15 August 2019 **File: COR2009/206**

NOTICE OF MEETING

You are advised of the following meeting:

Thursday 15 August 2019

Ryde Traffic Committee Meeting

Council Chambers, Level 1A, 1 Pope Street, Ryde - 10.00am

MEMBERS

City of Ryde (Chair)..... Director City Works and Infrastructure
Roads and Maritime Services of NSW ..... Sydney North Region
NSW Police Force..... Ryde Local Area Command
Member for Ryde (15 items)..... The Hon. V Dominello MP
Member for Lane Cove (4 items)..... The Hon. A Roberts MP

ADVISORS

Sydney Buses ..... Western Region

Committee Members, Advisors and City of Ryde Councillors are invited to attend the next meeting of the Ryde Traffic Committee. Alternatively, please forward comments on any matter listed for discussion to the Meeting Convenor, via email by 5pm Tuesday 13 August 2019.

Members of the public may register to address the Rye Traffic Committee on any matter listed for discussion by contacting the Meeting Convenor, via email, by 12 noon Wednesday 14 August 2019.

Meeting Convenor
Muddasir Ilyas – Acting Team Leader Traffic Services
milyas@ryde.nsw.gov.au.

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Meeting Date: 15 August 2019
Location: Council Chambers, Level 1A, 1 Pope Street, Ryde
Time: 10:00am

NOTICE OF BUSINESS

APOLOGIES

DISCLOSURES OF INTEREST

MATTERS ARISING FROM PREVIOUS MINUTES

MATTERS FOR CONSIDERATION

(A) CARLISLE CLOSE, MACQUARIE PARK - PROPOSED PARKING RESTRICTIONS

(B) AGINCOURT ROAD, MARSFIELD – KISS AND RIDE ZONE

(C) PORTER STREET, RYDE - TIMED PARKING

(D) MULVIHILL STREET, WEST RYDE - INTRODUCE 2P PARKING

(E) WINSTON STREET, MARSFIELD - NO STOPPING AT BEND

(F) JOPLING STREET, NORTH RYDE - POOR SIGHTLINE DUE TO A 90 DEGREE BEND IN THE ROAD.

(G) PITTWATER ROAD, GLADESVILLE - NEW REFUGE ISLAND

(H) WASTE COLLECTION - LGA , RYDE - INTRODUCING NO PARKING

(I) ROTHESAY AVENUE, RYDE - NO PARKING

(J) SPRING CYCLE TRAFFIC MANAGEMENT PLAN - 2019, RYDE - SPRING CYCLE

(K) EAST PARADE, EASTWOOD - NO STOPPING NEAR INTERSECTION TO IMPROVE TRAFFIC FLOW

(L) MEADOWBANK PUBLIC SCHOOL THISTLE STREET, RYDE - MINOR WORKS IMPLEMENTATION FROM SCHOOLS PROGRAM

(M) RYDE SECONDARY COLLEGE 5 MALVINA STREET, RYDE - MINOR WORKS IMPLEMENTATION FROM SCHOOLS PROGRAM

(N) CAR PARK - EAST PARADE, EASTWOOD - EXTEND COMMUTER PARKING

(O) MONASH ROAD, GLADESVILLE - RAISED INTERSECTION TREATMENT

(P) WILLIAM STREET, RYDE - SIGNAGE AND LINE MARKING PLAN

(Q) CHARLES STREET, PUTNEY - STREET EVENT - TMP APPROVAL

MATTERS FOR TRAFFIC ENGINEERING ADVICE

ADVISORY ITEMS

ITEM 1 **MATTERS APPROVED UNDER DELEGATION & ELECTRONIC TRAFFIC COMMITTEE PROCESS**

ITEM 2 **ANGAS STREET, MEADOWBANK - ANGAS STREET BRIDGE CLOSURE**

ITEM 3 **EASTWOOD TRAFFIC AND PARKING STUDY , EASTWOOD**

LATE ITEMS

ITEM 1 **PRINCES STREET (BUFFALO ROAD TO BLAXLAND ROAD), RYDE – EXTEND COMMUTER PARKING, KERB RELOCATION, MEDIAN ISLAND RELOCATION AND ADJUSTMENTS TO BUS LAYOVER AREA**

ITEM 2 **SMALLS ROAD PUBLIC SCHOOL, RYDE - SIGNAGE AND LINE MARKING PLAN**

GENERAL BUSINESS

ITEM (A) **CARLISLE CLOSE, MACQUARIE PARK**

SUBJECT: **PROPOSED PARKING RESTRICTIONS**
ELECTORATE: RYDE
WARD: CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: CRM-2189001 & T2019-00616
OFFICER: J BEGLEY

INTRODUCTION

City of Ryde has received representation from a resident regarding the restricted access along Carlisle Close due to the constrained carriageway width. She indicated that this was leading to unsafe situations occurring raising the potential for crashes to occur.

CONTEXT

- Carlisle Close and Khartoum Road are local roads with a posted speed limit 50km/h.
- There are currently no parking restrictions in Carlisle Close.

COMMUNITY ENGAGEMENT

All residents living in the consultation area were letterboxed with an additional Have Your Say survey being made available on line. Closing date for receipt of survey responses was 30 June 2019. Council received thirteen (13) responses, with 10 in favour and 3 against.

Residents who opposed the proposal gave the lack of on-street parking as the main reason for not supporting.

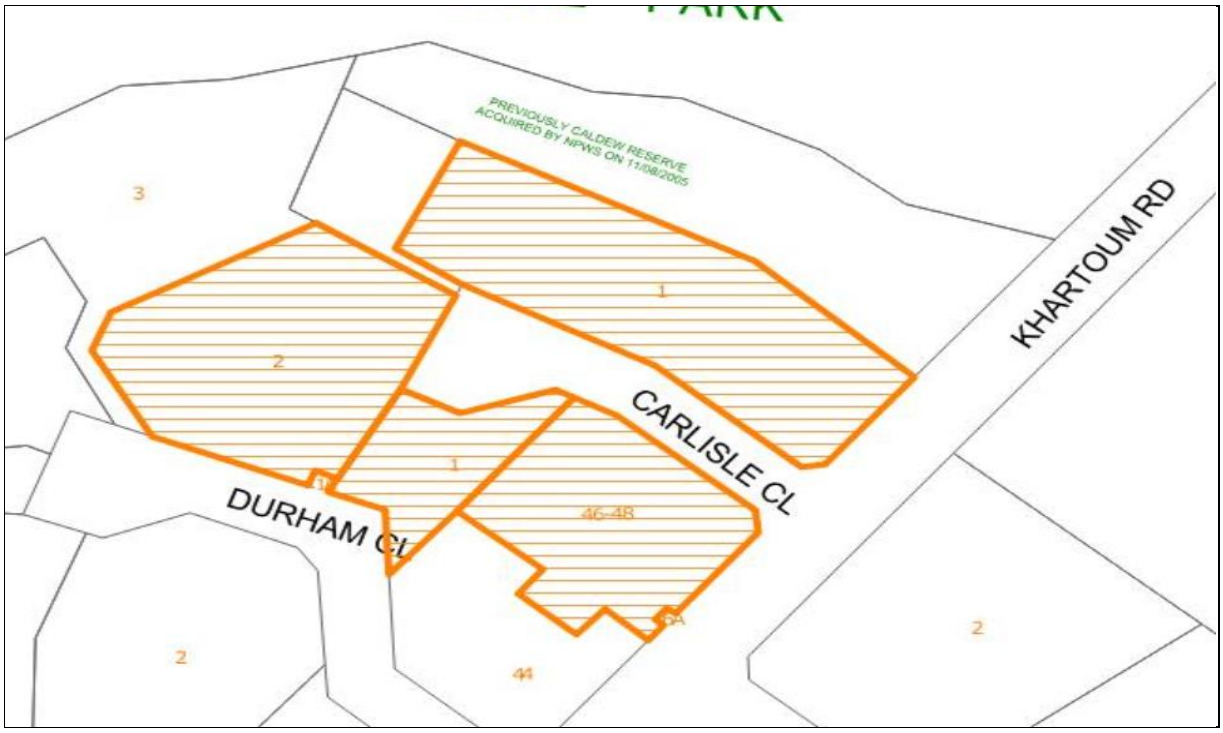

Figure A1: Community Engagement Distribution Map

DISCUSSION

Carlisle Close is a no through road that links the residential unit complexes to Khartoum Road. When vehicles are parked on both sides of Carlisle Close, the constrained carriageway width does not allow two way traffic flow to occur resulting in localised congestion. This congestion is particularly evident during morning and evening commuter peak times.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

It is proposed that:

1. No Stopping be installed immediately north of the access driveway 46-48 Khartoum Road, Macquarie Park to a point 15m west of the intersection of Khartoum Road and Carlisle Close, Macquarie Park.

2. No Parking be installed on the southern side of Carlisle Close, Macquarie Park from the end of the statutory No Stopping zone to a location directly opposite the access driveway serving 1 Carlisle Close, Macquarie Park.

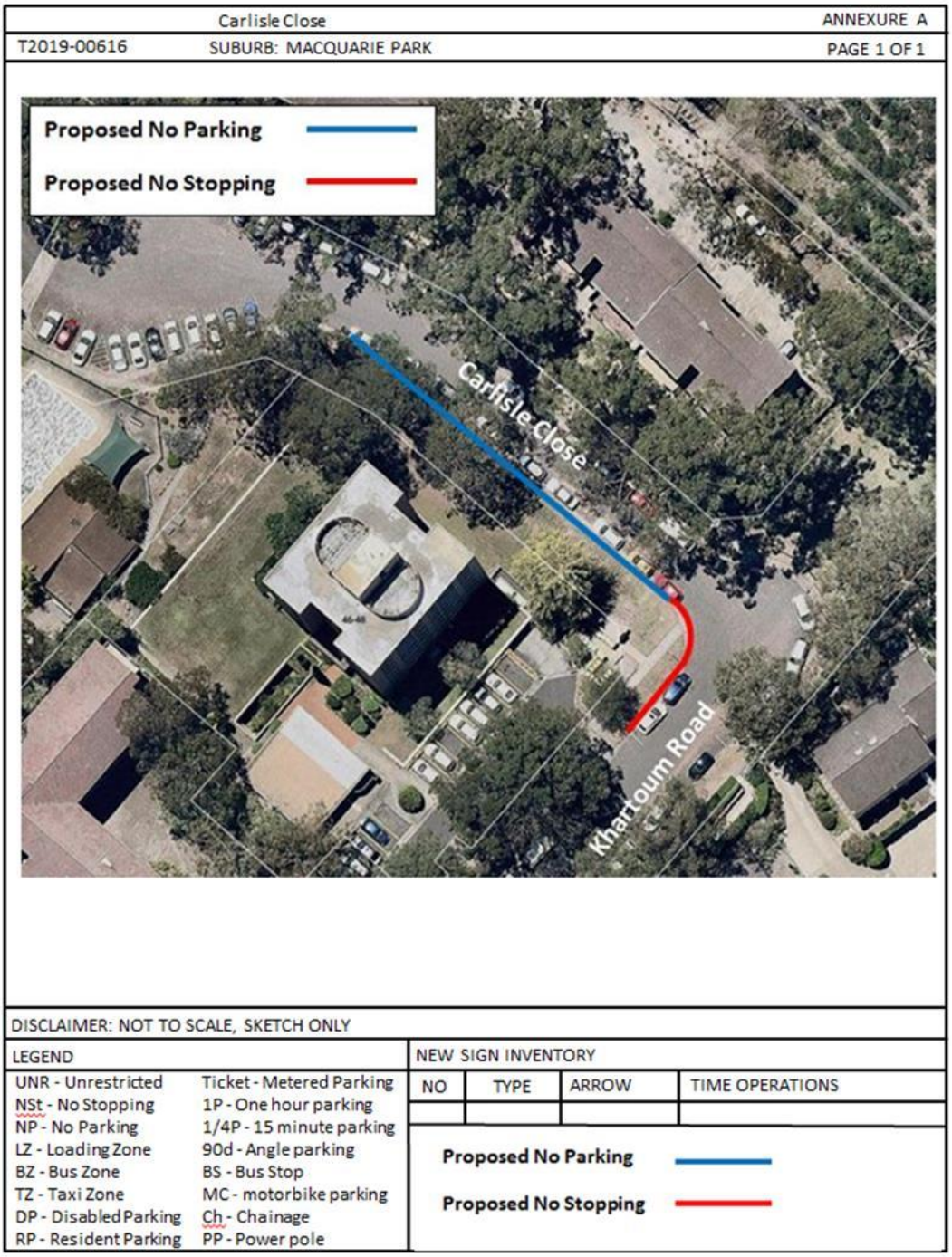

Figure A2: Proposed Parking Restrictions.

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ITEM (B) **AGINCOURT ROAD, MARSFIELD**

SUBJECT: **KISS AND RIDE ZONE**
ELECTORATE: RYDE
WARD: WEST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: CRM-2192915 & T2019-00686
OFFICER: J BEGLEY

INTRODUCTION

City of Ryde has received representation from a resident requesting consideration be given to a kiss and ride zone in Agincourt Road outside St Anthony's Catholic Primary School to assist with morning and afternoon activities associated with the school

CONTEXT

- Agincourt Road is a local road with a posted speed limit of 50km/h which reduces down to 40 km/h during school hours.

COMMUNITY ENGAGEMENT

No community consultation was undertaken as the proposed kiss and ride zone is located along the school frontage.

DISCUSSION

St. Anthony's Catholic Primary School has two frontages, one on Balaclava Road with the main access point on Agincourt Road. Unrestricted parking is currently available directly outside the school frontage on Agincourt Road, which is generally occupied during the morning and afternoon school drop off and pick up times. To assist parents and carers of children attending the school it is considered that the school street frontage on Agincourt Road be made a kiss and ride zone during morning and afternoon school drop off and pick up times.

Figure B1: Site location

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

That a kiss and ride zone be created along the school frontage of St. Anthony's Catholic Primary School on Agincourt Road, Marsfield during the hours of 8:00am-9:30am & 2:30 – 4:00pm School Days Only.

Figure B2: Proposed Kiss and Ride Zone on Agincourt Road, Marsfield.

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ITEM (C) **PORTER STREET, RYDE**

SUBJECT: **TIMED PARKING**
ELECTORATE: RYDE
WARD: EAST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: D19/48779 & T2019-00716
OFFICER: J BEGLEY

INTRODUCTION

City of Ryde has received representation from a local resident requesting consideration be given to introducing timed parking restrictions on the eastern side of Porter Street, Ryde, north of its intersection with Wells Street to match parking restrictions along the western side of Porter Street.

CONTEXT

- Porter Street is a local road, with a posted speed limit of 50km/h
- Currently No Stopping restrictions are in force on the eastern side of Porter Street from the raised pedestrian crossing to the roundabout intersection with Wells Street.

COMMUNITY ENGAGEMENT

Surveys were distributed to local residents and businesses to determine the level of support for the introduction of time restricted parking on the eastern side of Porter Street as per the community engagement distribution area map.

In total seven (7) responses were received, five (5) in support of the proposal and two (2) against. The residents who did not support the proposal cited costs associated with the installation of the parking signage and sight distance concerns as the primary reasons for objecting to the proposal.

In relation to the sight distance concerns, all statutory No Stopping distances associated with raised pedestrian crossings and roundabout installations have been maintained as part of this proposal.

