C – SIDRA MODELLING RESULTS

ATTACHMENT A – SURVEYED TRAFFIC VOLUMES

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID: 22355
Location: Rielly Street / Carrington Road
Date: Thursday, 15 September 2022
Comments: Fine weather however camera was too close to the intersection

Class	All Vehicles													
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
6:30	0	0	0	0	1	16	71	0	3	42	4	0	137	
6:45	0	0	0	0	2	9	75	0	4	65	9	0	164	
7:00	0	0	0	0	2	8	62	0	2	67	3	0	144	
7:15	0	0	0	0	3	9	64	0	1	63	7	0	147	592
7:30	0	0	0	0	4	5	59	0	1	74	4	0	147	602
7:45	0	0	0	0	3	8	68	0	7	71	9	0	166	604
8:00	0	0	0	0	7	10	70	0	4	63	3	0	157	617
8:15	0	0	0	0	4	5	73	0	2	67	4	0	155	625
8:30	0	0	0	0	8	5	75	0	6	62	4	0	160	638
8:45	0	0	0	0	9	7	64	0	6	69	3	0	158	630
9:00	0	0	0	0	7	3	60	0	7	62	5	0	144	617
9:15	0	0	0	0	5	10	76	0	7	60	4	0	162	624
9:30	0	0	0	0	8	4	64	0	6	65	3	0	150	614
9:45	0	0	0	0	6	6	61	0	9	67	6	0	155	611
10:00	0	0	0	0	6	8	74	0	8	64	3	0	163	630
10:15	0	0	0	0	8	5	65	0	8	65	4	0	155	623
AM PEAK HR	0	0	0	0	22	28	286	0	19	263	20	0	638	
14:30	0	0	0	0	3	12	74	0	2	79	7	0	177	
14:45	0	0	0	0	2	3	63	0	6	77	9	0	160	
15:00	0	0	0	0	7	12	71	0	9	81	10	0	190	
15:15	0	0	0	0	4	2	81	0	9	68	9	0	173	700
15:30	0	0	0	0	4	4	80	0	5	82	3	0	178	701
15:45	0	0	0	0	7	6	82	0	2	82	7	0	186	727
16:00	0	0	0	0	7	8	74	0	4	80	10	0	183	720
16:15	0	0	0	0	7	8	78	0	7	78	7	0	185	732
16:30	0	0	0	0	3	6	62	0	6	72	8	0	157	711
16:45	0	0	0	0	2	9	60	0	1	79	11	0	162	687
17:00	0	0	0	0	2	11	75	0	8	73	10	0	179	683
17:15	0	0	0	0	4	8	56	0	4	58	9	0	139	637
PM PEAK HR	0	0	0	0	25	26	314	0	18	322	27	0	732	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID: 22355
Location: Molloy Street / Sienna Drive / Hursley Road
Date: Friday, 23 September 2022
Comments: Fine weather however camera was too close to the intersection. Cannot see vehicles turning East-Left

Class All Vehicles

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
6:30														
6:45														
7:00	0	0	6	2	2	1	20	6	0	19	1	4	61	
7:15	0	0	8	2	2	2	23	15	0	28	0	3	83	144
7:30	1	2	12	3	3	2	29	7	0	37	0	10	106	250
7:45	1	0	1	4	4	1	24	7	0	41	0	7	90	340
8:00	1	2	6	1	1	0	23	4	0	41	0	13	92	371
8:15	0	1	6	1	1	1	22	3	0	47	0	2	84	372
8:30	0	2	3	0	0	0	37	11	0	34	0	2	89	355
8:45	0	3	13	1	1	0	30	8	0	35	0	5	96	361
9:00	1	2	11	1	1	0	24	8	0	51	1	7	107	376
9:15	0	2	9	0	0	0	27	9	0	35	0	3	85	377
9:30	1	4	6	0	0	0	24	5	0	51	0	3	94	382
9:45	0	4	3	1	1	0	27	8	0	42	0	2	88	374
10:00	2	4	3	1	1	1	34	7	0	41	2	1	97	364
10:15	0	4	7	0	0	0	28	3	0	43	1	2	88	367
AM PEAK HR	2	11	39	2	2	0	105	30	0	172	1	18	382	

14:30	1	5	14	1	2	1	47	5	0	52	0	3	131	
14:45	1	5	20	1	10	0	43	10	0	44	0	4	138	
15:00	2	6	28	0	7	2	48	9	0	50	1	5	158	
15:15	1	6	14	1	9	0	35	4	0	42	2	4	118	545
15:30	2	4	8	2	4	2	40	5	0	52	0	4	123	537
15:45	0	3	3	1	13	0	53	10	0	39	1	3	126	525
16:00	1	3	22	0	7	0	53	8	0	46	2	4	146	513
16:15	0	4	11	0	12	0	49	2	0	35	1	2	116	511
16:30	1	5	15	0	11	0	59	6	0	28	0	4	129	517
16:45	1	15	11	0	15	1	47	6	0	37	0	6	139	530
17:00	1	9	13	0	8	0	39	8	0	49	0	0	127	511
17:15	3	8	6	1	7	0	48	0	0	33	2	0	108	503
PM PEAK HR	5	22	76	3	28	3	173	28	0	188	3	16	545	

MANUAL TRAFFIC SURVEY RESULTS

Unit Type: Camera
RTE ID: 22355
Location: Moore Road / Robson - Hursley Road / Carrington Road
Date: Thursday, 15 September 2022
Comments: Fine weather however camera was too close to the intersection