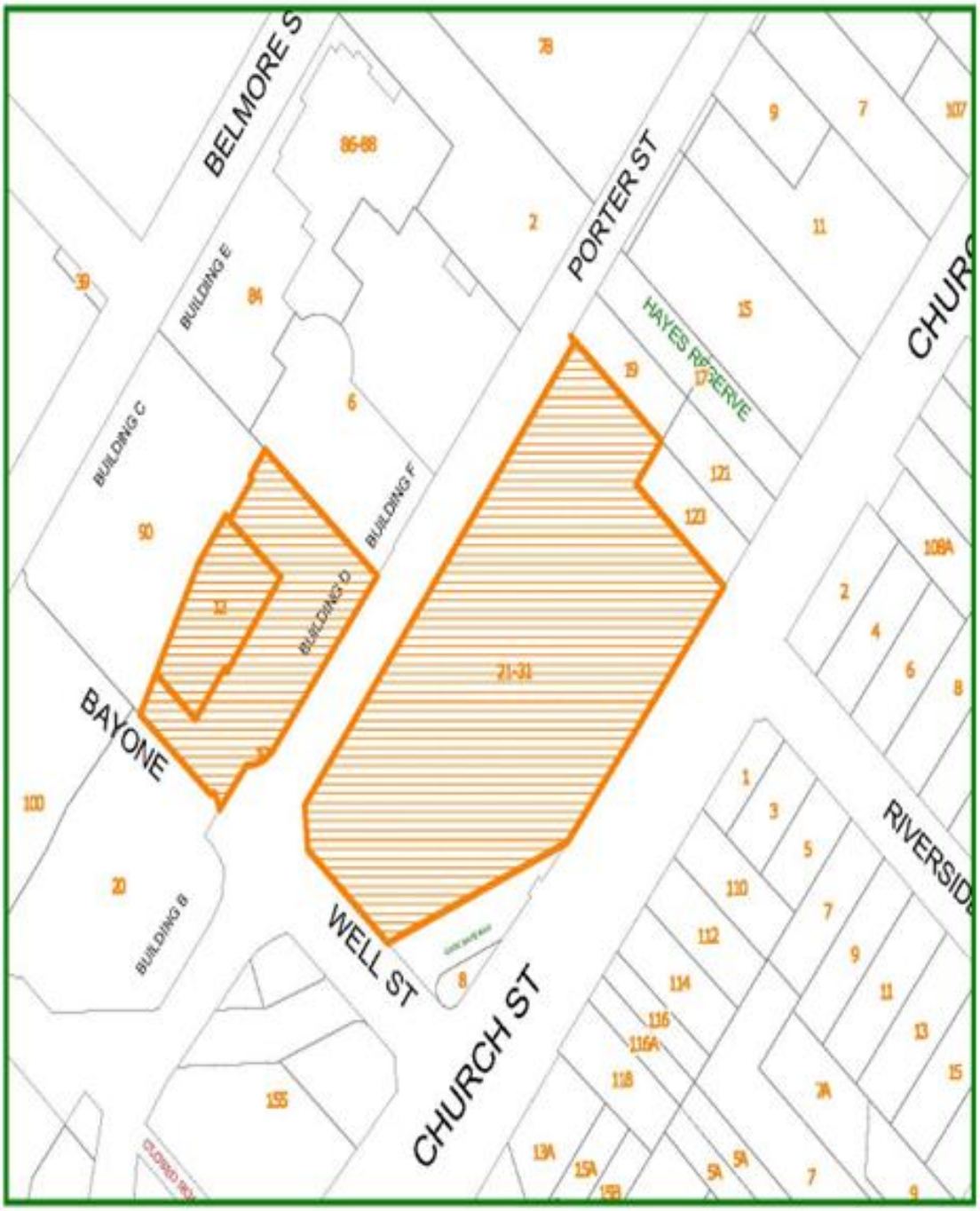


Figure C1: Community Engagement Distribution Map

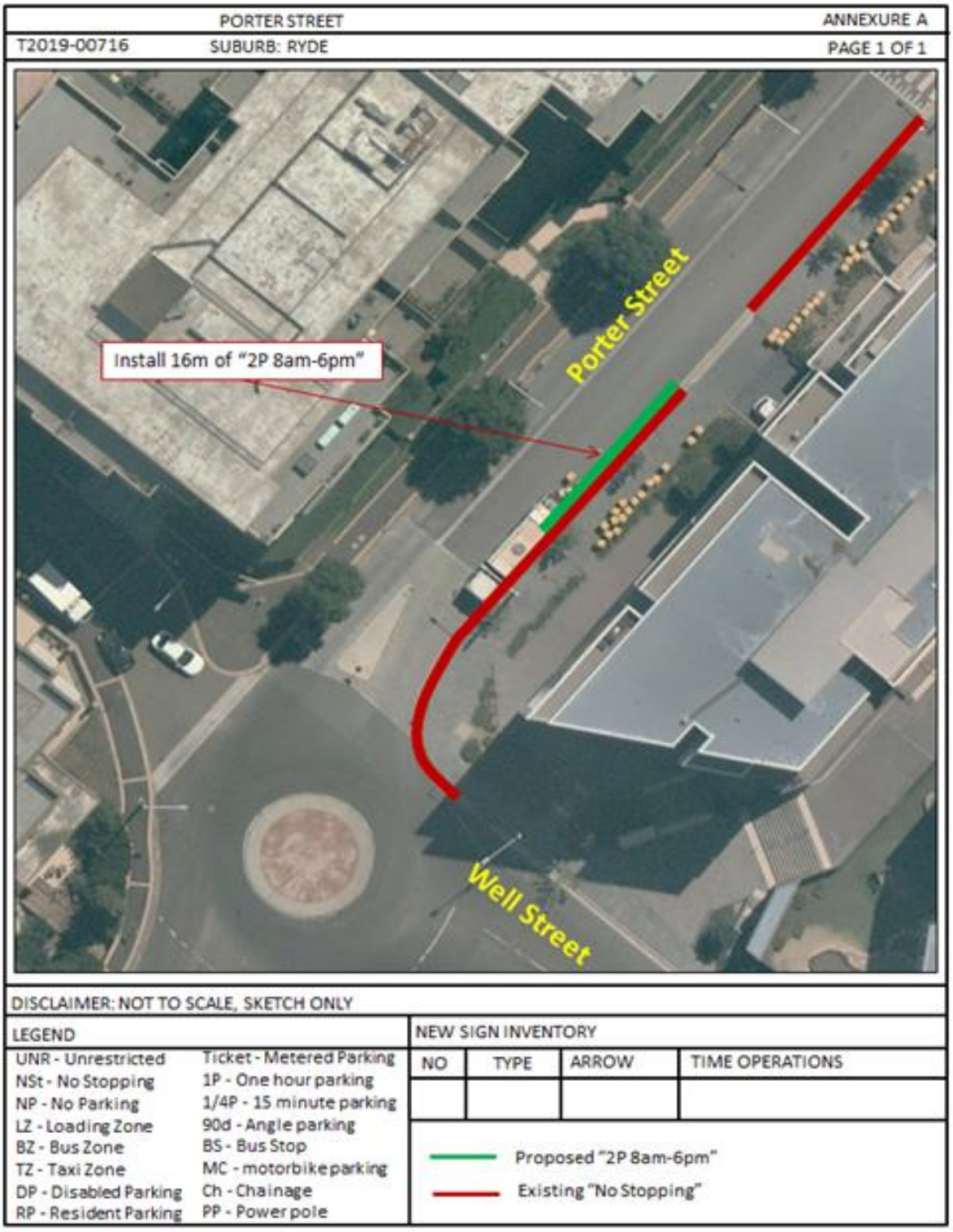


Figure C2: Proposed time restricted parking zones

DISCUSSION

Currently No Stopping restrictions on the eastern side of Porter Street extend from the raised pedestrian crossing to the roundabout intersection with Wells Street. It is

considered that time restricted parking can be safely provided for a distance of 16m south of the access driveway serving 21-31 Porter Street, without impacting on the statutory No Stopping restrictions associated with the raised pedestrian crossing or roundabout.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

That a 16m “2P 8am – 6pm” time restricted parking zone be created immediately south of the access driveway serving 21- 31 Porter Street, Ryde with the existing No Stopping restrictions to be modified to accommodate this change.

ITEM (D) **MULVIHILL STREET, WEST RYDE**

SUBJECT: **INTRODUCE 2P PARKING**
ELECTORATE: RYDE
WARD: CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: T2019-00754
OFFICER: L KUNG

INTRODUCTION

City of Ryde has received representation from a business operator requesting consideration be given to 2P Parking in Mulvihill Street, West Ryde to increase parking turnover in the area.

CONTEXT

- Mulvihill Street is a two-way local road with a posted limit of 50km/h.
- Carriageway width is approximately 9m wide.
- Parking along the street is unrestricted.
- Mulvihill Street is predominately occupied by automotive operators.
- Existing automotive businesses in the area are utilising the on-street parking

BACKGROUND

- In order to improve short-term parking availability in the area, Council considered proposing to convert 60 metres (approximately 11 parking spaces) of unrestricted parking on the southern side of Mulvihill Street, west of Mellor Street, to '2P 8am-6pm Monday-Saturday.'
- The changes proposed were during business hours for the kerb-space opposite the frontage of the shops on the northern-side of Mulvihill Street, which require increased parking turnover to allow visitor access.
- 30 metres of parking will remain unrestricted on the southern-side of Mulvihill Street.

COMMUNITY ENGAGEMENT

As shown in Figure D1, surveys were distributed to local residents and businesses to determine the level of support for:

- Converting unrestricted parking to 2P Parking during business hours on the southern side of Mulvihill Street, between Mellor Street and 17 Mulvihill Street.

The summary below indicated that majority (75%) of the respondents did not support the proposal.

Location	Total
Surveys distributed	21
Responses received	31
Support	7
DO NOT support	**23**
Undecided	1
Not specified	N/A

Table D1: Summary of survey results

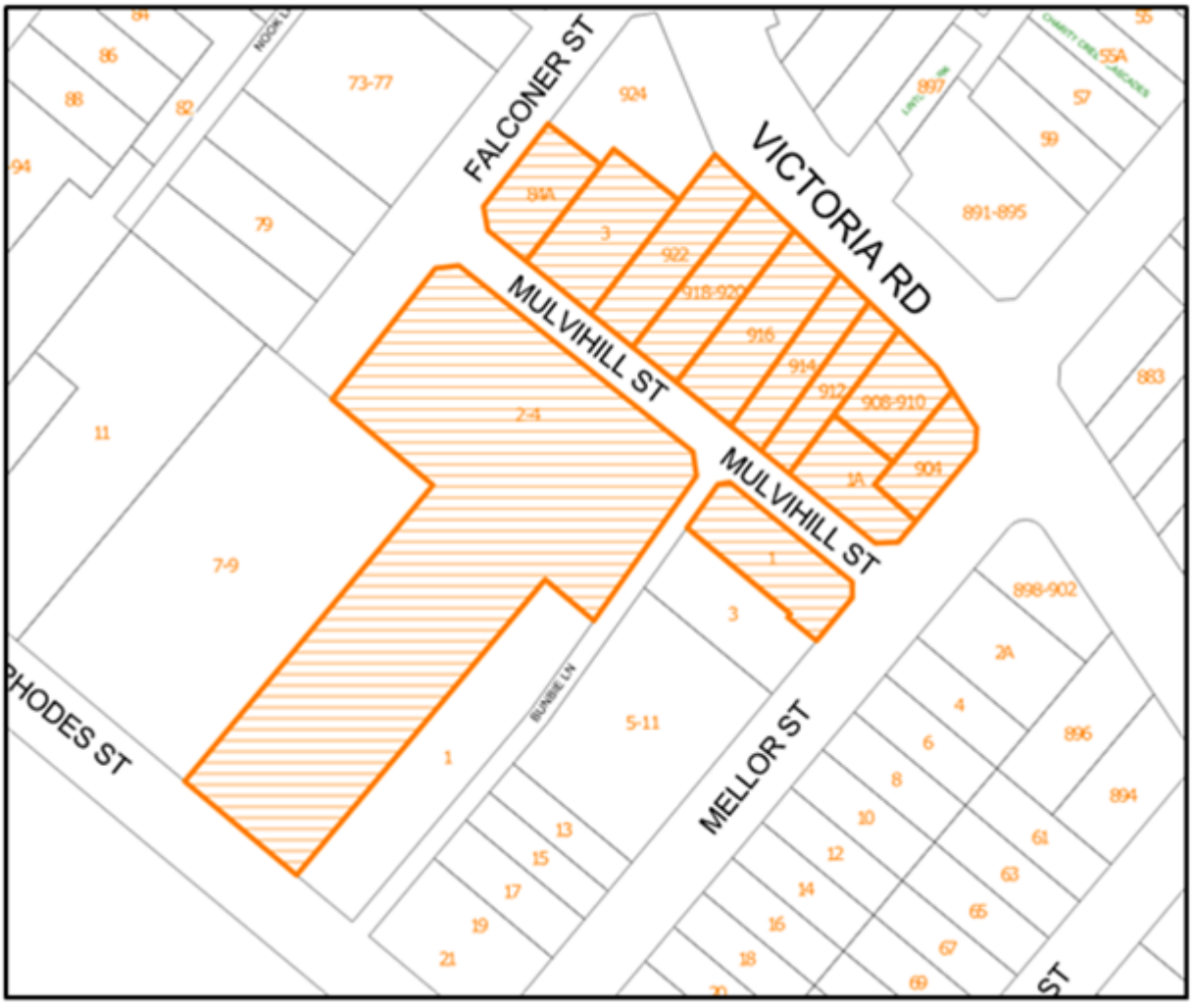


Figure D1: Community Consultation Distribution Map

DISCUSSION

A petition with 124 signatures was also received by the Council on 29th June 2019 objecting to the proposal to introduce 2P restricted parking.

Due to the high level of objection from the on line survey and petition, a response was also provided back to a concerned Councillor on 5th July 2019 advising that the proposal was not supported.

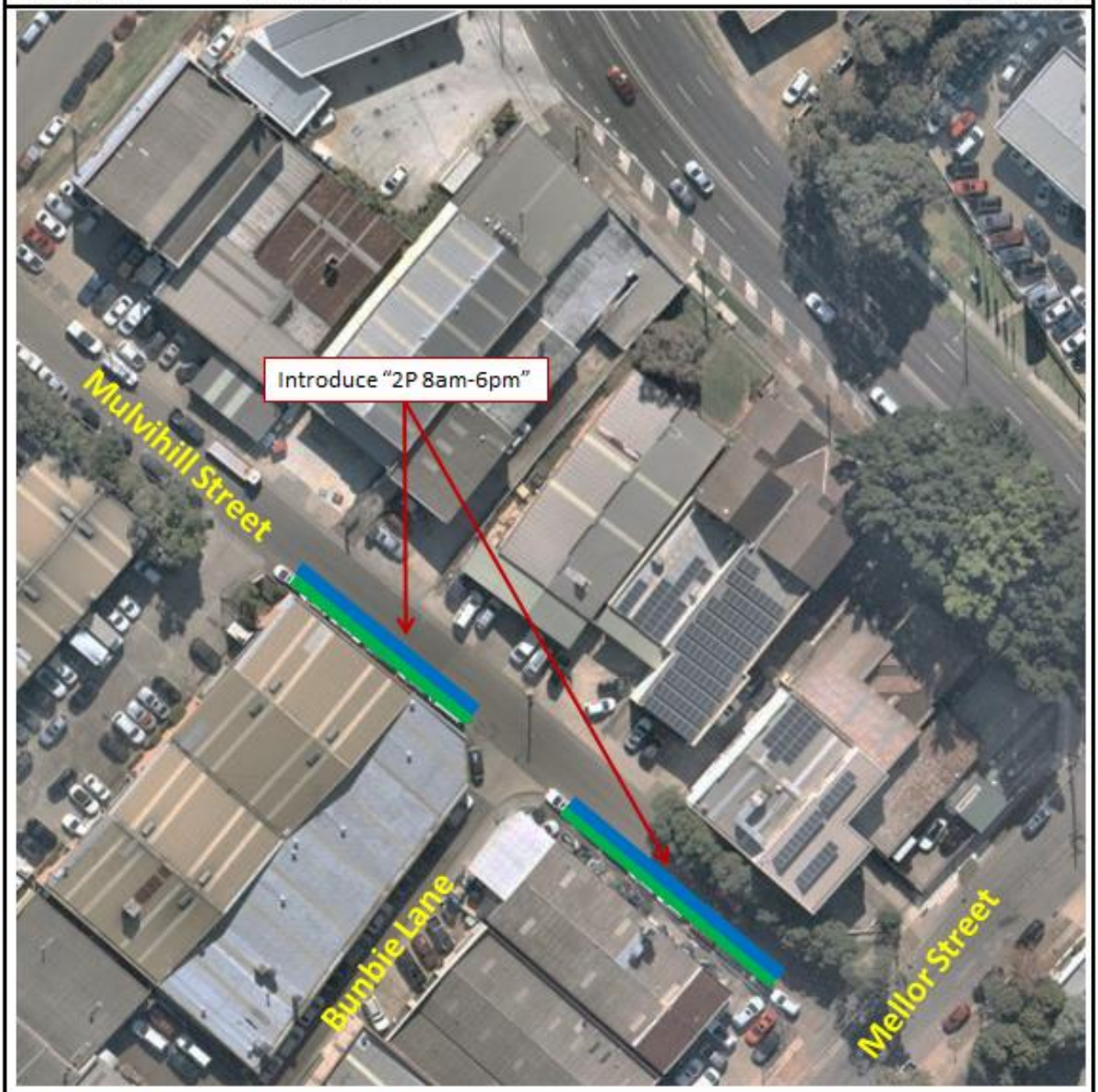
APPROVALS

No approval is required as no further parking controls are proposed in Mulvihill Street, West Ryde.

PROPOSAL

That no further parking controls are proposed in Mulvihill Street, West Ryde.

	MULVIHILL STREET	ANNEXURE A
T2019-00754	SUBURB: RYDE	PAGE 1 OF 1



DISCLAIMER: NOT TO SCALE, SKETCH ONLY

LEGEND

UNR - Unrestricted	Ticket - Metered Parking
NSt - No Stopping	1P - One hour parking
NP - No Parking	1/4P - 15 minute parking
LZ - Loading Zone	90d - Angle parking
BZ - Bus Zone	BS - Bus Stop
TZ - Taxi Zone	MC - motorbike parking
DP - Disabled Parking	Ch - Chainage
RP - Resident Parking	PP - Power pole

NEW SIGN INVENTORY

NO	TYPE	ARROW	TIME OPERATIONS

Existing Unrestricted Parking

Proposed "2P 8am-6pm"

Figure D2: Proposed 2P 8am-6pm Parking Restriction

ITEM (E) **WINSTON STREET, MARSFIELD**

SUBJECT: **NO STOPPING AT BEND**
ELECTORATE: RYDE
WARD: WEST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: CRM-2196445 & T2019-00768
OFFICER: L KUNG

INTRODUCTION

City of Ryde has received representation from a resident to extend the "No Stopping" zone on Winston Street, Marsfield to improve visibility at the intersection of Herring Road and Winston Street, Marsfield. There is poor visibility turning left into Winston Street from Herring Road due to a tight left curve.

CONTEXT

- Winston Street, Marsfield is a two-way local road with a posted limit of 50km/h.
- Carrageway width is approximately 6.5m wide.
- There is 2P restricted parking on the southern side and No Parking (8am-6pm, Mon-Fri) on the northern side.

COMMUNITY ENGAGEMENT

As shown in Figure E1, surveys were distributed to twenty two (22) local residents (including property owners and occupants) to determine the level of support. Nine (9) responses were received and all were in support of the proposal for:

- Extending the existing ‘NO STOPPING’ zone by removing 12m of 2P timed parking spaces.

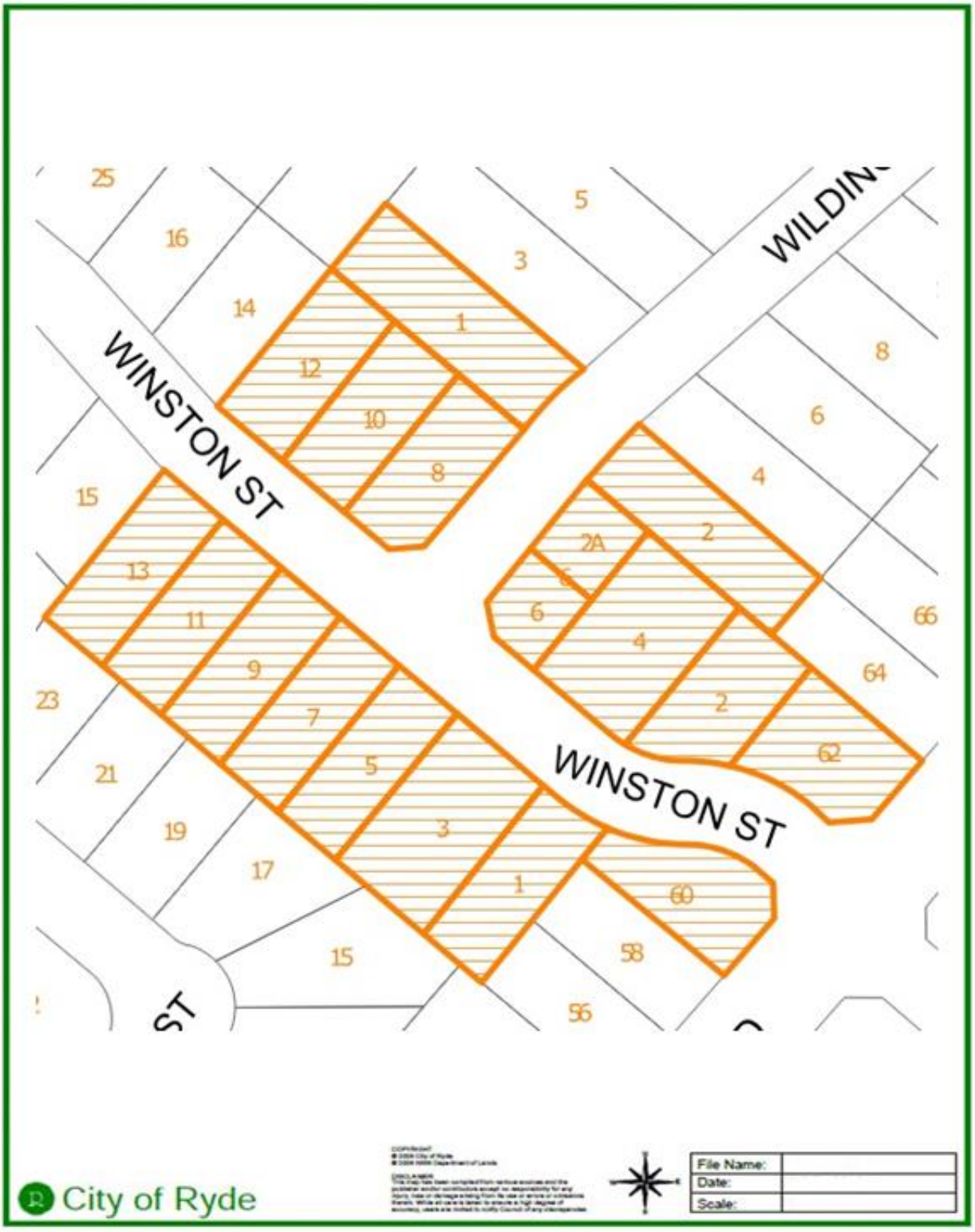


Figure E1: Community engagement distribution

APPROVALS

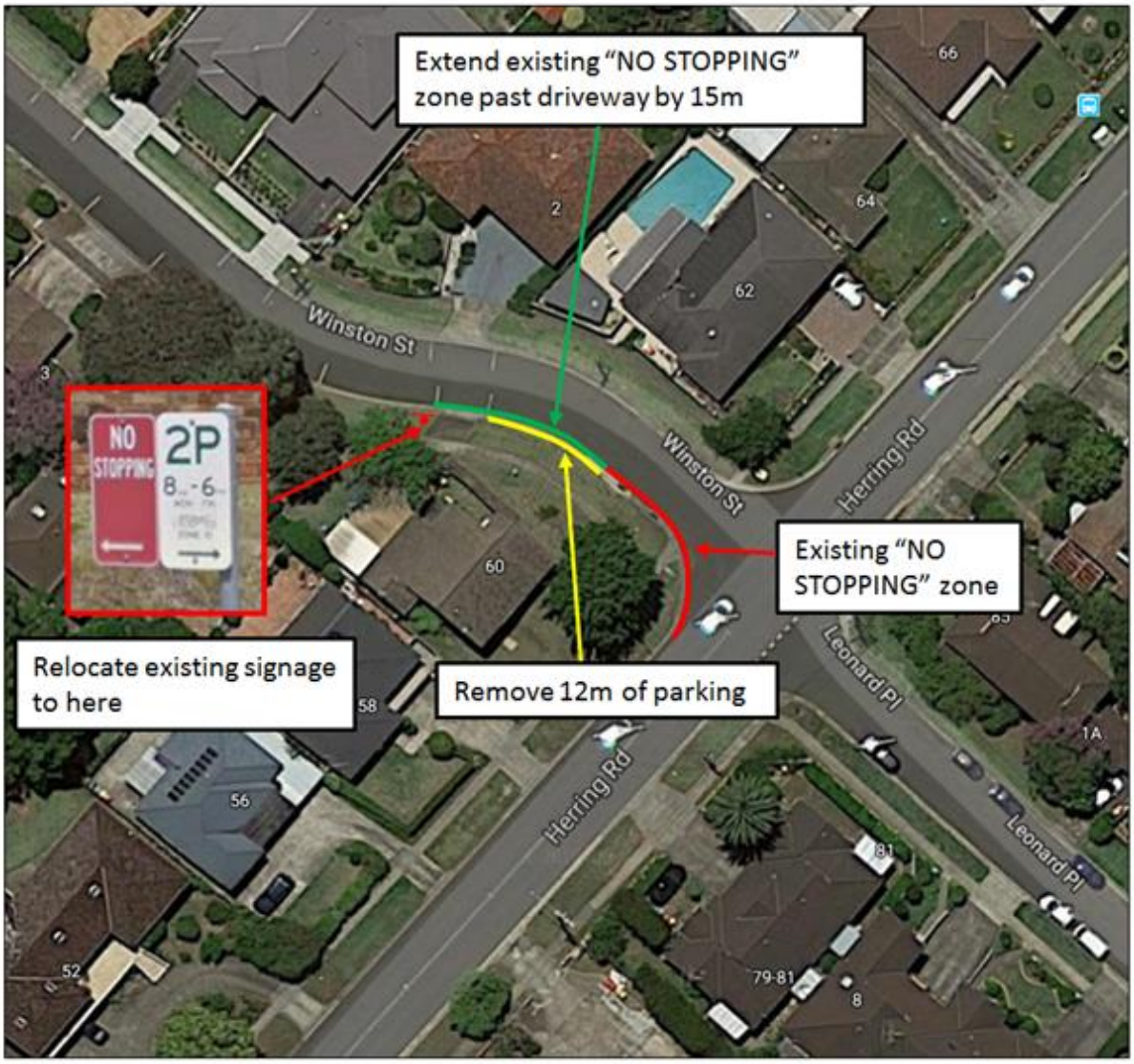
Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

To relocate the "No Stopping" and "2P MON-FRI" sign past the driveway of 60 Herring Road on Winston Street, Marsfield.

WINSTON STREET | ANNEXURE A

T2019-00768 | SUBURB: MARSFIELD | PAGE 1 OF 1



DISCLAIMER: NOT TO SCALE, SKETCH ONLY

LEGEND		NEW SIGN INVENTORY			
UNR - Unrestricted	Ticket - Metered Parking	NO	TYPE	ARROW	TIME OPERATIONS
NSt - No Stopping	1P - One hour parking				
NP - No Parking	1/4P - 15 minute parking				
LZ - Loading Zone	90d - Angle parking				
BZ - Bus Zone	BS - Bus Stop				
TZ - Taxi Zone	MC - motorbike parking				
DP - Disabled Parking	Ch - Chainage				
RP - Resident Parking	PP - Power pole				

EXTENSION of NO STOPPING ZONE
EXISTING NO STOPPING ZONE
REMOVAL OF PARKING

Figure E2: Proposed No Stopping Zone

ITEM (F) **JOPLING STREET, NORTH RYDE**

SUBJECT: **POOR SIGHTLINE DUE TO A 90 DEGREE BEND IN THE ROAD.**
ELECTORATE: LANE COVE
WARD: EAST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: CRM-2197267 & T2019-00790
OFFICER: L KUNG

INTRODUCTION

City of Ryde has received a representation from a resident requesting that consideration be given to installing "No Stopping" at the sharp bend of Jopling Street, North Ryde due to poor visibility.

CONTEXT

- Jopling Street is a two-way local road with a posted limit of 50km/h
- Carrageway width is approximately 7.0m wide.
- Jopling Street intersects with Blenheim Road at the northern end and Coxs Road at the southern end.
- The street runs parallel to Blenheim Road with a 90 degrees bend.
- There are staggered 2P restricted parking and unrestricted parking spaces on both sides of the street.

COMMUNITY ENGAGEMENT

As shown in Figure F1, surveys were distributed to twenty one (21) local residents (including property owners and occupants) to determine the level of support for:

- A ‘NO STOPPING’ zone (approximately 34m) on the inside of the bend, near 38 Jopling Street.

Eleven responses were received. Ten responses were in support of the proposal with only one objection and no reason was provided.

It was noted that, three of the ten submissions in support of the proposal also suggested that “NO STOPPING” be installed on the outside of the bend, opposite side of the road. Site observation indicates that there is good line of slight and it is not warranted at the present time.

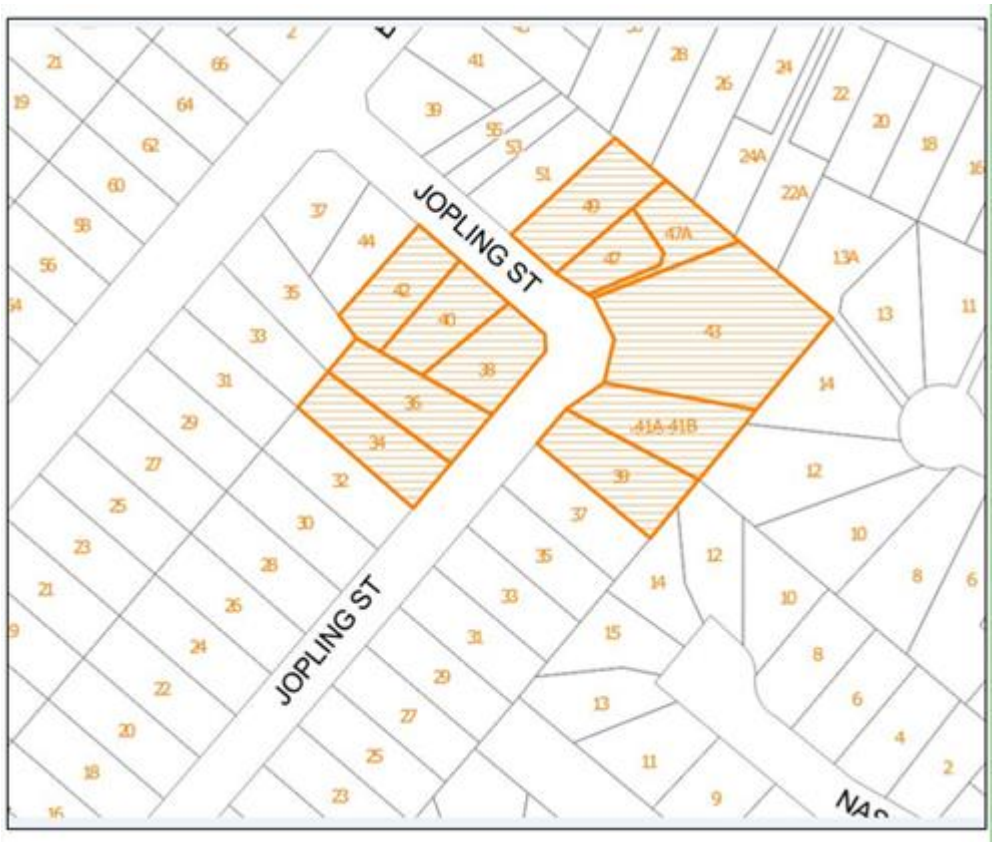


Figure F1: Community Engagement Distribution Map

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

To install "No Stopping" outside 38 Jopling Street, North Ryde between the two driveways for approximately 34m.

JOPLING STREET		ANNEXURE A
T2019-00790	SUBURB: NORTH RYDE	PAGE 1 OF 1

DISCLAIMER: NOT TO SCALE, SKETCH ONLY

LEGEND		NEW SIGN INVENTORY			
UNR - Unrestricted	Ticket - Metered Parking	NO	TYPE	ARROW	TIME OPERATIONS
NSt - No Stopping	1P - One hour parking				
NP - No Parking	1/4P - 15 minute parking				
LZ - Loading Zone	90d - Angle parking				
BZ - Bus Zone	BS - Bus Stop				
TZ - Taxi Zone	MC - motorbike parking				
DP - Disabled Parking	Ch - Chainage				
RP - Resident Parking	PP - Power pole				

PROPOSED NO STOPPING ZONE

Figure F2: Proposed No Stopping Zone

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ITEM (G) **PITTWATER ROAD, GLADESVILLE**

SUBJECT: **NEW PEDESTRIAN REFUGE ISLAND**
ELECTORATE: LANE COVE and RYDE
WARD: CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: T2019-01229
OFFICER: P DAVIDSON

INTRODUCTION

On the 30th April 2019, Council resolved:-

(a) *That Council acknowledges the risk to pedestrian safety that exists on Pittwater Road at Boronia Park shopping precinct.*
(b) *That Council commission a road safety audit to investigate the risk to pedestrians in crossing Pittwater Road between Gannet Street and Thompson Street in Boronia Park. The audit is to include the assessment of erecting pedestrian fencing or a pedestrian barrier along the median strip or other pedestrian traffic devices and/or signage in Pittwater Road through the Boronia Park shops to limit where pedestrians are able to cross.*
(c) *That Council consult with Hunters Hill Council, the Gladesville Main Street Committee, local residents and local business on both sides of Pittwater Road, including Harris Farm Market and Woolworths and encourage them to make submissions about the pedestrian issues.*
(d) *That Council be provided a report with the outcomes of the road safety audit and consultation as soon as practicable.*

BACKGROUND

The segment of Pittwater Road between Gannet Street and Thompson Street, Gladesville is a popular commercial strip that includes Harris Farm Markets, Woolworths, a number of speciality shops and regular bus services.

While a signalised pedestrian crossing is located at the northern end of this strip, at the intersection of Pittwater Road and Thompson Street pedestrians are frequently observed crossing Pittwater Road between Gannet Street and Thompson Street in a random and irregular pattern.

Council officers met with Hunter's Hill Council on 3 July 2019 to discuss pedestrian safety issues along Pittwater Road outside Harris Farm Supermarket. Following the site meeting, Council commissioned a road safety audit to investigate installing a refuge island at this location. A copy of the road safety audit is provided for the Committee members in electronic format for information.

The audit determined that a pedestrian refuge island at this location would facilitate safer pedestrian movements across Pittwater Road.

A design concept was prepared and consists of implementing a pedestrian refuge and pedestrian fencing on the central median. The concept proposal consists of the following and as shown in Figure G1 below.

1. A painted chevron island or a concrete median;
2. Pedestrian refuge island;
3. Widening of the existing median to accommodate a pedestrian fence and transition to the pedestrian refuge;
4. RMS pedestrian fence;
5. Kerb blister and pram ramps opposite the pedestrian refuge; and
6. Re-alignment the line marking of the northbound and southbound traffic lanes.

To accommodate the pedestrian refuge and widening of the existing median, the northbound travel lanes would be shifted to the western kerb alignment and the southbound travel lanes would be shifted to the east. The pedestrian improvement concept is considered feasible without major reconstruction of the road infrastructure, such as stormwater and utility services.

CONTEXT

- A search of the crash data base for 2013 to September 2018 indicates that there were no incidents involving pedestrians.
- The combination of pedestrians randomly and irregular crossing pattern, the speed limit of 60km/hr and the wide road carriageway to cross has the potential to cause a vehicle- pedestrian conflict that could occur but not often.
- The three options of a pedestrian refuge with pedestrian fencing, pedestrian refuge without pedestrian fencing as well as stand-alone pedestrian fencing were all considered. These later concepts were not favoured as they would not effectively correct the pedestrian behaviour of crossing in an irregular pattern and prolonged exposure to the vehicle movement on a four-lane traffic environment. The pedestrian refuge with pedestrian fencing provides channelisation and less exposure as pedestrians can cross in stages with controlled separation at the median.
- The road safety review supported the feasibility of the concept proposal and recommended that the pedestrian refuge with pedestrian fencing concept proposal be progressed to detailed design.

REFERENCES

- RMS TDT2011/01a Pedestrian Refuge Island Four Lane, Two-way Road
- Roads Act 1993

COMMUNITY ENGAGEMENT

Council will engage a private consultant to complete the detailed design that is expected to be completed by December 2019, before proceeding with community consultation which will be undertaken in conjunction with Hunter's Hill Council.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

Figure G1: Improvement Design Concept

PROPOSAL

a) Ryde Council to engage a private consultant to complete the detailed design, funding for the detailed design and construction be co-contributed by Ryde Council and Hunter's Hill Council;

b) Once a detailed design of the proposed facility has been completed, Ryde Council to undertake a joint community consultation with Hunter's Hill Council;

c) Subject to (a) and (b) above, Ryde Council and Hunter's Hill Council to install a new pedestrian refuge island and associated works in Pittwater Road, outside Harris Farm Supermarket, Gladesville.

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ITEM (H) **WASTE COLLECTION - LGA , RYDE**

SUBJECT: **INTRODUCING NO PARKING**
ELECTORATE: LANE COVE and RYDE
WARD: WEST, CENTRAL and EAST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: T2019-01054
OFFICER: P DAVIDSON

INTRODUCTION

Council's waste-collection contractor experiences difficulties manoeuvring their 11m long heavy rigid garbage truck on Ryde's narrow streets which is aggravated by tight radius road curves, small radius cul-de-sac heads, steep road gradients and the inherent on-street parking in these restrictive locations.

There are already a number of existing locations with 'NO PARKING: 5am-11am Thursday' zones, on one side of the road to facilitate waste-collection vehicle access. In some rare cases, these parking controls have been installed to provide space for bins to be stored on waste-collection days.