Class All Vehicles

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
6:30	0	0	0	0	0	0	57	1	2	57	0	1	118	
6:45	0	1	0	0	1	1	40	0	0	73	0	0	116	
7:00	1	1	0	0	0	0	44	4	1	70	0	1	122	
7:15	0	0	0	0	0	0	56	3	3	52	0	1	115	471
7:30	0	0	3	1	1	0	65	3	1	67	0	1	142	495
7:45	1	0	0	0	0	0	74	3	2	89	0	1	170	549
8:00	0	0	0	0	1	0	73	1	0	63	0	0	138	565
8:15	0	1	1	1	0	0	75	0	0	70	0	0	148	598
8:30	0	1	1	0	0	1	64	0	0	47	0	1	115	571
8:45	3	1	5	0	2	0	50	7	1	45	0	2	116	517
9:00	0	1	2	0	0	0	51	0	2	46	0	1	103	482
9:15	0	2	0	0	0	1	64	1	2	63	0	1	134	468
9:30	0	0	1	0	0	0	59	1	0	57	1	1	120	473
9:45	0	0	3	0	1	0	49	2	0	46	0	0	101	458
10:00	1	0	0	1	0	0	70	0	1	54	1	0	128	483
10:15	0	0	1	0	6	0	49	3	1	65	0	0	125	474
AM PEAK HR	1	1	4	2	2	0	287	7	3	289	0	2	598	

14:30	0	1	3	0	0	0	65	3	1	82	0	1	156	
14:45	0	0	1	0	1	0	59	1	0	69	0	0	131	
15:00	0	0	0	0	1	0	62	0	1	79	0	1	144	
15:15	0	0	4	0	2	0	70	3	1	48	0	3	131	562
15:30	0	1	5	0	1	0	78	1	0	86	0	1	173	579
15:45	0	0	0	0	0	0	81	1	1	77	0	2	162	610
16:00	0	0	0	0	6	1	80	3	0	73	0	2	165	631
16:15	0	0	7	0	4	0	78	0	0	74	0	1	164	664
16:30	0	0	2	0	0	0	58	1	0	75	0	0	136	627
16:45	0	1	1	0	1	0	66	2	0	58	0	0	129	594
17:00	0	0	8	0	0	0	84	0	0	57	0	0	149	578
17:15	0	1	2	0	0	0	62	0	0	36	0	0	101	515
PM PEAK HR	0	1	12	0	11	1	317	5	1	310	0	6	664	

ATTACHMENT B – CRITERIA FOR EVALUATING 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 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 (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.

ATTACHMENT C – SIDRA MODELLING RESULTS

CARRINGTON ROAD / RIELLY STREET INTERSECTION

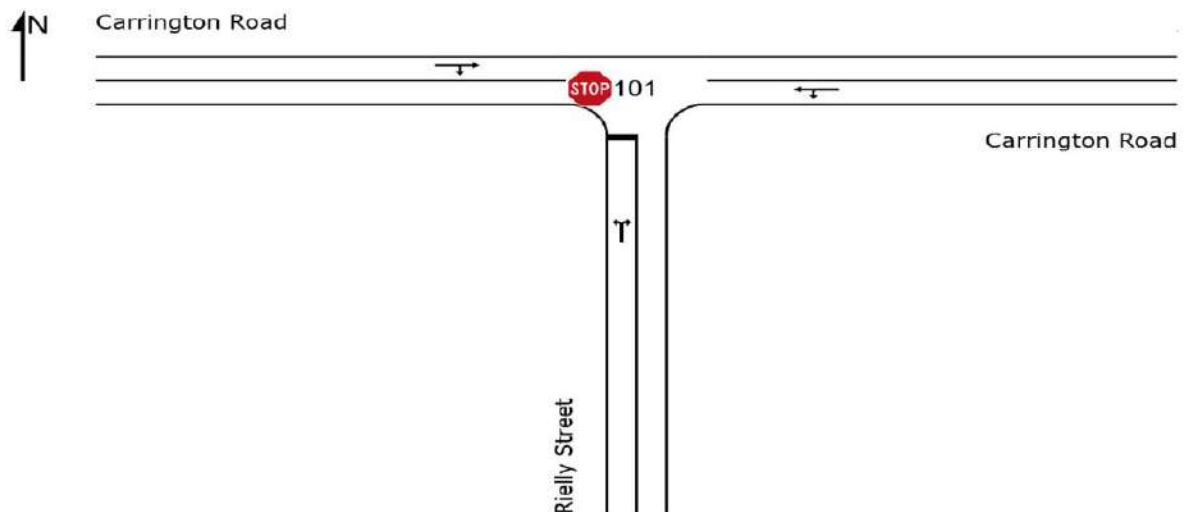
BACKGROUND 2028 PEAK TRAFFIC AM
BACKGROUND 2028 PEAK TRAFFIC PM
BACKGROUND 2038 PEAK TRAFFIC AM
BACKGROUND 2038 PEAK TRAFFIC PM
DESIGN 2028 PEAK TRAFFIC AM
DESIGN 2028 PEAK TRAFFIC PM
DESIGN 2038 PEAK TRAFFIC AM
DESIGN 2038 PEAK TRAFFIC PM

SITE LAYOUT

 **Site: [101] Background 2028 Peak Traffic AM (Carrington Rd / Rielly St)**

Carrington Road / Rielly Street
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