Although the installation of the No Parking zones for waste collection have historically been supported by residents, it is only when the situation became untenable because the bins have not been able to be serviced a number of times.
City of Ryde has received representation from local residents and waste-collection contractor requesting consideration be given to installing 'NO PARKING: 5am-11am on the respective collection days; on Bird Street/QuarryRoad, Cherry Court and Bayview Street, RYDE.

BACKGROUND

Bird Street, Ryde

Council's waste collection trucks are currently having difficulty manoeuvring around the bend when cars are parked on both sides of the road near 25 Bird Street. The proposal aims at minimising the loss of on-street car spaces while at the same time ensuring access for waste collection trucks.

The proposal is to introduce 35 metres of 'NO PARKING 5AM-11AM THURSDAY' along the inside of the bend near to 25 Bird Street Ryde – Figure H1.

Figure H1: Proposed No Parking – 5am- 11am Thursday Bird Street, Ryde

Cherry Court, Marsfield

Cherry Court has a narrow carriageway and when cars are parked on both sides of the road there is insufficient space for waste collection vehicles to access the area. The proposed parking restrictions will ensure that access is provided on waste collection day.

The proposal is to introduce 'NO PARKING 5AM – 11AM FRIDAY" along the narrow road carriageway in the street – Figure H2.

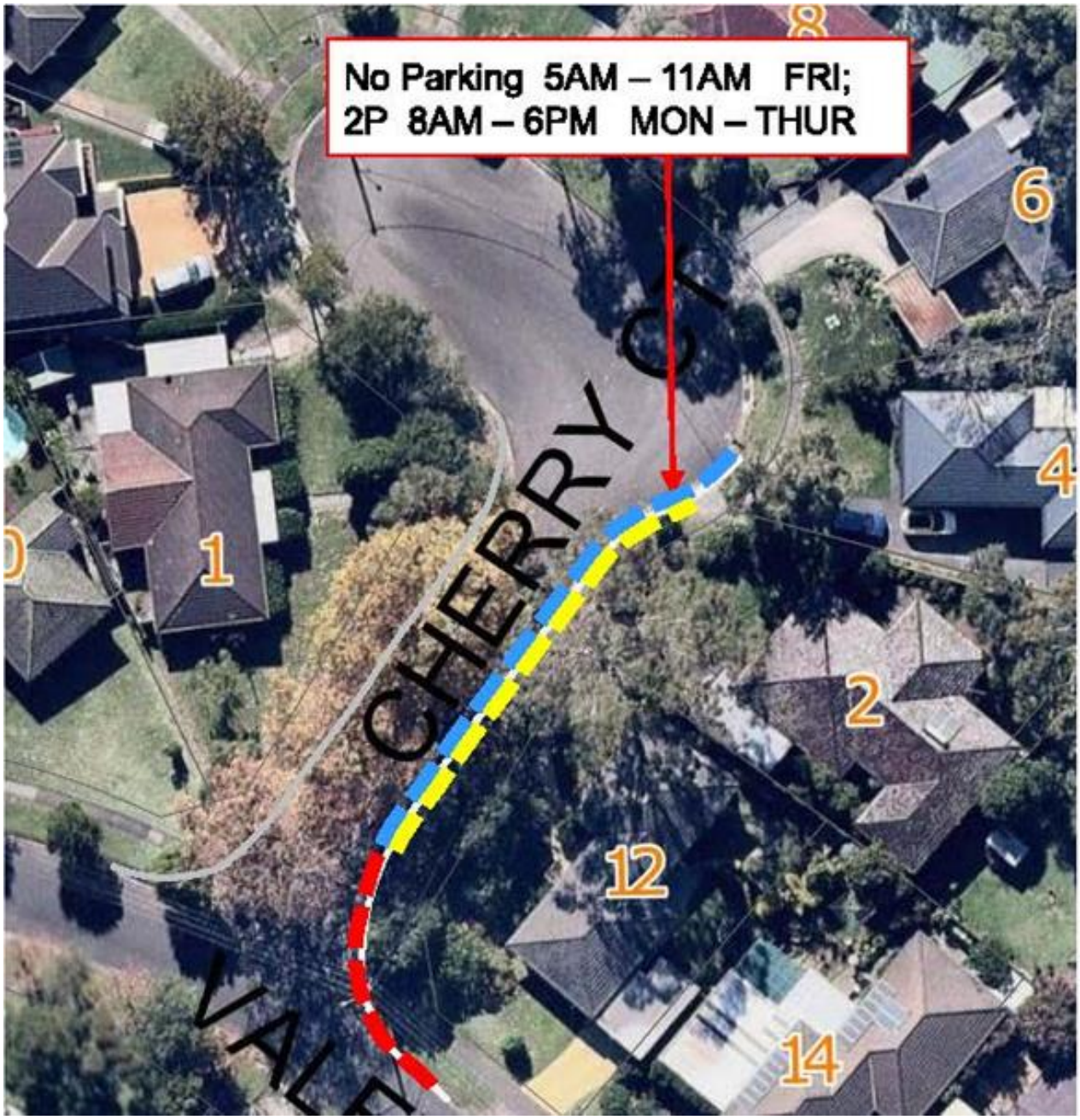

Figure H2: Proposed No Parking – 5AM – 11AM Friday Cherry Court, Marsfield

Bayview Street, Tennyson Point

Bayview Street has a steep slope and when cars are parked around the end of the cul-de-sac there is insufficient space for waste-collection vehicles to access the area. These parking controls are being considered on all roads and cul-de-sacs in the City of Ryde where waste collection trucks have difficulty manoeuvring.

The proposal is to introduce 'NO PARKING 5AM-11AM MONDAY' around the cul-de-sac in Bayview Street – Figure H3.

Figure H3: Proposed No Parking – 5AM – 11AM Monday Bayview Street, Tennyson Point

CONTEXT

- Council has the responsibility to collect residential waste under the Local Government Act 1993, the right to intervene in public-health matters under the Public Health Act 2010 and WH&S responsibilities to contractors under the Work Health and Safety Act 2011.
- Council meets these obligations through a waste-collection contractor. The contract allows the waste-collection contractor to service bins anytime between 5am and 11am on designated weekdays.
- Council's Road Register indicates that 50 out of 150 Council's roads are considered "narrow" in the City of Ryde. 38 cul-de-sacs have been identified in the City of Ryde.

- Increases in population and private-car ownership, beyond off-street parking capacity, has led to increasing numbers of vehicles being parked on-street, causing access problems for the waste-collection contractor servicing narrow roads in the City of Ryde.

REFERENCES

- [[NSW] *Road Rules 2014* Rule 168 No parking signs
- *Local Government Act 1993*
- *Public Health Act 2010*
- *Work Health and Safety Act 2011*
- City of Ryde's *Road Register*.

COMMUNITY ENGAGEMENT

The occupants of the properties of Bird Street Ryde, Cherry Court Marsfield and Bayview Street Tennyson Point directly impacted were notified of a proposal to install 'NO PARKING: 5am-11am'on their respective waste collection days, such that the least number of parking spaces would be effected – Figures H4, H5 and H6.

Location	(Bird St)	(Cherry Court)	(Bayview Street)
Surveys distributed	38	12	8
Responses received	0	2	2
Support	0	2	1
DO NOT support	0	0	1
Undecided	0	0	0
Not specified	0	0	0

Table 1: Summary of survey results

In addition to the above community engagement a day-time Door Knock survey was conducted with each of the properties on Bird Street, Ryde; Cherry Court, Marsfield and Bayview Street, Tennyson Point seeking feedback on the respective proposals.

Location	(Bird St)	(Cherry Court)	(Bayview Street)
Door Knocked	30	11	8
Responses received	11	1	1
Support	11	1	1
DO NOT support	0	0	0
Undecided	0	0	0
Not specified	0	0	0

Table 2: Summary of survey results – Door Knock

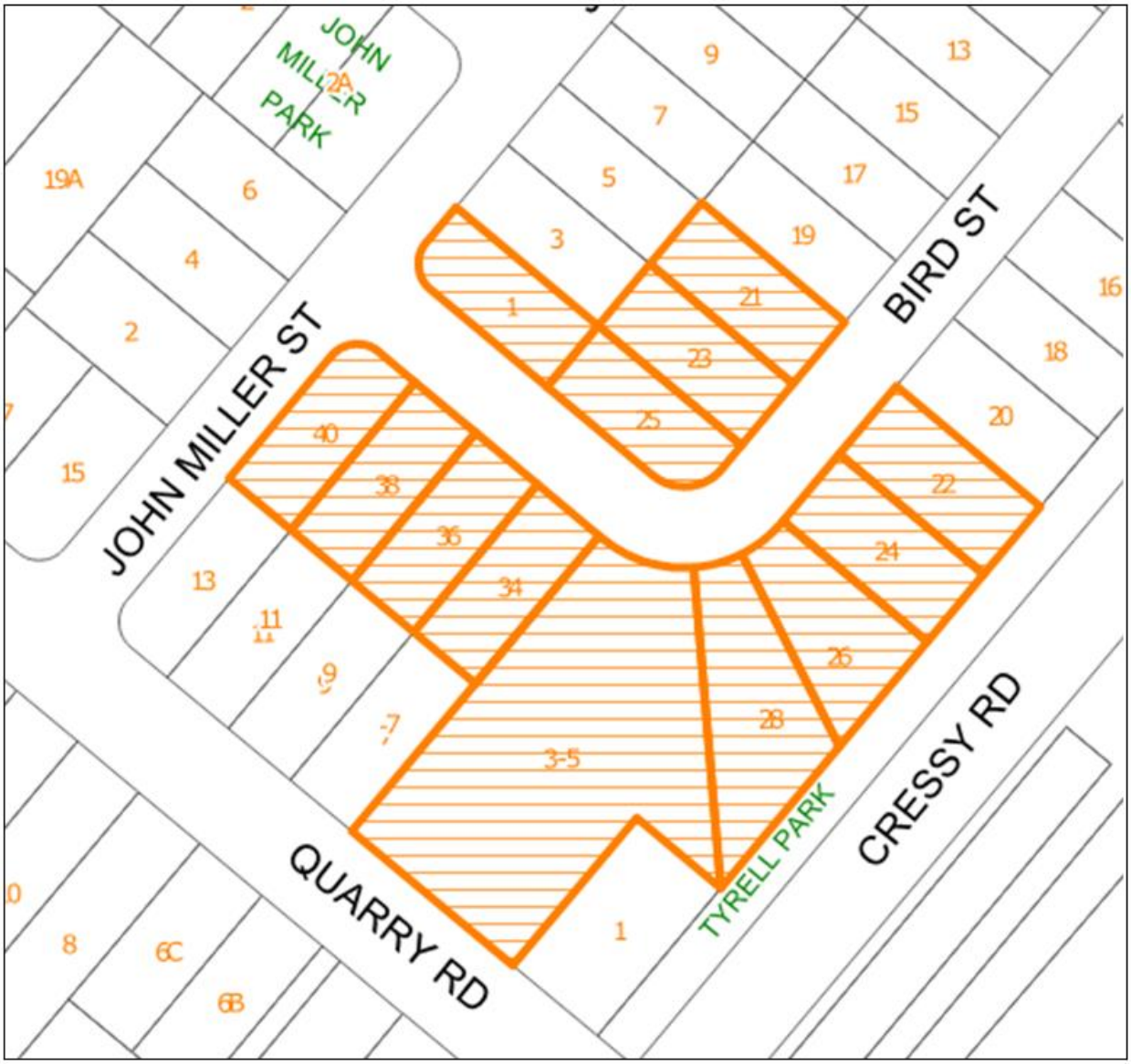

Figure H4: Bird Street, Ryde - Community engagement distribution

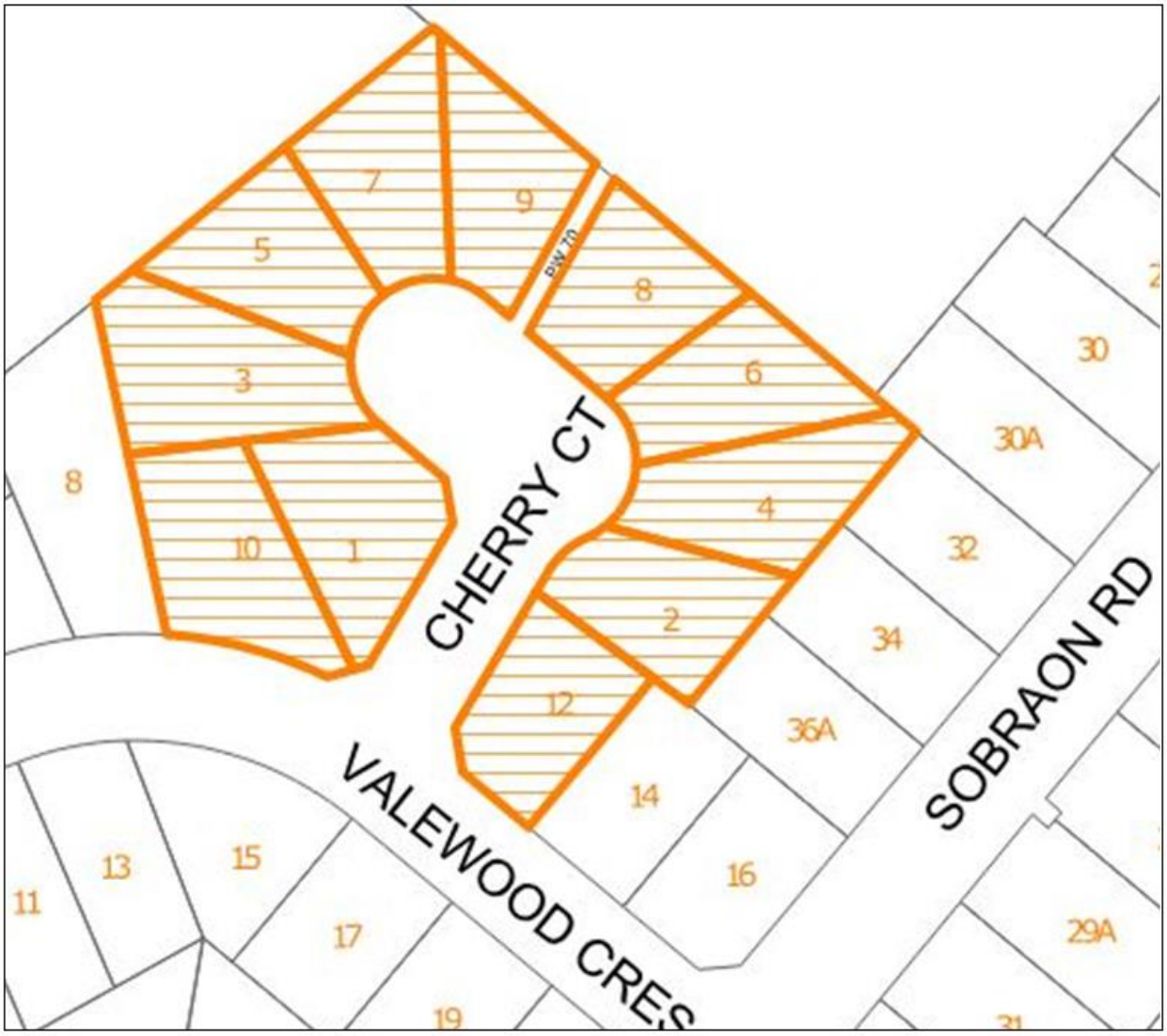

Figure H5: Cherry Court, Marsfield - Community engagement distribution

Figure H6: Bayview Street, Tennyson Point - Community engagement distribution

DISCUSSION

There were no Bird Street "Mail-out On-Line" responses received from the 38 Bird Street occupants/ owners contacted, while the "Door Knock" survey yielded eleven (11) supportive responses. However , nine (9) of these responses where from a high density development that has frontage to both Bird Street and Quarry Road with its vehicle access and garbage service, off Quarry Road. It is likely that these occupants/owners don't experience the same garbage collection circumstances as do the occupants/owners that have frontage to the bend on Bird Street.

Of the twelve (12) Cherry Court occupants/owners contacted via the Mail-out , two (2) On-Line responses were received in support of the proposal and the “Door Knock” survey yielded one (1) supportive response.

There were eight (8) Bayview Street occupants/owners contacted via the Mail-out , two (2) On-Line responses were received; one (1) supported and one (1) did not support the proposal, and the “Door Knock” survey yielded one (1) supportive response.

There is a poor community consultation response rate and the support for all the proposalsis less than 30% for both the “Mail out On-line” surveys and the “Door Knock” surveys. Therefore it is difficult to draw the conclusion that there is positive support for each of the proposals.

APPROVALS

Given the required level of community support is very low, no further parking controls during the waste- collection days be installed in Bird Street Ryde, Cherry Court Marsfield and Bayview Street Tennyson Point.

PROPOSAL

That no further parking controls be implemented to assist waste-collection vehciles acess at the following locations:

- Bird Street Ryde,
- Cherry Court Marsfield, and
- Bayview Street Tennyson Point

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ITEM (I) **ROTHESAY AVENUE, MEADOWBANK**

SUBJECT: **NO PARKING**
ELECTORATE: RYDE
WARD: CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: T2019-01073
OFFICER: J BEGLEY

INTRODUCTION

City of Ryde has received representation from a resident requesting consideration be given to a small section of "No Parking" on either side of the access driveway serving 41-45 Rothesay Avenue, Meadowbank to ensure access is maintained for garbage collection vehicles.

CONTEXT

- Rothesay Avenue is a local road with a posted speed limit of 50km/h

Figure I3: Community Engagement Distribution Map

COMMUNITY ENGAGEMENT

Surveys were distributed to local residents and businesses to determine the level of support for as per the community engagement distribution map. Council received thirty

four (34) responses to its community engagement process with thirty two (32) responses in favour of the proposal and two (2) responses against the proposal. The two (2) residents who have objected have cited the lack of on-street parking in Rothesay Avenue as the primary reason why they have objected to the proposal.

DISCUSSION

A 2m No Parking zone either side of the access driveway serving 41-45 Rothesay Avenue will reduce the incidence of motorists parking too close to the access driveway thereby restricting access for Councils' service vehicles.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

To install a 2m "No Parking" zone on either side of the access driveway serving 41 -45 Rothesay Avenue, Meadowbank.

ROTHESAY AVENUE — ANNEXURE A

T2019-01073 — SUBURB: RYDE — PAGE 1 OF 1

DISCLAIMER: NOT TO SCALE, SKETCH ONLY

LEGEND			NEW SIGN INVENTORY			
UNR - Unrestricted	Ticket - Metered Parking		NO	TYPE	ARROW	TIME OPERATIONS
NSt - No Stopping	1P - One hour parking					
NP - No Parking	1/4P - 15 minute parking					
LZ - Loading Zone	90d - Angle parking					
BZ - Bus Zone	BS - Bus Stop					
TZ - Taxi Zone	MC - motorbike parking					
DP - Disabled Parking	Ch - Chainage					
RP - Resident Parking	PP - Power pole					

Proposed "No Parking"

Figure I4: Proposed No Parking Zone

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ITEM (J) **SPRING CYCLE TRAFFIC MANAGEMENT PLAN - 2019, RYDE**

SUBJECT: **SPRING CYCLE**
ELECTORATE: LANE COVE and RYDE
WARD: WEST and CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: T2019-01179
OFFICER: J BEGLEY

INTRODUCTION

City of Ryde has received representation from Who Dares Pty Ltd on behalf of Bicycle NSW, organiser of the 2019 Spring Cycle requesting consideration be given to approving the Transport Management Plan (TMP) for the event.

BACKGROUND

The Spring Cycle provides a unique opportunity to travel through Sydney by bike, capturing the city's iconic attractions, landscape and views. Every year, up to 20,000 people join the Spring Cycle for a celebration of cycling that starts in North Sydney and continues across the Sydney Harbour Bridge main deck and on to the festival-style atmosphere at the finish-line.

The event commenced in 1983 and has been attracting riders of all ages and abilities, on bikes of all shapes and sizes ever since. By showcasing Sydney's growing cycling infrastructure and facilities, the event promotes cycling as a viable, sustainable recreation and transport option in Sydney.

The Spring Cycle is an annual event, with the route and traffic control generally remaining the same from previous years. The event will be held on Sunday 13th October 2019

CONTEXT

As part of Council's approval process, any Special Event TMP must receive approval from the Ryde Local Traffic Committee.

REFERENCES

- RMS Special Event Guidelines

DISCUSSION

The Spring Cycle enters the City of Ryde via the off road cycle path from John Whitton Bridge, where participants turn right onto Bay Drive. This intersection will be manned by NSW Police. Participants continue down Bay Drive and then turn right at the roundabout onto Bowden Street. They continue down Bowden Street towards the Meadowbank Wharf

where they travel under John Whitton Bridge connecting with Council's shared user path along Meadowbank Park. They then continue in a westerly direction towards Crowley Crescent, then turn left into Lancaster Avenue and left again onto Wharf Road where they enter Parramatta Council local government area. An electronic copy of the Transport Management Plan is provided to the Committee members for information.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of Council and seek the remaining approvals.

PROPOSAL

That as per the attached Spring Cycle TMP and TCPs:

1. Concurrence for the Transport Management Plan submitted by Who Dares Pty Ltd, on behalf of Bicycle NSW including traffic control plans for the 2019 Spring Cycle to be held on Sunday.13 October 2019.

2. All future Spring Cycle events be endorsed by Council provided that there is no major difference between the route that passes through the City of Ryde in 2019 and future years.

ITEM (K) **EAST PARADE, EASTWOOD**

SUBJECT: **NO STOPPING NEAR INTERSECTION TO IMPROVE TRAFFIC FLOW**

ELECTORATE: RYDE
WARD: CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: D19/67433 & T2019-01212
OFFICER: P DAVIDSON

INTRODUCTION

In 2018 Council carried out Traffic and Parking study in Eastwood town centre which identified the opportunities to improve traffic and parking conditions.

At Council meeting on the 30 April 2019 the Council resolved that "*the General Manager arrange the appropriate consultation with residents, shop owners, Eastwood Chamber of Commerce, Eastwood Korean Chamber of Commerce with regards to removing two car spaces near First Avenue on East Parade, Eastwood to improve traffic congestion".*

The proposal will replace the existing time restricted 12m segment of 'No Parking – 6:30am – 9:30am and 3:30pm – 6:30pm' zone to a full time 'No Stopping' to improve the flow of traffic on the northern approach to the signalised intersection of First Avenue and East Parade, Eastwood.

CONTEXT

- The kerb side lane between Rowe Street and First Ave on the northern approach to the signalised intersection of East Parade and Rutledge Street is 68m in length, consisting of 30 m of full time No Parking, 12m of timed restricted No Parking and 26m of No Stopping.
- The existing 12m long, timed restricted No Parking zone effectively shortens the kerb side traffic lane from 68m to 26m, creating an underutilisation of the kerb side traffic lane and reducing its capacity.
- The inefficient use of the kerb side lane causes the general vehicle traffic and bus services to experience a poor level of service with long delays and continuous queuing. The queue in the busy peak periods spills back onto the single lane roundabout at the intersection of East Parade, Railway Parade and Rowe Street creating congestion which restricts the roundabouts left, through and right vehicle turning movements.
- The removal of the short segment of timed restricted No Parking will allow the kerb side lane to be used effectively by improving traffic flow and reducing delays.

REFERENCES

- [NSW] *Road Rules 2014* Rule 167

COMMUNITY ENGAGEMENT

Surveys were distributed to local residents and businesses as shown in Figure K1 to determine the level of support for the proposal to replace the existing 'No Parking – 6:30am – 9:30am and 3:30pm – 6:30pm' zone to a full time 'No Stopping' on the northern approach to the signalised intersection of First Avenue and East Parade.

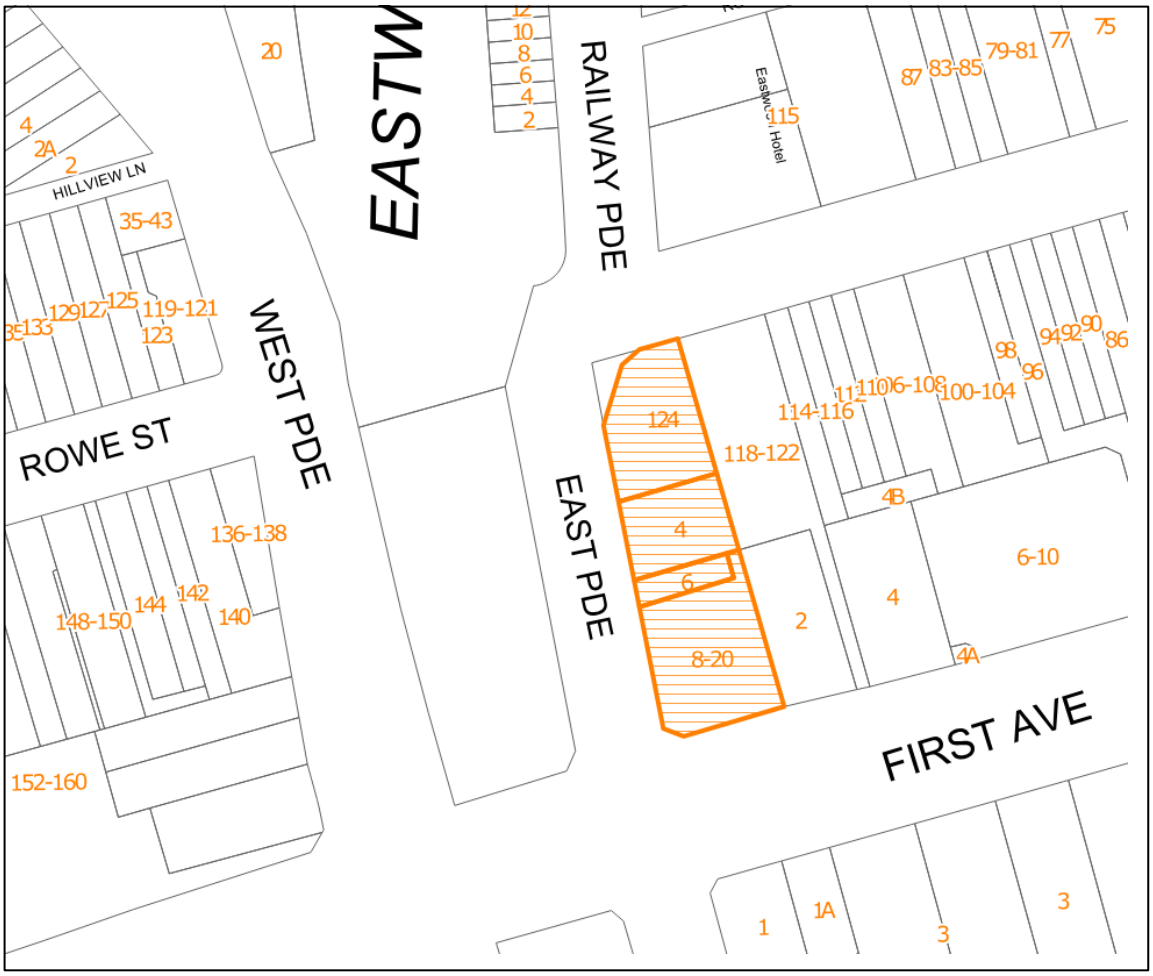

Figure K1: Community Engagement Distribution Map

Sixty-four (64) responses where received; including 26 residents and 38 businesses. A summary of results is provided in Table 1, with more details for each site following.

Location	(East Parade Residents)	(East Parade Businesses)	Total
Surveys distributed	26	38	64
Responses received	26	38	64
Support	26	36	62
DO NOT support	0	2	2
Undecided	0	0	0
Not specified	0	0	0

Table K1: Summary of survey results

Two comments from local businesses on East Parade have been received in opposition to the proposed changes. Both occupants that do not support the proposed changes have raised the same concerns. They advise that the existing 12m long, time restricted No Parking space provide drop-off and pick-up in close proximity to their businesses and ease of access for people with disabilities that are a vital convenience for both their customers and businesses.

DISCUSSION

Adjacent to the existing time restricted No Parking zone outside 6 East Parade Eastwood, there is 30m of full-time 'No Parking' zone within a convenient location for both businesses that can still be used for drop-off and pick-up purposes.

To address the traffic congestion in East Parade, the existing 12m time restricted No Parking zone could be replaced with 'No Stopping' without unduly inconveniencing the East Parade customers and businesses.

At the same time to reinforce the traffic flow function at this location it would be prudent to remove the edge line marking and extend the broken longitudinal lane separation line opposite the extended No Stopping zone.

It is recommended that Council:

- Proceed with installing No Stopping by replacing the existing 'No Parking – '6:30am – 9:30am and 3:30pm – 6:30pm' zone to full-time No Stopping; and

- Opposite this newly extended No Stopping zone remove the exiting edge line marking and replace with a broken longitudinal lane separation line.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

To replace the existing 'No Parking - 6:30am – 9:30am and 3:30pm – 6:30pm' zone (two parking spaces) with a 'No Stopping' zone outside 6 East Parade, Eastwood.

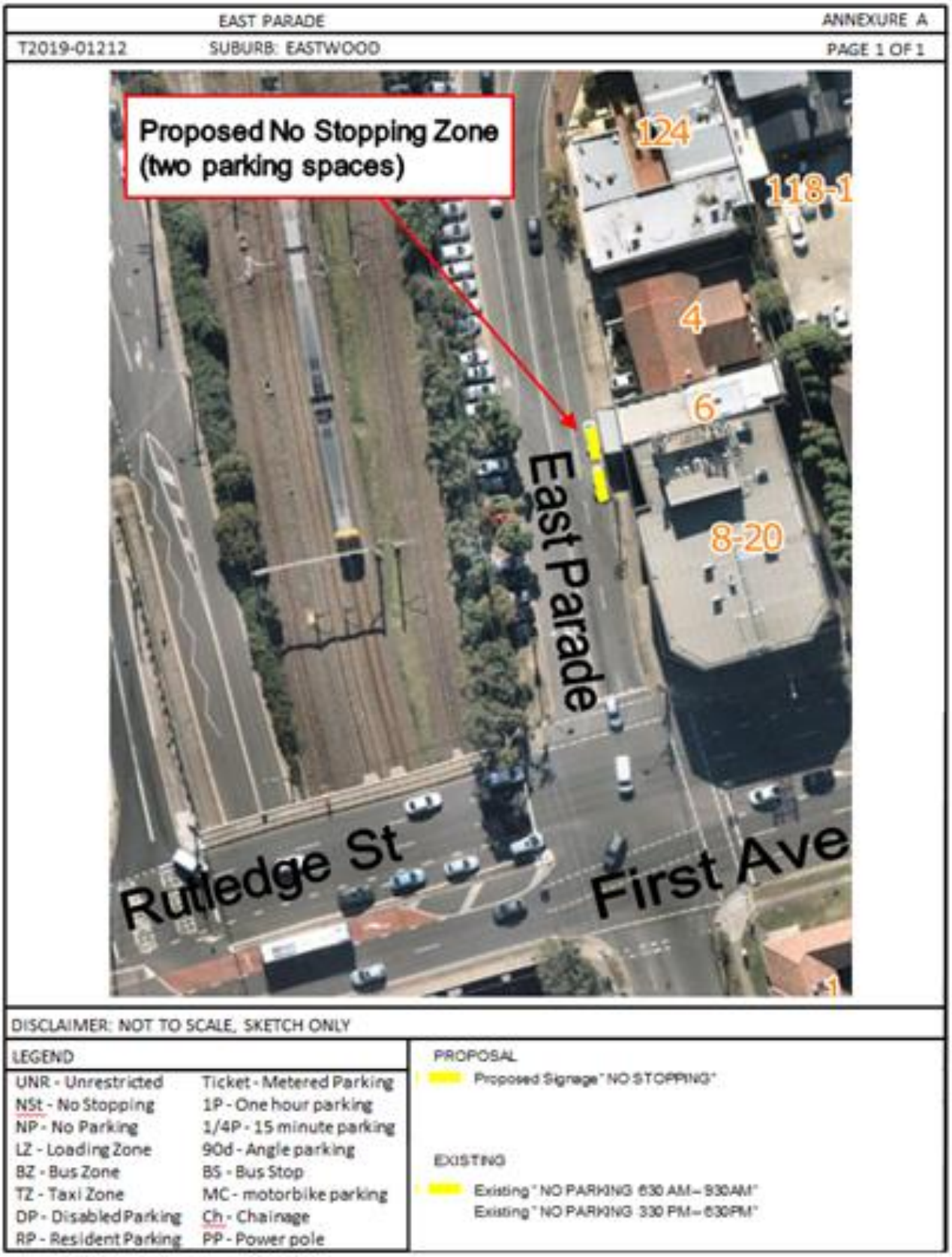

Figure K2: Proposed No Stopping Zone

ITEM (L) **MEADOWBANK PUBLIC SCHOOL THISTLE STREET, RYDE**

SUBJECT: **MINOR WORKS IMPLEMENTATION FROM SCHOOLS PROGRAM**
ELECTORATE: RYDE
WARD: CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: BP18/763 & T2017-01780
OFFICER: J BEGLEY

INTRODUCTION

Council's Transport Department has undertaken an assessment of traffic and parking conditions outside six schools in the Council area which has identified areas of concern which need to be addressed. The following report identifies deficiencies on roads in the vicinity of Meadowbank Public School.

BACKGROUND

Meadowbank Public School has school frontages on Thistle Street, Gale Street and Belmore Street, Ryde.

CONTEXT

- Thistle Street, Belmore Street, Sutherland Street and Gale Street are all local roads with a posted speed limit of 50 km/h, all of which with the exception of Sutherland Street reduce to 40km/h during school zone hours

COMMUNITY ENGAGEMENT

The community was invited to comment on the parking and traffic issues that it considered relevant to Meadowbank Public School, with these comments included in the traffic and parking report that was tabled at the Works and Community Council meeting dated 19 May 2019. This report was then placed on public exhibition for a period of 28 days for the community to again provide their comments.

Council staff met with the representatives from Meadowbank Public School teaching community to discuss the proposed traffic and parking recommendations from their perspective.

Figure L5: Location Plan

DISCUSSION

Thistle Street is the most active of the various school frontages that are associated with Meadowbank Public School where the following recommendations are proposed.

School communities generally perceive that pedestrian crossings are the safest method for children to cross a road carriageway. However, before a location can be considered for a pedestrian crossing it must meet minimum warrants set by RMS which are based on pedestrian and vehicle numbers. The information below explains how this works:

Normal Warrant:

A pedestrian (Zebra) Crossing is warranted where in each of three separate one hour periods in a typical day:

a. the pedestrian flow per hour (P) crossing the road is greater than or equal to 30 *AND*
b. the vehicular flow per hour (V) through the site is greater than or equal to 500 *AND*
c. the product PV is greater than or equal to 60,000.

Reduced Warrant:

Applies to sites used predominantly by children and by aged or impaired pedestrians. If the crossing is used predominantly by school children, is not a suitable site for a Children's Crossing and in two counts of one hour duration immediately before and after school hours:

a. the pedestrian flow per hour (P) crossing the road is greater than or equal to 30 *AND* the vehicular flow per hour (V) through the site is greater than or equal to 200, then a pedestrian (Zebra) Crossing may be installed.

Traffic and pedestrian counts were undertaken on Thursday 13 June 2019.

Street	Time Period	Pedestrian Volume/Hour	Traffic Volume/Hour
Thistle Street	8.00am-9.00am	355	338
	2:30pm-3:30pm	275	450

1. These volumes satisfy the reduced warrant for a pedestrian crossing.

2. The existing children's crossing on Thistle Street has No Stopping restrictions that greatly exceed the statutory requirements and is noted for the fact that resident driveways are used as pseudo kerb ramps. The new pedestrian crossing will be positioned such that distinct and separate pram ramps will be provided to service the new pedestrian crossing.

3. Currently vehicular movements into Thistle Street are constrained by the first parking space on the school frontage. While this parking space is clear of the statutory No Stopping distance, discussions with the School Principal and site observations revealed that removal of this first space would improve traffic flow along the street.

4. It is further proposed that the 1/4P parking zone that is used predominately by parents with children attending the Daycare Centre should have its operational hours extended in line with the opening hours of the Daycare Centre – thus the zone preceding the children's crossing will now become: ¼ P 8- 9:30am & 2:30-6pm School Days.