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



BACKGROUND 2028 PEAK TRAFFIC AM

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Number Stop of Cycles Rate to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.	Dist]			km/h
			veh/h		veh/h					veh	m			
South: Rielly Street														
1	L2	All MCs	34	10.0	34	10.0	0.119	10.4	LOS B	0.4	3.2	0.58	0.95	47.9
3	R2	All MCs	27	10.0	27	10.0	0.119	17.9	LOS C	0.4	3.2	0.58	0.95	47.8
Approach			61	10.0	61	10.0	0.119	13.8	LOS B	0.4	3.2	0.58	0.95	47.9
East: Carrington Road														
4	L2	All MCs	23	10.0	23	10.0	0.013	5.7	LOS A	0.0	0.0	0.00	0.57	52.5
5	T1	All MCs	349	10.0	349	10.0	0.191	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
Approach			373	10.0	373	10.0	0.191	0.4	NA	0.0	0.0	0.00	0.04	59.4
West: Carrington Road														
11	T1	All MCs	321	10.0	321	10.0	0.203	0.3	LOS A	0.3	2.3	0.10	0.11	59.2
12	R2	All MCs	24	10.0	24	10.0	0.203	8.0	LOS A	0.3	2.3	0.10	0.11	55.9
Approach			345	10.0	345	10.0	0.203	0.8	NA	0.3	2.3	0.10	0.11	58.9
All Vehicles			779	10.0	779	10.0	0.203	1.6	NA	0.4	3.2	0.09	0.14	58.1

BACKGROUND 2028 PEAK TRAFFIC PM

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Number Stop of Cycles Rate to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m			km/h
South: Rielly Street														
1	L2	All MCs	32	10.0	32	10.0	0.152	10.7	LOS B	0.5	4.0	0.64	0.98	46.6
3	R2	All MCs	31	10.0	31	10.0	0.152	21.5	LOS C	0.5	4.0	0.64	0.98	46.5
Approach			62	10.0	62	10.0	0.152	16.0	LOS C	0.5	4.0	0.64	0.98	46.6
East: Carrington Road														
4	L2	All MCs	22	10.0	22	10.0	0.013	5.7	LOS A	0.0	0.0	0.00	0.57	52.5
5	T1	All MCs	383	10.0	383	10.0	0.209	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
Approach			405	10.0	405	10.0	0.209	0.4	NA	0.0	0.0	0.00	0.03	59.4
West: Carrington Road														
11	T1	All MCs	393	10.0	393	10.0	0.254	0.4	LOS A	0.4	3.3	0.12	0.13	59.0
12	R2	All MCs	33	10.0	33	10.0	0.254	8.4	LOS A	0.4	3.3	0.12	0.13	55.8
Approach			425	10.0	425	10.0	0.254	1.0	NA	0.4	3.3	0.12	0.13	58.8
All Vehicles			893	10.0	893	10.0	0.254	1.8	NA	0.5	4.0	0.10	0.15	58.0

BACKGROUND 2038 PEAK TRAFFIC AM

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. Qued	Eff. Number Stop of Cycles Rate to Depart	Aver. Speed km/h	
South: Rielly Street															
1	L2	All MCs	44	10.0	44	10.0	0.213	11.6	LOS B	0.8	5.7	0.68	1.01	0.71	45.8
3	R2	All MCs	35	10.0	35	10.0	0.213	25.2	LOS D	0.8	5.7	0.68	1.01	0.71	45.7
Approach			79	10.0	79	10.0	0.213	17.6	LOS C	0.8	5.7	0.68	1.01	0.71	45.7
East: Carrington Road															
4	L2	All MCs	29	10.0	29	10.0	0.017	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	52.5
5	T1	All MCs	447	10.0	447	10.0	0.244	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			477	10.0	477	10.0	0.244	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.3
West: Carrington Road															
11	T1	All MCs	411	10.0	411	10.0	0.267	0.5	LOS A	0.5	3.6	0.12	0.14	0.12	58.9
12	R2	All MCs	32	10.0	32	10.0	0.267	9.1	LOS A	0.5	3.6	0.12	0.14	0.12	55.7
Approach			442	10.0	442	10.0	0.267	1.1	NA	0.5	3.6	0.12	0.14	0.12	58.7
All Vehicles			998	10.0	998	10.0	0.267	2.1	NA	0.8	5.7	0.11	0.16	0.11	57.7

BACKGROUND 2038 PEAK TRAFFIC PM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist] m				km/h
South: Rielly Street															
1	L2	All MCs	41	10.0	41	10.0	0.306	13.3	LOS B	1.1	8.4	0.78	1.06	0.95	42.5
3	R2	All MCs	39	10.0	39	10.0	0.306	34.8	LOS D	1.1	8.4	0.78	1.06	0.95	42.4
Approach			80	10.0	80	10.0	0.306	23.8	LOS C	1.1	8.4	0.78	1.06	0.95	42.5
East: Carrington Road															
4	L2	All MCs	28	10.0	28	10.0	0.016	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	52.5
5	T1	All MCs	491	10.0	491	10.0	0.268	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			519	10.0	519	10.0	0.268	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
West: Carrington Road															
11	T1	All MCs	503	10.0	503	10.0	0.335	0.7	LOS A	0.7	5.2	0.14	0.17	0.14	58.7
12	R2	All MCs	42	10.0	42	10.0	0.335	9.8	LOS A	0.7	5.2	0.14	0.17	0.14	55.5
Approach			545	10.0	545	10.0	0.335	1.4	NA	0.7	5.2	0.14	0.17	0.14	58.4
All Vehicles			1144	10.0	1144	10.0	0.335	2.5	NA	1.1	8.4	0.12	0.17	0.13	57.3

DESIGN 2028 PEAK TRAFFIC AM

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. Qued	Eff. Number Stop of Cycles Rate to Depart	Aver. Speed km/h	
South: Rielly Street															
1	L2	All MCs	34	10.0	34	10.0	0.138	10.4	LOS B	0.5	3.8	0.60	0.96	0.60	47.6
3	R2	All MCs	34	10.0	34	10.0	0.138	18.1	LOS C	0.5	3.8	0.60	0.96	0.60	47.5
Approach			67	10.0	67	10.0	0.138	14.2	LOS B	0.5	3.8	0.60	0.96	0.60	47.6
East: Carrington Road															
4	L2	All MCs	26	10.0	26	10.0	0.015	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	52.5
5	T1	All MCs	349	10.0	349	10.0	0.191	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			376	10.0	376	10.0	0.191	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.3
West: Carrington Road															
11	T1	All MCs	321	10.0	321	10.0	0.204	0.3	LOS A	0.3	2.3	0.10	0.11	0.10	59.2
12	R2	All MCs	24	10.0	24	10.0	0.204	8.0	LOS A	0.3	2.3	0.10	0.11	0.10	55.9
Approach			345	10.0	345	10.0	0.204	0.8	NA	0.3	2.3	0.10	0.11	0.10	58.9
All Vehicles			788	10.0	788	10.0	0.204	1.8	NA	0.5	3.8	0.10	0.15	0.10	57.9

DESIGN 2028 PEAK TRAFFIC PM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Number Stop of Cycles Rate to Depart	Aver. Speed	
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh. veh	Dist] m			km/h	
			veh/h	%	veh/h	%	v/c	sec							
South: Rielly Street															
1	L2	All MCs	32	10.0	32	10.0	0.165	10.7	LOS B	0.6	4.3	0.65	0.98	0.65	46.4
3	R2	All MCs	34	10.0	34	10.0	0.165	21.7	LOS C	0.6	4.3	0.65	0.98	0.65	46.3
Approach			65	10.0	65	10.0	0.165	16.4	LOS C	0.6	4.3	0.65	0.98	0.65	46.4
East: Carrington Road															
4	L2	All MCs	28	10.0	28	10.0	0.016	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	52.5
5	T1	All MCs	383	10.0	383	10.0	0.209	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			412	10.0	412	10.0	0.209	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.3
West: Carrington Road															
11	T1	All MCs	393	10.0	393	10.0	0.254	0.4	LOS A	0.4	3.3	0.12	0.14	0.12	59.0
12	R2	All MCs	33	10.0	33	10.0	0.254	8.4	LOS A	0.4	3.3	0.12	0.14	0.12	55.8
Approach			425	10.0	425	10.0	0.254	1.0	NA	0.4	3.3	0.12	0.14	0.12	58.8
All Vehicles			902	10.0	902	10.0	0.254	1.9	NA	0.6	4.3	0.10	0.15	0.10	57.9

DESIGN 2038 PEAK TRAFFIC AM

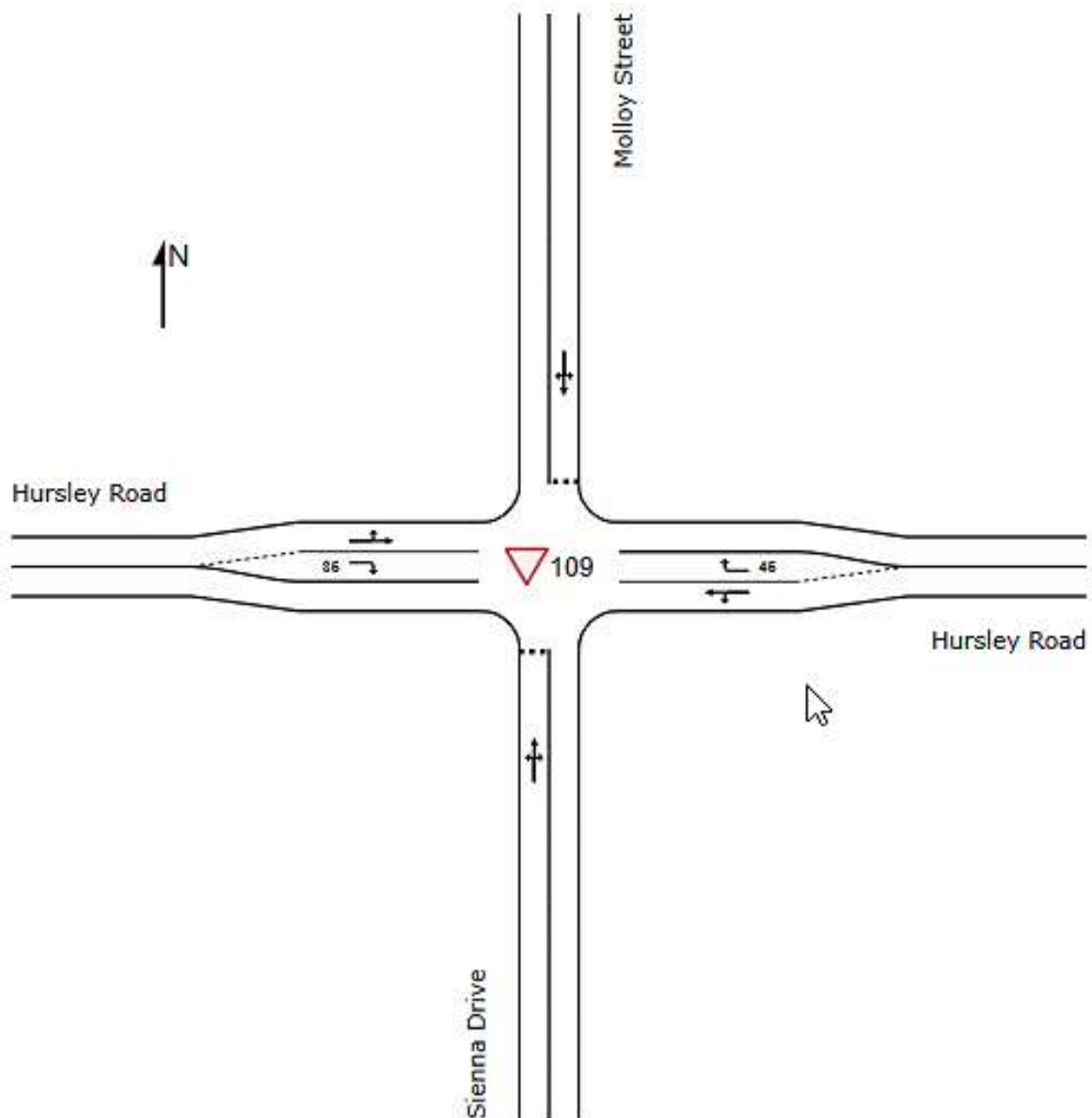
Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Number Stop of Cycles Rate to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m			km/h
South: Rielly Street														
1	L2	All MCs	44	10.0	44	10.0	0.242	11.9	LOS B	0.9	6.7	0.69	1.03	45.2
3	R2	All MCs	41	10.0	41	10.0	0.242	25.7	LOS D	0.9	6.7	0.69	1.03	45.1
Approach			85	10.0	85	10.0	0.242	18.5	LOS C	0.9	6.7	0.69	1.03	45.2
East: Carrington Road														
4	L2	All MCs	33	10.0	33	10.0	0.019	5.7	LOS A	0.0	0.0	0.00	0.57	52.5
5	T1	All MCs	447	10.0	447	10.0	0.244	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
Approach			480	10.0	480	10.0	0.244	0.5	NA	0.0	0.0	0.00	0.04	59.3
West: Carrington Road														
11	T1	All MCs	411	10.0	411	10.0	0.267	0.5	LOS A	0.5	3.6	0.12	0.14	58.9
12	R2	All MCs	32	10.0	32	10.0	0.267	9.1	LOS A	0.5	3.6	0.12	0.14	55.7
Approach			442	10.0	442	10.0	0.267	1.1	NA	0.5	3.6	0.12	0.14	58.7
All Vehicles			1007	10.0	1007	10.0	0.267	2.3	NA	0.9	6.7	0.11	0.17	57.5