5. The Kiss and Ride zone located immediately after the existing children's crossing which is used predominantly by parents will also be extended by 4 spaces up to Sutherland Street

6. On the western side Belmore Street immediately north of the signalised intersection with Junction Street there is a No Parking 6:30am – 9:30am Mon – Fri zone, after this time period the area becomes unrestricted. Given its location along the Day care street frontage, it is considered an ideal location for additional ¼ P afternoon time restrictions to be included to cater for the afternoon/evening day care collection time period. It is thus proposed that this area will become: No Parking 6:30am-9:30am & ¼ P 2:30pm-6pm Mon-Fri.

7. On Gale Street 90 degree bend there are part time No Stopping zones on both sides of the road where vehicles are parked in contravention of the 3m rule associated with centre line double barrier lines. It is proposed that these part time No Stopping zones will become full time No Stopping.

8. The location of the children's crossing in Gale Street is located within the 90 degree bend and thus lines of sight for motorists to the children's crossing are severely restricted. It is thus proposed that zig zag markings be installed on both approaches to the children's crossing on Gale Street.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

That the outlined range of minor traffic facility works be installed on Belmore Street, Thistle Street, Sutherland Avenue and Gale Street, Ryde as described below:

1. The existing children's crossing on Thistle Street, Ryde to be converted to a pedestrian crossing, with the design of the new crossing to comply with RMS technical directions.

2. The statutory No Stopping restrictions on the southern side of Thistle Street to be extended to include the first parking space.

3. The 1/4P time restricted parking zone preceding the children's crossing on Thistle Street to be extended as follows ¼P 8- 9:30am & 2:30- 6pm School Days to cater for parents collecting children from the out of hours day care centre.

4. The Kiss and Ride zone on Thistle Street located after the children's crossing to be extended by four spaces to the intersection of Sutherland Avenue, Ryde.

5. The AM No Parking zone on Belmore Street, Ryde to be augmented with ¼ P 2:30-6pm Mon-Fri to cater for parents collecting children from the out of hours day care centre.

6. Zig- zag markings be provided on both approaches to the children's crossing on Gale Street, Ryde.

7. The part time No Stopping zones on Gale Street, Ryde on the 90 degree bend be made full time No Stopping zones as the existing parking contravenes the 3m rule to centerline BB line marking.

Figure L6: Proposed Treatments

ITEM (M) **RYDE SECONDARY COLLEGE 5 MALVINA STREET, RYDE**

SUBJECT: **MINOR WORKS IMPLEMENTATION FROM SCHOOLS PROGRAM**
ELECTORATE: LANE COVE
WARD: EAST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: BP19/257 & T2017-01787
OFFICER: J BEGLEY

INTRODUCTION

Council's Transport Department has undertaken an assessment of traffic and parking conditions outside six schools in the Council area which has identified areas of concern which need to be addressed. The following report identifies deficiencies on roads in the vicinity of Ryde Secondary School.

BACKGROUND

Ryde Secondary College has active frontages onto Forrest Road and Malvina Street. The school has 1100 students and over 100 teachers with only 19 parking spaces to cater for the parking needs of the teaching community. Much of the Malvina Street school frontage is utilised as a bus zone, with the Forrest Road frontage generally used as a kiss and ride zone.

CONTEXT

- Malvina Street and Forrest Road are local roads with a posted speed limit of 50km/h reducing to 40km/h during school zone hours.

COMMUNITY ENGAGEMENT

The community was invited to comment on the parking and traffic issues that it considered relevant to Ryde Secondary School, with these comments included in the traffic and parking report that was tabled at the Works and Community Council meeting dated 19 May 2019. This report was then placed on public exhibition for a period of 28 days for the community to again provide their comments.

Council staff met with the Ryde Secondary College teaching community to discuss the proposed traffic and parking recommendations from their perspective.
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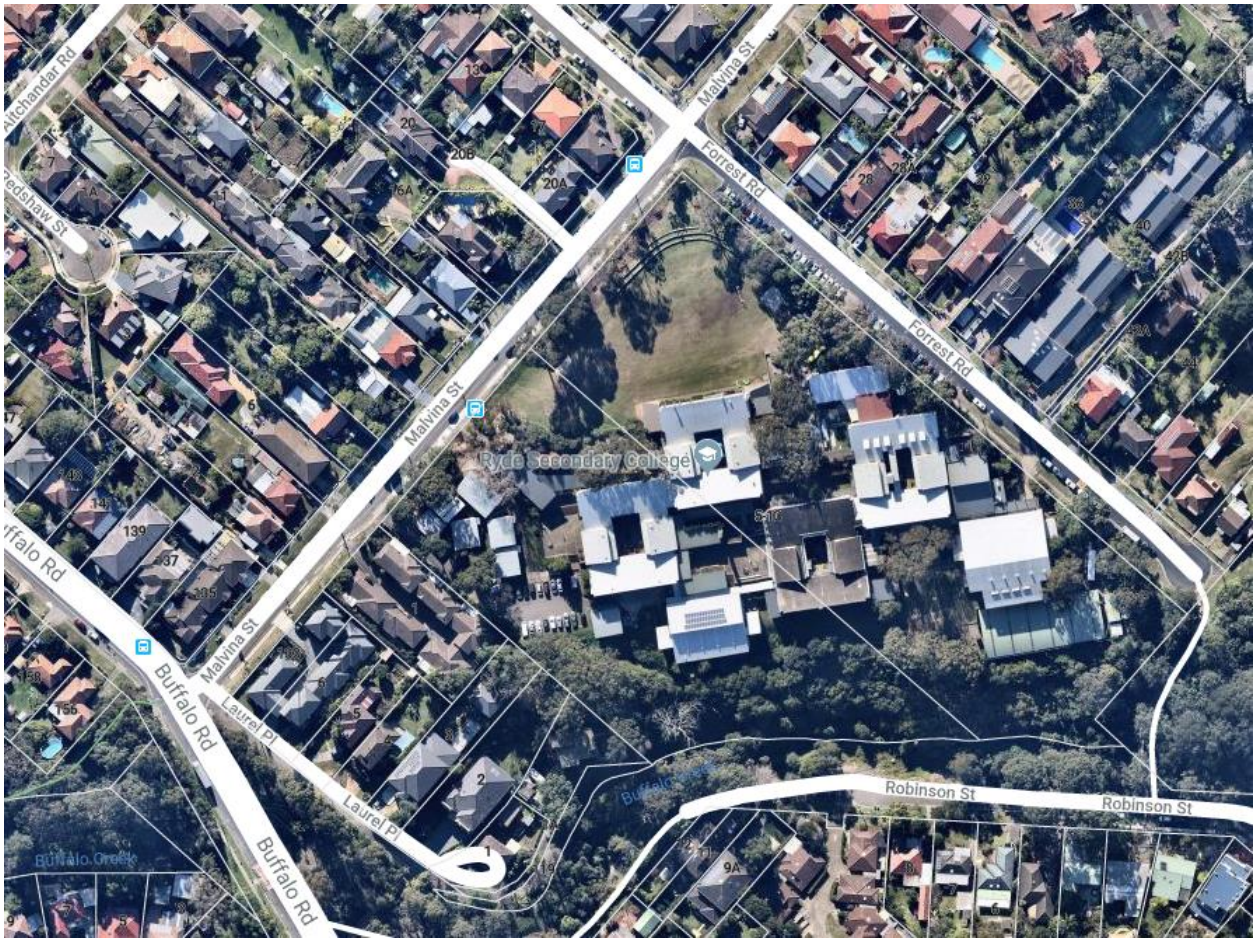

Figure M1: Location Plan

DISCUSSION

It was agreed that the following actions be undertaken

Intersection of Malvina Street / Buffalo Road, Ryde:

The intersection of Malvina Street and Buffalo Road serves as the major access road to Ryde Secondary School and also serves as the main pedestrian thoroughfare for school children attending the School. It is considered that the following measures be implemented:

- It is considered that the intersection of Malvina Street and Buffalo Road be upgraded from a Give Way to STOP priority controlled intersection based on the restricted sight distance to the right when buses are parked in the nearby bus stop. School children access the pathway into the park at this location, thus a STOP control would raise awareness to motorists that children are crossing at this location. To emphasise the change from Give Way to STOP, STOP characters would also be marked at the intersection.

- Centreline BB line marking be installed on Malvina Street at Buffalo Road to give motorists a reference guide as to the correct travel path through this wide intersection and thus reduce the incidence of motorists cutting the corner.

- Laurel Place intersects with Malvina Street immediately north of Buffalo Road. There is significant utilisation of the footpath on the southern side of Malvina Street by school children who cross Buffalo Road at this location. It is considered that the GIVE WAY control in Laurel Avenue be changed to STOP control based on restricted sight to vehicles on Malvina Street with a Watch for Pedestrian signage also installed at this location.

- Despite the presence of a raised pedestrian crossing on Buffalo Road 60m south of Malvina Street, the majority of school children cross Buffalo Road at Malvina Street to gain access to Burrows Park. Relocating the raised pedestrian crossing closer to Malvina Street has been proposed on a number of occasions; however the horizontal alignment of the road at Buffalo Road/Malvina Street precludes the crossing from being relocated. Thus it is considered that pedestrian fencing should be considered as a possible option in directing school children to use the aforementioned raised pedestrian crossing.

Forrest Road, Ryde:

The following improvements are proposed along the dead end section of Forrest Road.

- Currently the bulb at the end of Forrest Road has no parking restrictions, which has led to congestion issues associated with the operation of the adjoining Kiss and Ride area associated with the School. To alleviate this congestion issue it is proposed that this area be signposted as 'No Parking'. The No Parking zone will commence at the property boundary of Nos: 48/50 Forrest Road and will include the turning bulb at the end of the street.

- The existing Kiss and Ride on the southern side of Forrest Road associated with the School is not closed and thus is not enforceable. It is proposed that this Kiss and Ride zone will commence at the end of the aforementioned No Parking zone and will extend up to the commencement of the 90 degree parking zone.

- Currently there is an opportunity for a vehicle to parallel park between the two sections of 90 degree parking on Forrest Road. A vehicle parked at this location significantly impacts on traffic flow along the street and is the reason for much of the congestion that occurs in the street particularly during school drop off and pick up times. It is proposed that this area be marked as a No Stopping zone.

- One of the key issues that was raised by the local residents was inappropriate parking by some motorists. This appears to occur on weekends and also during the Eisteddfod season. It is thus recommended that all driveways in the dead end section of Forrest Road be marked with driveway delineation lines to provide guidance to motorists on how to park appropriately in relation to driveways.

- The intersection of Forrest Road and Malvina Street is quite wide and is used significantly during school drop off and pick up times. Site observations indicate that due to the width of the intersection, a significant number of vehicles cut the corner when entering the street. It is thus proposed that 5m of centreline double barrier lines be marked on Forrest Road at Malvina Street.

The school community have concurred with all the above suggestions.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

That the outlined range of minor traffic facility works be installed on Forrest Road Ryde, Malvina Street Ryde, Laurel Place Ryde and Buffalo Road Ryde as described below:

1. The intersection of Malvina Street and Buffalo Road be upgraded from a GIVE WAY to a STOP priority controlled intersection based on the restricted sight distance to the right when buses are parked in the nearby bus stop.

2. STOP characters be marked on the Malvina Street approach to Buffalo Road.

3. 5m of centreline BB line marking be installed on Malvina Street at its intersection with Buffalo Road.

4. GIVE WAY priority control in Laurel Place at Malvina Street be changed to STOP control based on restricted sight to vehicles on Malvina Street with additional Watch for Pedestrian signage to be installed at this location.

5. Pedestrian fencing to be installed on Buffalo Road north and south of the pedestrian gateway to Burrows Park to direct school children to use the raised pedestrian crossing located 60m south of the intersection of Buffalo Road/Malvina Street.

6. The turning bulb at the end of Forrest Road to become a No Parking zone, commencing at the property boundary of Nos: 48/50 Forrest Road to the start of the Kiss and Ride zone at the western end of Forrest Road.

7. The existing Kiss and Ride on the southern side of Forrest Road associated with the School to commence at the end of the aforementioned No Parking zone and extend up to the commencement of the 90 degree parking zone.

8. The parallel parking space located between the two sections of 90 degree parking on Forrest Road to be made full time No Stopping.

9. Driveway delineation lines to be marked at all driveways on the dead end section of Forrest Road.

10. That 5m of centreline BB line marking be installed on Forrest Road at Malvina Street

Figure M2: Proposed Treatments

Figure M3: Proposed Treatments

ITEM (N) **CAR PARK - EAST PARADE, EASTWOOD**

SUBJECT: **EXTEND COMMUTER PARKING**
ELECTORATE: RYDE
WARD: WEST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: PM18/42329 & T2019-01113
OFFICER: J BEGLEY

INTRODUCTION

Ryde Council are proposing extending the number of indented 90 degree parking spaces on the western side of East Parade between Third Avenue and Fourth Avenue, Eastwood. The proposed works will also include ancillary works such as blistered kerbs, new kerb and gutter and drainage, clearing of existing trees and replacement with new trees. This will increase the supply of formal car parking spaces in the vicinity of Eastwood and Denistone Railway Stations.

At present most of the parking along this side of the road are informal spaces which are in the unpaved verge area. A *detailed design* road safety audit was required to identify any outstanding issues prior to the construction stage.

CONTEXT

- East Parade is a local road that runs parallel between the railway line that connects Denistone and Eastwood Railway Stations.
- East Parade has a posted speed limit of 50km/h
- Commuters predominantly park on the western side of the road in unpaved areas.

COMMUNITY ENGAGEMENT

Surveys were distributed to 102 local residents and businesses to determine the level of support for the proposed extension of the indented 90 degree parking on East Parade. In total there were 3 responses with 1 supporting the proposal and two against. The residents opposed to the proposal cited the following reasons:

- The current parking provision on East Parade are sufficient, provision of additional parking will only encourage more commuters to use the street.

- Provision of additional parking in the street will only encourage anti- social behaviour such as littering, vehicular noise and loud noises in the early morning.

Figure N1: Community Consultation Engagement Map

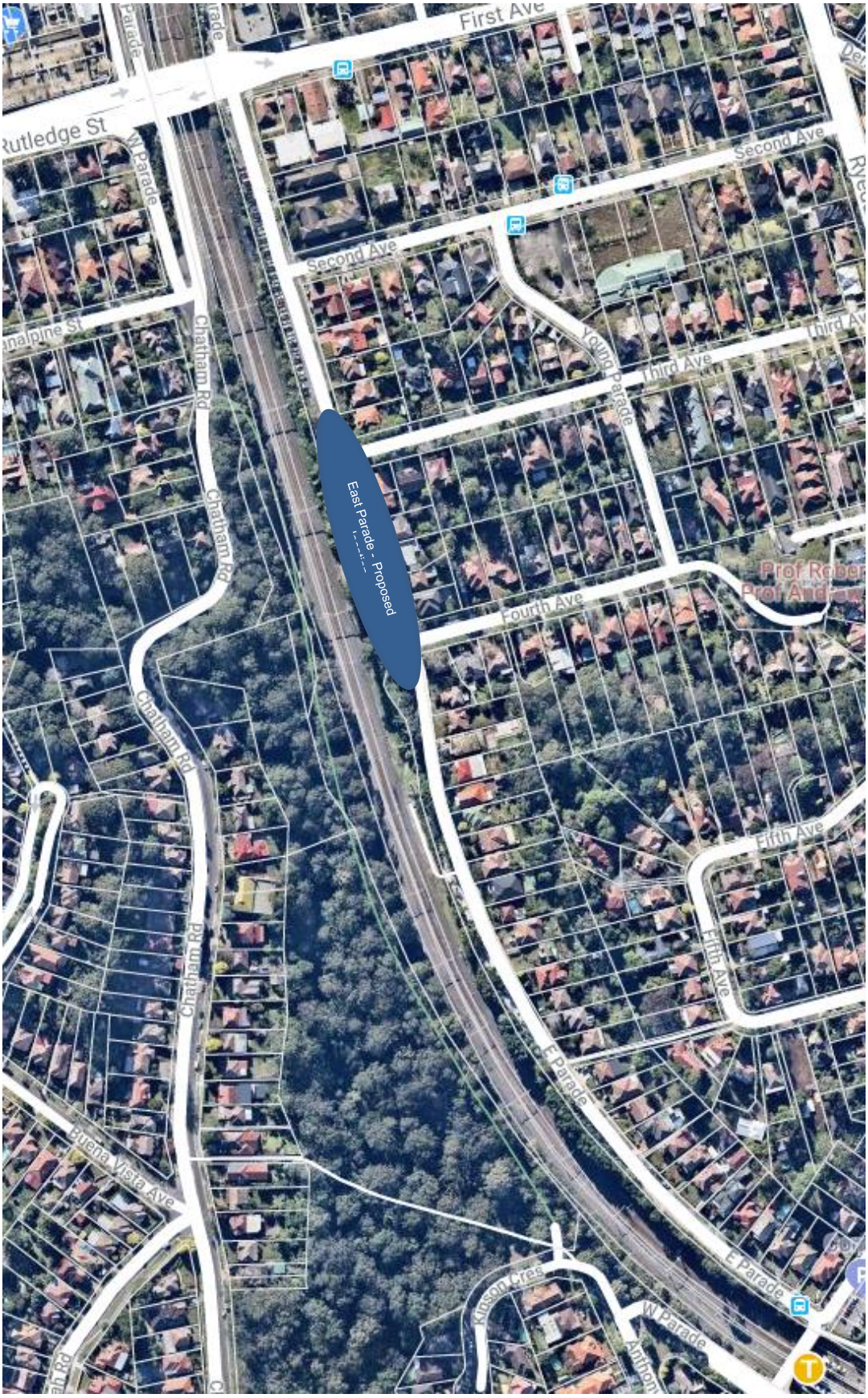

Figure N2: Location Plan

DISCUSSION

The City of Ryde is proposing to extend the 90 degree parking zone on the western-side (railway side) of East Parade by an additional 38 parking spaces. The extended parking zone would end at Fourth Avenue. In addition to the extended parking zone, Council is proposing new signage and line marking, installing an upgraded guard fence and providing additional kerb ramps as part of the improvements.