DESIGN 2038 PEAK TRAFFIC PM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Number Stop of Cycles Rate to Depart	Aver. Speed	
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m			km/h	
South: Rielly Street															
1	L2	All MCs	41	10.0	41	10.0	0.328	13.7	LOS B	1.2	9.1	0.79	1.06	0.99	42.1
3	R2	All MCs	42	10.0	42	10.0	0.328	35.4	LOS E	1.2	9.1	0.79	1.06	0.99	42.0
Approach			83	10.0	83	10.0	0.328	24.7	LOS C	1.2	9.1	0.79	1.06	0.99	42.1
East: Carrington Road															
4	L2	All MCs	35	10.0	35	10.0	0.020	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	52.5
5	T1	All MCs	491	10.0	491	10.0	0.268	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			525	10.0	525	10.0	0.268	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.3
West: Carrington Road															
11	T1	All MCs	503	10.0	503	10.0	0.336	0.7	LOS A	0.7	5.3	0.14	0.17	0.14	58.7
12	R2	All MCs	42	10.0	42	10.0	0.336	9.8	LOS A	0.7	5.3	0.14	0.17	0.14	55.5
Approach			545	10.0	545	10.0	0.336	1.4	NA	0.7	5.3	0.14	0.17	0.14	58.4
All Vehicles			1154	10.0	1154	10.0	0.336	2.6	NA	1.2	9.1	0.12	0.17	0.14	57.2

HURSLEY ROAD / MOLLOY STREET INTERSECTION

BACKGROUND 2028 PEAK TRAFFIC AM
BACKGROUND 2028 PEAK TRAFFIC PM
BACKGROUND 2038 PEAK TRAFFIC AM
BACKGROUND 2038 PEAK TRAFFIC PM
DESIGN 2028 PEAK TRAFFIC AM
DESIGN 2028 PEAK TRAFFIC PM
DESIGN 2038 PEAK TRAFFIC AM
DESIGN 2038 PEAK TRAFFIC PM



BACKGROUND 2028 PEAK TRAFFIC AM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Sienna Drive															
1	L2	All MCs	1	0.0	1	0.0	0.008	6.0	LOS A	0.0	0.2	0.45	0.57	0.45	51.0
2	T1	All MCs	2	0.0	2	0.0	0.008	7.6	LOS A	0.0	0.2	0.45	0.57	0.45	51.4
3	R2	All MCs	2	0.0	2	0.0	0.008	9.7	LOS A	0.0	0.2	0.45	0.57	0.45	50.9
Approach			5	0.0	5	0.0	0.008	8.1	LOS A	0.0	0.2	0.45	0.57	0.45	51.1
East: Hursley Road															
4	L2	All MCs	1	0.0	1	0.0	0.069	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
5	T1	All MCs	128	5.0	128	5.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	37	10.0	37	10.0	0.027	6.4	LOS A	0.1	0.9	0.34	0.58	0.34	51.3
Approach			166	6.1	166	6.1	0.069	1.5	NA	0.1	0.9	0.08	0.13	0.08	57.8
North: Molloy Street															
7	L2	All MCs	47	10.0	47	10.0	0.078	6.7	LOS A	0.3	2.2	0.38	0.61	0.38	51.1
8	T1	All MCs	2	10.0	2	10.0	0.078	8.5	LOS A	0.3	2.2	0.38	0.61	0.38	51.6
9	R2	All MCs	14	10.0	14	10.0	0.078	10.4	LOS B	0.3	2.2	0.38	0.61	0.38	51.0
Approach			63	10.0	63	10.0	0.078	7.5	LOS A	0.3	2.2	0.38	0.61	0.38	51.1
West: Hursley Road															
10	L2	All MCs	22	10.0	22	10.0	0.124	5.7	LOS A	0.0	0.0	0.00	0.06	0.00	56.5
11	T1	All MCs	209	5.0	209	5.0	0.124	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
12	R2	All MCs	1	0.0	1	0.0	0.001	5.8	LOS A	0.0	0.0	0.23	0.53	0.23	52.0
Approach			233	5.5	233	5.5	0.124	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.1
All Vehicles			467	6.2	467	6.2	0.124	1.9	NA	0.3	2.2	0.08	0.17	0.08	57.3

BACKGROUND 2028 PEAK TRAFFIC PM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Sienna Drive															
1	L2	All MCs	3	0.0	3	0.0	0.092	6.4	LOS A	0.3	2.4	0.59	0.79	0.59	48.5
2	T1	All MCs	3	0.0	3	0.0	0.092	9.1	LOS A	0.3	2.4	0.59	0.79	0.59	48.8
3	R2	All MCs	34	0.0	34	0.0	0.092	12.6	LOS B	0.3	2.4	0.59	0.79	0.59	48.4
Approach			40	0.0	40	0.0	0.092	11.8	LOS B	0.3	2.4	0.59	0.79	0.59	48.4
East: Hursley Road															
4	L2	All MCs	1	0.0	1	0.0	0.113	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
5	T1	All MCs	212	5.0	212	5.0	0.113	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	34	10.0	34	10.0	0.025	6.5	LOS A	0.1	0.8	0.35	0.58	0.35	51.3
Approach			246	5.7	246	5.7	0.113	0.9	NA	0.1	0.8	0.05	0.08	0.05	58.6
North: Molloy Street															
7	L2	All MCs	93	10.0	93	10.0	0.172	6.9	LOS A	0.7	5.1	0.45	0.65	0.45	50.5
8	T1	All MCs	6	10.0	6	10.0	0.172	10.5	LOS B	0.7	5.1	0.45	0.65	0.45	50.9
9	R2	All MCs	27	10.0	27	10.0	0.172	13.0	LOS B	0.7	5.1	0.45	0.65	0.45	50.4
Approach			126	10.0	126	10.0	0.172	8.4	LOS A	0.7	5.1	0.45	0.65	0.45	50.5
West: Hursley Road															
10	L2	All MCs	20	10.0	20	10.0	0.133	5.7	LOS A	0.0	0.0	0.00	0.05	0.00	56.6
11	T1	All MCs	229	5.0	229	5.0	0.133	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
12	R2	All MCs	3	0.0	3	0.0	0.002	6.1	LOS A	0.0	0.1	0.31	0.54	0.31	51.8
Approach			253	5.3	253	5.3	0.133	0.6	NA	0.0	0.1	0.00	0.05	0.00	59.2
All Vehicles			665	6.0	665	6.0	0.172	2.9	NA	0.7	5.1	0.14	0.22	0.14	56.4

BACKGROUND 2038 PEAK TRAFFIC AM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Sienna Drive															
1	L2	All MCs	1	0.0	1	0.0	0.014	6.1	LOS A	0.1	0.4	0.54	0.64	0.54	49.9
2	T1	All MCs	3	0.0	3	0.0	0.014	9.0	LOS A	0.1	0.4	0.54	0.64	0.54	50.3
3	R2	All MCs	3	0.0	3	0.0	0.014	11.6	LOS B	0.1	0.4	0.54	0.64	0.54	49.8
Approach			7	0.0	7	0.0	0.014	9.7	LOS A	0.1	0.4	0.54	0.64	0.54	50.0
East: Hursley Road															
4	L2	All MCs	1	0.0	1	0.0	0.088	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
5	T1	All MCs	164	5.0	164	5.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	47	10.0	47	10.0	0.038	6.7	LOS A	0.2	1.2	0.39	0.60	0.39	51.2
Approach			213	6.1	213	6.1	0.088	1.5	NA	0.2	1.2	0.09	0.14	0.09	57.7
North: Molloy Street															
7	L2	All MCs	61	10.0	61	10.0	0.113	7.0	LOS A	0.4	3.1	0.45	0.66	0.45	50.5
8	T1	All MCs	3	10.0	3	10.0	0.113	10.3	LOS B	0.4	3.1	0.45	0.66	0.45	51.0
9	R2	All MCs	17	10.0	17	10.0	0.113	12.8	LOS B	0.4	3.1	0.45	0.66	0.45	50.4
Approach			81	10.0	81	10.0	0.113	8.4	LOS A	0.4	3.1	0.45	0.66	0.45	50.5
West: Hursley Road															
10	L2	All MCs	28	10.0	28	10.0	0.159	5.7	LOS A	0.0	0.0	0.00	0.06	0.00	56.5
11	T1	All MCs	268	5.0	268	5.0	0.159	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
12	R2	All MCs	1	0.0	1	0.0	0.001	5.9	LOS A	0.0	0.0	0.27	0.52	0.27	51.9
Approach			298	5.5	298	5.5	0.159	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.1
All Vehicles			599	6.2	599	6.2	0.159	2.1	NA	0.4	3.1	0.10	0.18	0.10	57.2