An independent road safety audit has been undertaken on the proposed design with all recommendations incorporated into this proposal.

What are the proposed changes?

The proposal will provide a significant increase in the availability of formalised on-street parking on East Parade for residents and visitors to the area. Upgraded signage and line marking along the full length of East Parade will create a safer road environment for all road users. There will be some minor loss of on-street parking on the residential side of the road in order to install new kerb-ramps and formalise existing statutory parking restrictions.

Whilst established trees in the area are being retained, some trees on the western-side of East Parade within the work zone will be removed as part of the upgrade works, with some replanting occurring.

Why is the change being considered?

The western-side of East Parade, between First Avenue and Gordon Crescent is significantly utilised by commuters during the working week. The provision of additional formalised parking spaces will eliminate the current practice that sees commuters parking in a haphazard manner on the grass verge on the western-side of the road, often in unsafe locations.

All access points to State Rail property will be clearly delineated ensuring access is maintained at all times.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

1- To provide an additional 35 indented 90 degree parking spaces on East Parade between Third and Fourth Avenue, Eastwood with enhanced signage, line marking and ancillary works such as blistered kerbs, new kerb and gutter and drainage, clearing of existing trees and replacement with new trees.
2- Six (6) spaces directly opposite Second Avenue Intersection to be converted to a semi- mountable kerb planting island.

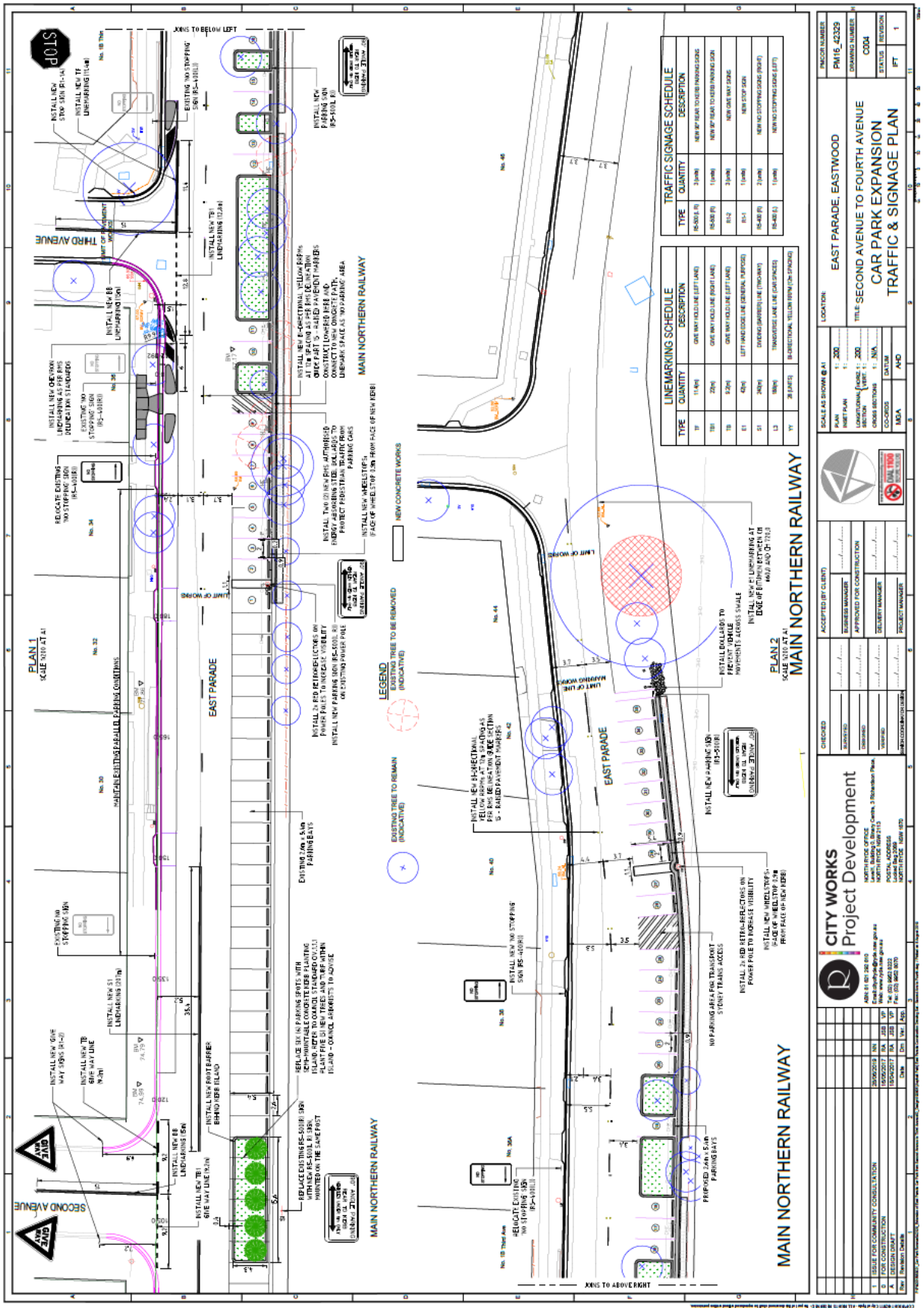

Figure N3: Proposed Works

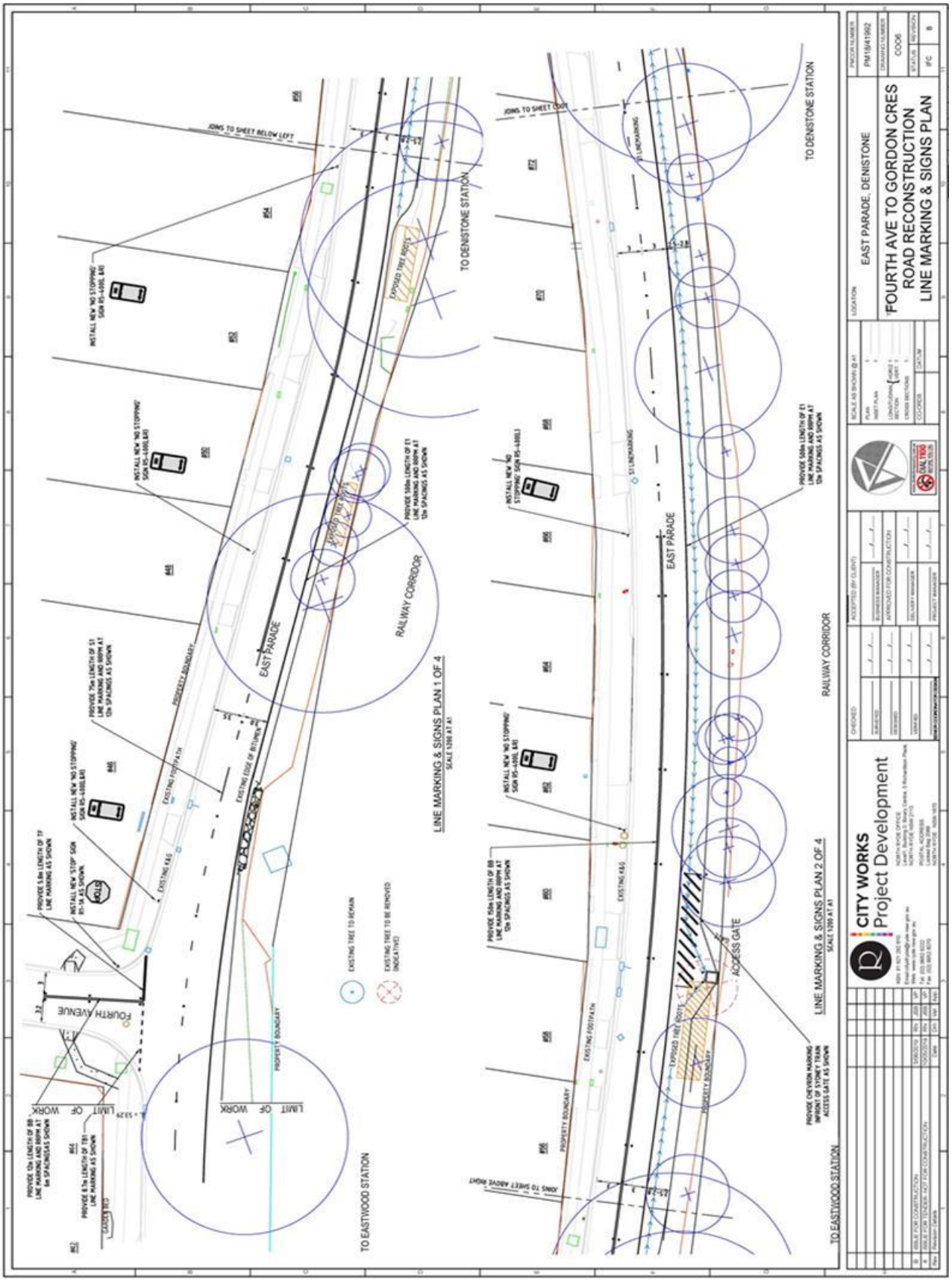

Figure N4: Proposed Works

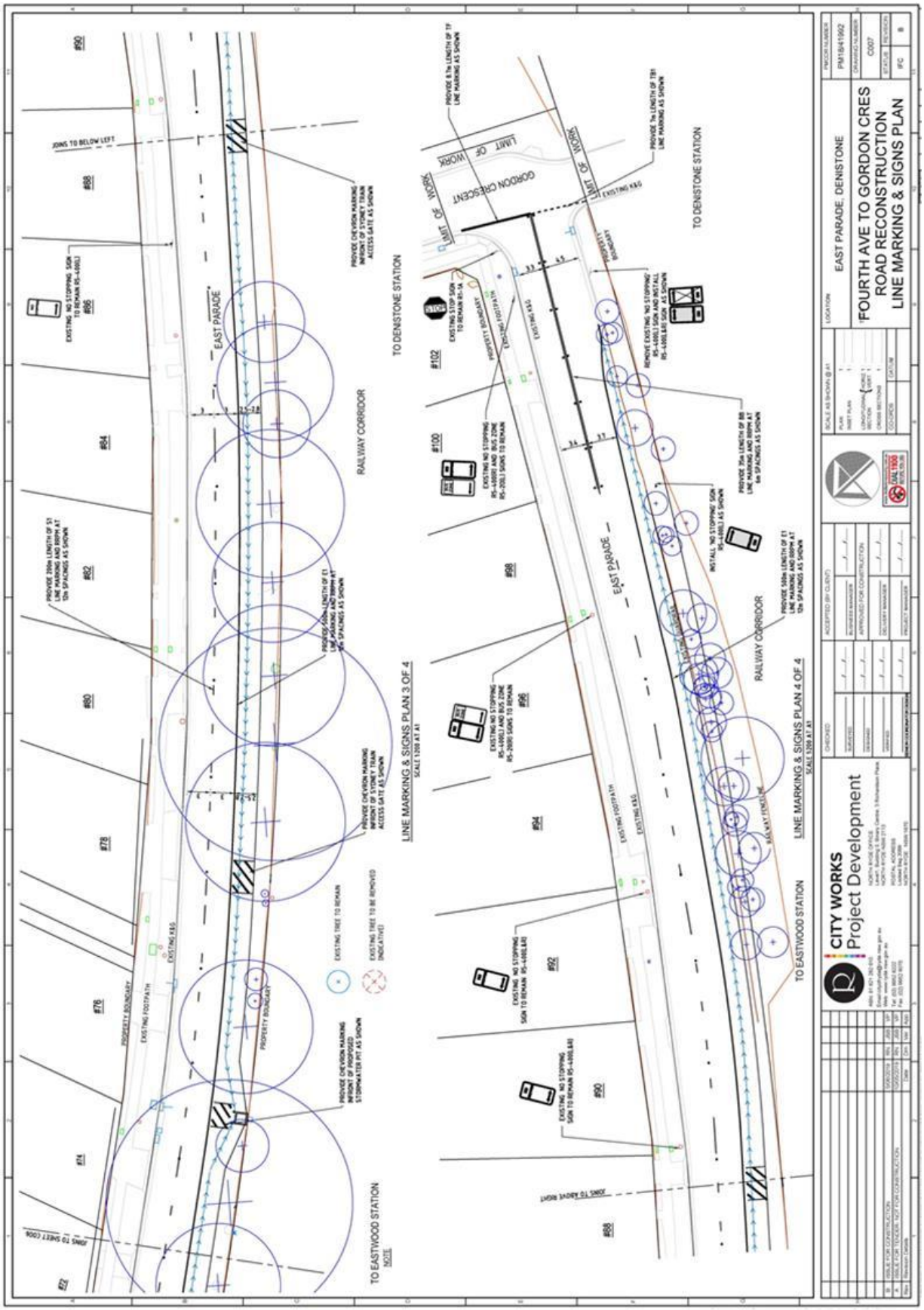

Figure N5: Proposed Works

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ITEM (O) **MONASH ROAD, GLADESVILLE**

SUBJECT: **RAISED INTERSECTION TREATMENT**
ELECTORATE: RYDE
WARD: CENTRAL and EAST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: PDD & T2019-01221
OFFICER: J BEGLEY

INTRODUCTION

City of Ryde is proposing to install a raised tabled top treatment at the intersection of Buffalo Road and Monash Road, Gladesville to address localised speed issues at this location.

Figure O7: Location Plan

BACKGROUND

Council had originally assigned $400,000 for the construction of a roundabout at the intersection of Monash Road and Buffalo Road. Investigation of the roundabout option resulted in the following issues:

- relocating a historic alignment stone would be required
- moving and/or undergrounding high-voltage and low-voltage overhead power lines
- articulated buses must cross the centre point of the roundabout to navigate the intersection, which contravenes the NSW Road Rules and thus requires
- land acquisition

Investigation of alternative options was undertaken to address the existing traffic flow issue that presently exists, that being the significant left turn movement from Buffalo Road to Monash Road and vice versa. The speed of vehicles travelling north along Monash Road towards the Buffalo Road intersection has been raised a number of times by residents.

Given that the carriageway constraints and legislative issues had ruled out the roundabout option, an alternative option which would had lead to a change in priority from Monash Road to Buffalo Road was investigated and recommended for approval at the 28 July meeting of the Ryde Traffic Committee and then resolved by Council at its meeting of September 2019. The change in priority was subsequently installed. A Matter of Urgency was raised at Council to change the priority back to what it was, which is currently the status quo.

CONTEXT

- The intersection of Monash Road and Buffalo Road is a T- intersection with Monash Road traffic having priority over Buffalo Road.

COMMUNITY ENGAGEMENT

No consultation has been undertaken with the above proposal. Community consultation will be undertaken when the proposed table top treatment enters the detailed design stage.

DISCUSSION

It is proposed to install a raised table top treatment at the intersection of Monash Road and Buffalo Road. As this intersection is located on a major bus route, the height of the table top treatment will be less than 75mm in height.

Resident feedback associated with the change of priority at the intersection indicated that lines of sight for vehicles turning left from Buffalo Road onto Monash Road was an area of concern for the local community. Crash analysis for the period 2013 to September 2018 indicated that there have been 4 crashes at the intersection, with 3 being of a minor nature and 1 resulting in injuries. Three crashes were as a result of a left turning vehicle from

Buffalo Road being hit either by a northbound vehicle on Monash Road or by a southbound vehicle on Monash Road.

APPROVALS

Should the proposed measures be supported by the Ryde Traffic Committee, it is intended that the matter will be referred to the Works and Community Committee for consideration of the Council and seek the remaining approvals.

PROPOSAL

That:

1. Approval in principle be given for a table top treatment to be installed at the intersection of Monash Road and Buffalo Road, Gladesville.

2. The existing No Stopping restrictions on the southwestern corner of the intersection of Monash Road and Buffalo Road be extended to the boundary of 32 & 34 Monash Road, Gladesville.

3. Community consultion be undertaken as part of the detailed design process.

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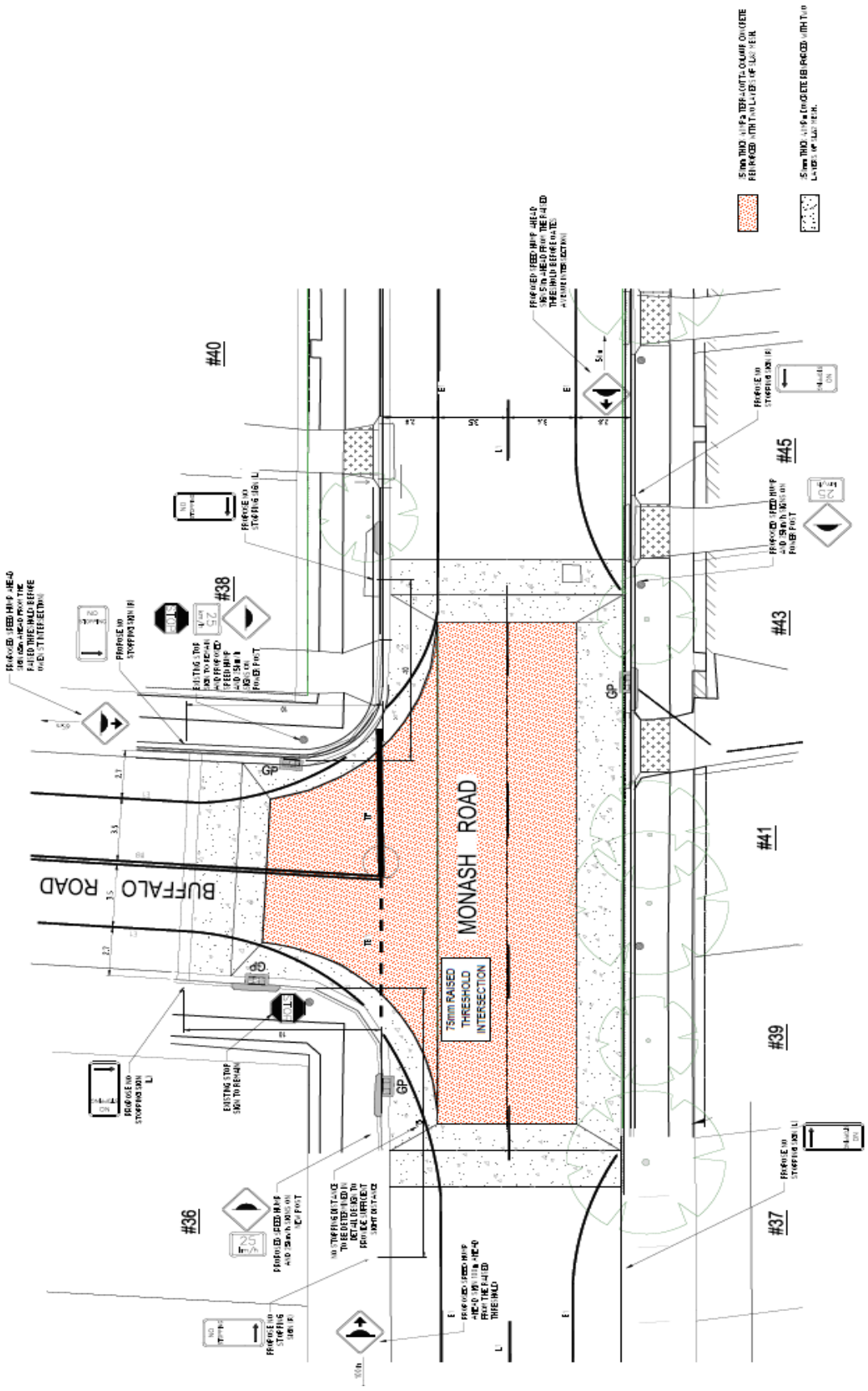

3. ..