BACKGROUND 2038 PEAK TRAFFIC PM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Sienna Drive															
1	L2	All MCs	4	0.0	4	0.0	0.161	6.7	LOS A	0.6	4.0	0.69	0.87	0.69	46.3
2	T1	All MCs	4	0.0	4	0.0	0.161	11.5	LOS B	0.6	4.0	0.69	0.87	0.69	46.6
3	R2	All MCs	44	0.0	44	0.0	0.161	16.5	LOS C	0.6	4.0	0.69	0.87	0.69	46.2
Approach			53	0.0	53	0.0	0.161	15.4	LOS C	0.6	4.0	0.69	0.87	0.69	46.2
East: Hursley Road															
4	L2	All MCs	1	0.0	1	0.0	0.144	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
5	T1	All MCs	271	5.0	271	5.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	44	10.0	44	10.0	0.036	6.8	LOS A	0.2	1.2	0.41	0.61	0.41	51.1
Approach			316	5.7	316	5.7	0.144	1.0	NA	0.2	1.2	0.06	0.09	0.06	58.5
North: Molloy Street															
7	L2	All MCs	119	10.0	119	10.0	0.260	7.4	LOS A	1.0	7.8	0.55	0.72	0.55	49.4
8	T1	All MCs	7	10.0	7	10.0	0.260	14.0	LOS B	1.0	7.8	0.55	0.72	0.55	49.9
9	R2	All MCs	35	10.0	35	10.0	0.260	17.5	LOS C	1.0	7.8	0.55	0.72	0.55	49.3
Approach			161	10.0	161	10.0	0.260	9.9	LOS A	1.0	7.8	0.55	0.72	0.55	49.4
West: Hursley Road															
10	L2	All MCs	25	10.0	25	10.0	0.170	5.7	LOS A	0.0	0.0	0.00	0.05	0.00	56.6
11	T1	All MCs	294	5.0	294	5.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
12	R2	All MCs	4	0.0	4	0.0	0.003	6.3	LOS A	0.0	0.1	0.36	0.55	0.36	51.7
Approach			323	5.3	323	5.3	0.170	0.6	NA	0.0	0.1	0.00	0.05	0.00	59.1
All Vehicles			853	6.0	853	6.0	0.260	3.4	NA	1.0	7.8	0.17	0.24	0.17	55.9

DESIGN 2028 PEAK TRAFFIC AM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]		Rate to Depart		km/h
			veh/h	%	veh/h	%	v/c	sec		veh	m				
South: Sienna Drive															
1	L2	All MCs	1	0.0	1	0.0	0.008	6.0	LOS A	0.0	0.2	0.46	0.57	0.46	51.0
2	T1	All MCs	2	0.0	2	0.0	0.008	7.6	LOS A	0.0	0.2	0.46	0.57	0.46	51.4
3	R2	All MCs	2	0.0	2	0.0	0.008	9.8	LOS A	0.0	0.2	0.46	0.57	0.46	50.9
Approach			5	0.0	5	0.0	0.008	8.1	LOS A	0.0	0.2	0.46	0.57	0.46	51.1
East: Hursley Road															
4	L2	All MCs	1	0.0	1	0.0	0.069	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
5	T1	All MCs	128	5.0	128	5.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	39	10.0	39	10.0	0.029	6.4	LOS A	0.1	0.9	0.34	0.58	0.34	51.3
Approach			168	6.1	168	6.1	0.069	1.5	NA	0.1	0.9	0.08	0.14	0.08	57.7
North: Molloy Street															
7	L2	All MCs	52	10.0	52	10.0	0.088	6.7	LOS A	0.3	2.5	0.39	0.62	0.39	51.0
8	T1	All MCs	2	10.0	2	10.0	0.088	8.5	LOS A	0.3	2.5	0.39	0.62	0.39	51.5
9	R2	All MCs	17	10.0	17	10.0	0.088	10.5	LOS B	0.3	2.5	0.39	0.62	0.39	50.9
Approach			71	10.0	71	10.0	0.088	7.6	LOS A	0.3	2.5	0.39	0.62	0.39	51.0
West: Hursley Road															
10	L2	All MCs	23	10.0	23	10.0	0.124	5.7	LOS A	0.0	0.0	0.00	0.06	0.00	56.5
11	T1	All MCs	209	5.0	209	5.0	0.124	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
12	R2	All MCs	1	0.0	1	0.0	0.001	5.8	LOS A	0.0	0.0	0.23	0.53	0.23	52.0
Approach			234	5.5	234	5.5	0.124	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.1
All Vehicles			478	6.3	478	6.3	0.124	2.1	NA	0.3	2.5	0.09	0.18	0.09	57.1

DESIGN 2028 PEAK TRAFFIC PM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Sienna Drive															
1	L2	All MCs	3	0.0	3	0.0	0.094	6.4	LOS A	0.3	2.4	0.59	0.79	0.59	48.4
2	T1	All MCs	3	0.0	3	0.0	0.094	9.2	LOS A	0.3	2.4	0.59	0.79	0.59	48.8
3	R2	All MCs	34	0.0	34	0.0	0.094	12.7	LOS B	0.3	2.4	0.59	0.79	0.59	48.3
Approach			40	0.0	40	0.0	0.094	11.9	LOS B	0.3	2.4	0.59	0.79	0.59	48.3
East: Hursley Road															
4	L2	All MCs	1	0.0	1	0.0	0.113	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
5	T1	All MCs	212	5.0	212	5.0	0.113	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	39	10.0	39	10.0	0.029	6.5	LOS A	0.1	1.0	0.36	0.58	0.36	51.3
Approach			252	5.8	252	5.8	0.113	1.0	NA	0.1	1.0	0.06	0.09	0.06	58.4
North: Molloy Street															
7	L2	All MCs	95	10.0	95	10.0	0.178	6.9	LOS A	0.7	5.2	0.45	0.65	0.45	50.4
8	T1	All MCs	6	10.0	6	10.0	0.178	10.6	LOS B	0.7	5.2	0.45	0.65	0.45	50.9
9	R2	All MCs	28	10.0	28	10.0	0.178	13.2	LOS B	0.7	5.2	0.45	0.65	0.45	50.3
Approach			129	10.0	129	10.0	0.178	8.5	LOS A	0.7	5.2	0.45	0.65	0.45	50.4
West: Hursley Road															
10	L2	All MCs	22	10.0	22	10.0	0.134	5.7	LOS A	0.0	0.0	0.00	0.05	0.00	56.5
11	T1	All MCs	229	5.0	229	5.0	0.134	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
12	R2	All MCs	3	0.0	3	0.0	0.002	6.1	LOS A	0.0	0.1	0.31	0.54	0.31	51.8
Approach			255	5.4	255	5.4	0.134	0.6	NA	0.0	0.1	0.00	0.06	0.00	59.1
All Vehicles			676	6.1	676	6.1	0.178	2.9	NA	0.7	5.2	0.14	0.23	0.14	56.2

DESIGN 2038 PEAK TRAFFIC AM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]		Rate to Depart		km/h
			veh/h	%	veh/h	%	v/c	sec		veh	m				
South: Sienna Drive															
1	L2	All MCs	1	0.0	1	0.0	0.014	6.1	LOS A	0.1	0.4	0.54	0.64	0.54	49.8
2	T1	All MCs	3	0.0	3	0.0	0.014	9.0	LOS A	0.1	0.4	0.54	0.64	0.54	50.2
3	R2	All MCs	3	0.0	3	0.0	0.014	11.7	LOS B	0.1	0.4	0.54	0.64	0.54	49.7
Approach			7	0.0	7	0.0	0.014	9.7	LOS A	0.1	0.4	0.54	0.64	0.54	50.0
East: Hursley Road															
4	L2	All MCs	1	0.0	1	0.0	0.088	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
5	T1	All MCs	164	5.0	164	5.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	48	10.0	48	10.0	0.038	6.7	LOS A	0.2	1.3	0.39	0.60	0.39	51.2
Approach			214	6.1	214	6.1	0.088	1.6	NA	0.2	1.3	0.09	0.14	0.09	57.7
North: Molloy Street															
7	L2	All MCs	65	10.0	65	10.0	0.125	7.1	LOS A	0.5	3.5	0.46	0.67	0.46	50.4
8	T1	All MCs	3	10.0	3	10.0	0.125	10.4	LOS B	0.5	3.5	0.46	0.67	0.46	50.9
9	R2	All MCs	20	10.0	20	10.0	0.125	12.9	LOS B	0.5	3.5	0.46	0.67	0.46	50.3
Approach			88	10.0	88	10.0	0.125	8.5	LOS A	0.5	3.5	0.46	0.67	0.46	50.4
West: Hursley Road															
10	L2	All MCs	29	10.0	29	10.0	0.159	5.7	LOS A	0.0	0.0	0.00	0.06	0.00	56.5
11	T1	All MCs	268	5.0	268	5.0	0.159	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
12	R2	All MCs	1	0.0	1	0.0	0.001	5.9	LOS A	0.0	0.0	0.27	0.52	0.27	51.9
Approach			299	5.5	299	5.5	0.159	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.1
All Vehicles			608	6.3	608	6.3	0.159	2.2	NA	0.5	3.5	0.10	0.18	0.10	57.0

DESIGN 2038 PEAK TRAFFIC PM

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Sienna Drive															
1	L2	All MCs	4	0.0	4	0.0	0.163	6.7	LOS A	0.6	4.1	0.70	0.87	0.70	46.2
2	T1	All MCs	4	0.0	4	0.0	0.163	11.6	LOS B	0.6	4.1	0.70	0.87	0.70	46.5
3	R2	All MCs	44	0.0	44	0.0	0.163	16.7	LOS C	0.6	4.1	0.70	0.87	0.70	46.1
Approach			53	0.0	53	0.0	0.163	15.5	LOS C	0.6	4.1	0.70	0.87	0.70	46.2
East: Hursley Road															
4	L2	All MCs	1	0.0	1	0.0	0.144	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
5	T1	All MCs	271	5.0	271	5.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
6	R2	All MCs	48	10.0	48	10.0	0.040	6.8	LOS A	0.2	1.3	0.41	0.61	0.41	51.1
Approach			320	5.7	320	5.7	0.144	1.1	NA	0.2	1.3	0.06	0.09	0.06	58.4
North: Molloy Street															
7	L2	All MCs	121	10.0	121	10.0	0.267	7.5	LOS A	1.1	8.2	0.55	0.72	0.57	49.4
8	T1	All MCs	7	10.0	7	10.0	0.267	14.2	LOS B	1.1	8.2	0.55	0.72	0.57	49.8
9	R2	All MCs	36	10.0	36	10.0	0.267	17.8	LOS C	1.1	8.2	0.55	0.72	0.57	49.2
Approach			164	10.0	164	10.0	0.267	10.1	LOS B	1.1	8.2	0.55	0.72	0.57	49.3
West: Hursley Road															
10	L2	All MCs	28	10.0	28	10.0	0.172	5.7	LOS A	0.0	0.0	0.00	0.05	0.00	56.5
11	T1	All MCs	294	5.0	294	5.0	0.172	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.5
12	R2	All MCs	4	0.0	4	0.0	0.003	6.3	LOS A	0.0	0.1	0.36	0.55	0.36	51.7
Approach			326	5.4	326	5.4	0.172	0.6	NA	0.0	0.1	0.00	0.06	0.00	59.1
All Vehicles			863	6.1	863	6.1	0.267	3.5	NA	1.1	8.2	0.17	0.25	0.18	55.8