Figure O2: Proposed Table Top Treatment

ITEM (P) **18 WILLIAM STREET and 715-717 VICTORIA ROAD, RYDE**

SUBJECT: **SIGNAGE AND LINE MARKING PLAN**
ELECTORATE: RYDE
WARD: CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: LDA2015/472 & T2019-01170
OFFICER: J QUAN

INTRODUCTION

The Developer for 18 William Street and 715-717 Victoria Road, Ryde has submitted a Signage and Linemarking Plan for the area surrounding its site, to satisfy Condition 116 of the Development Consent LDA2015/472. The changes require approval by Council, via the Ryde Traffic Committee.

BACKGROUND

The Conditions of Consent for LDA2015/472 at 18 William Street, Ryde include:

116. ***Signage and Linemarking - External.*** *A plan demonstrating the proposed signage and line marking within Council's Public Domain shall be prepared by a suitably qualified person and submitted to and approved by the Ryde Traffic Committee prior to the issue of an Occupation Certificate.*

Safe easy access must be provided for waste collection vehicles to service the waste containers. "No Standing on Garbage Day Tuesday between 5.00am to 11.00am" signs will be placed on William Street to enable the trucks to access the bins for servicing

Note: *The applicant is advised that the plan will require approval by the Ryde Traffic* Committee and adequate time should be allowed for this process.

CONTEXT

- William Street is a local road with a speed limit of 50km/h and a 9-metre wide carriageway at the frontage of the development
- Parking is permitted on both sides of William Street which effectively restricts William Street to one travel lane only.
- The occupancy rate of the on-street parking on William Street, Ryde is high.

REFERENCES

- *[NSW] Road Rules 2014 Rule 168 No parking signs*
- *[NSW] Road Rules 2014 Rule 170 Stopping in or near an intersection*

COMMUNITY ENGAGEMENT

Given the low impact of the changes and the requirement for servicing the development, no public consultation has been undertaken.

APPROVALS

The applicant requires the approval of the Signage and Linemarking Plan to satisfy the Conditions of Consent.

PROPOSALTo install:A "No Parking Waste Vehicles Excepted – 5am to 11am – Tuesday" zone be implemented outside the subject site (18 William Street and 715-717 Victoria Road, Ryde) for a distance of 12m, starting from the western side of the proposed driveway;

B. On-street parking bays line markings on William Street, Ryde along the frontage of the subject site;

C. The statutory No Stopping zone at the intersection be formalised by the provision of solid yellow line (C3 line) along the side frontage of 717 Victoria Street, Ryde in St Annes Street, Ryde.

Figure P1: Spatial View of 18 William Street and the Proposed Signage and Line Marking

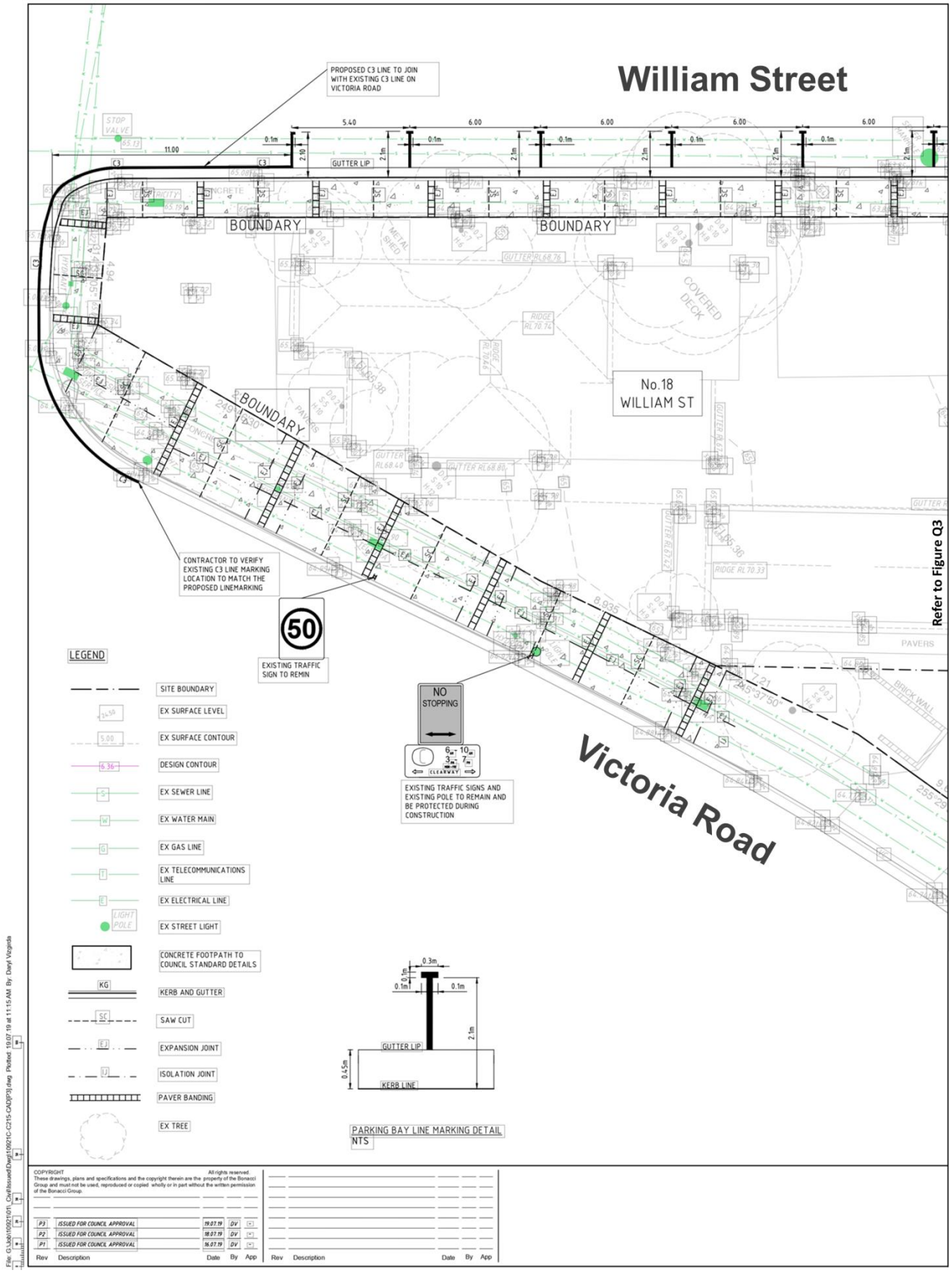

Figure P2: Signage and Line Marking Plan – Part 1

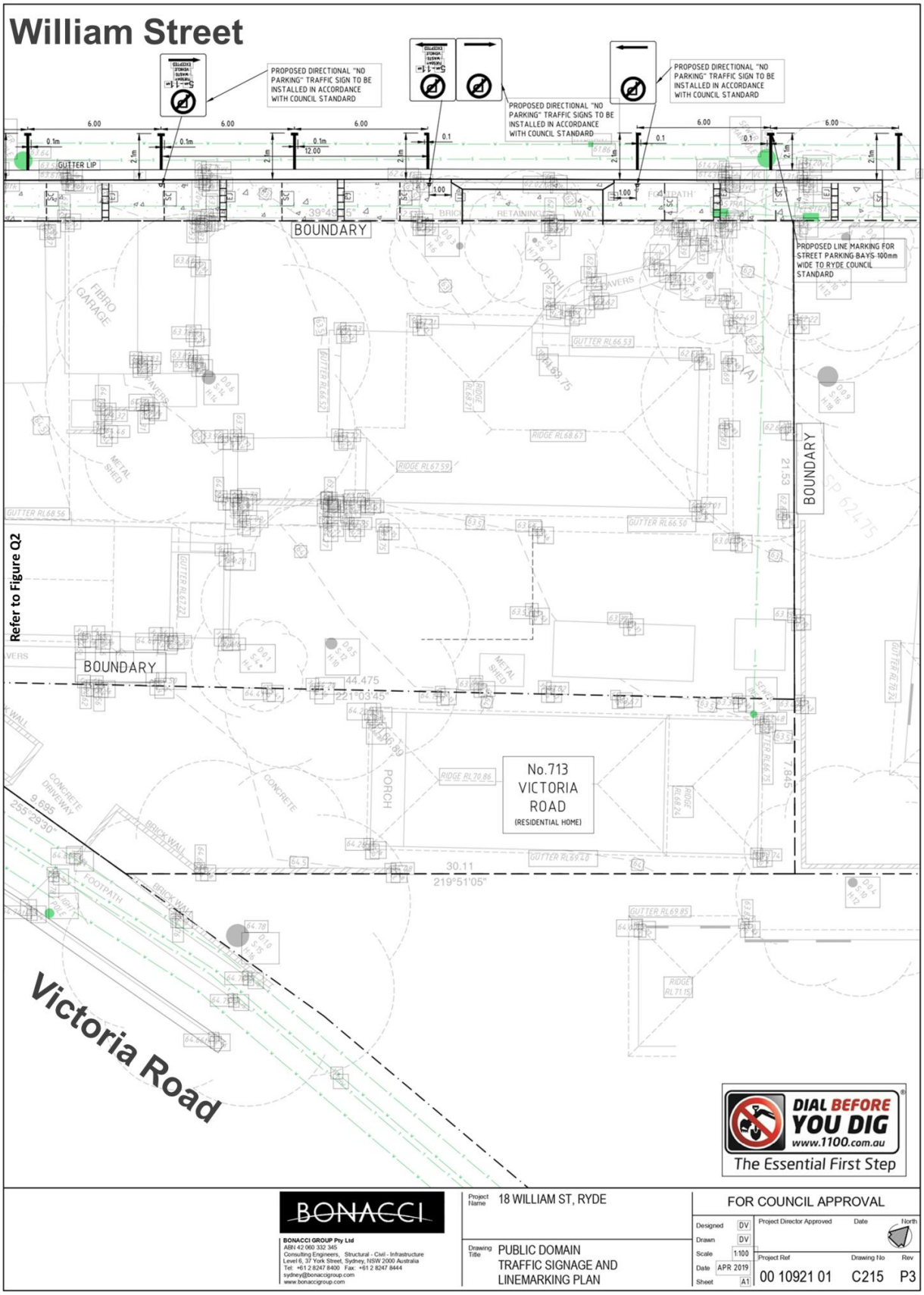

Figure P3: Signage and Line Marking Plan – Part 2

ITEM (Q) **CHARLES STREET, PUTNEY**

SUBJECT: **STREET EVENT – TMP APPROVAL**
ELECTORATE: RYDE
WARD: CENTRAL
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: EMAIL-2227780 & T2019-01246
OFFICER: P DAVIDSON

INTRODUCTION

City of Ryde has received representation from the Riverside Business Chamber requesting consideration be given to approving the proposed traffic management plan (TMP) 2019 for the 'Putney Street Fest' event. This is an inaugural event with an expectation that the event will attract nearly 1,500 people.

The event includes a temporary closure of Charles Street, between Morrison Road and Parry Street.

BACKGROUND

The 2019 'Putney Street Fest' event will be held on the Sunday, 22nd September 2019, between 7am - 4pm. Road closures and detours will be in place during this time.

REFERENCES

- RMS's *Guide to Traffic and Transport Management for Special Events*
- *Roads Act 1993*.

COMMUNITY ENGAGEMENT

Affected local businesses and residents have been notified of the event. NSW Ambulance, NSW Police, Fire and Rescue, and the State Transit have also been notified and indicated that they raise no objections.

DISCUSSION

The proposed traffic control plans and detours for the 2019 Charles Street event are attached, which includes the following temporary changes:

1. Closing Charles Street, between Morrison Road and Parry Street;
2. At the intersection of Morrison Road and Charles Street the closure of the northbound through movement on Charles Street, the westbound right-turn

movement from Morrison Road into Charles Street and the eastbound left-turn movement on Morrison Road into Charles Street; and

3. The implementation of advanced warning and directional signs to direct and detour vehicular traffic around the Charles Street temporary road closure.
4. No bus routes will be affected from the Charles Street closure.

For reference the Traffic Control Plans for the 2019 Charles Street event have been extracted from the proposed Traffic Management Plan and are shown below in Figures Q1 and Q2. An electronic copy of the Traffic Management Plan of the event is provided to the Committee members.

PROPOSAL

That:

1. The traffic management plan for the 2019 Charles Street, Putney event, as provided by DServices, dated 21/05/2019 for Sunday, 22nd September 2019 between 7am to 4pm be endorsed by the Ryde Traffic Committee, in accordance with the provisions provided under the Roads Act 1993, prior to being referred to the Works and Community Committee for final approval;

2. The traffic management plan detailed in 1 above be used for any future events for the same section of Charles Street, Putney, under delegated authority from City of Ryde Council, subject to the same arrangements being used for the event.

Appendix 2 – Vehicle Management Plan #111-2020

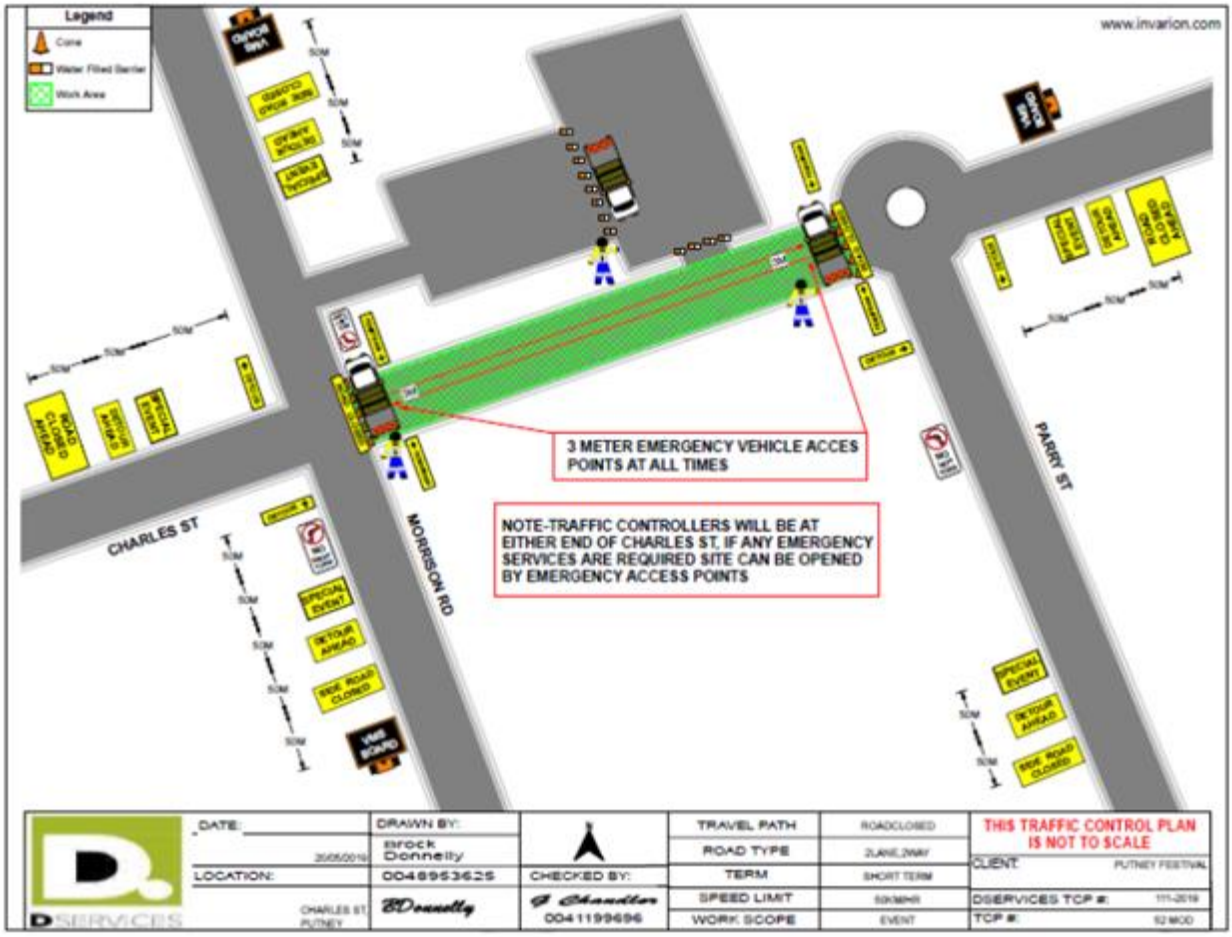

Figure Q1: Vehicle Management Plan

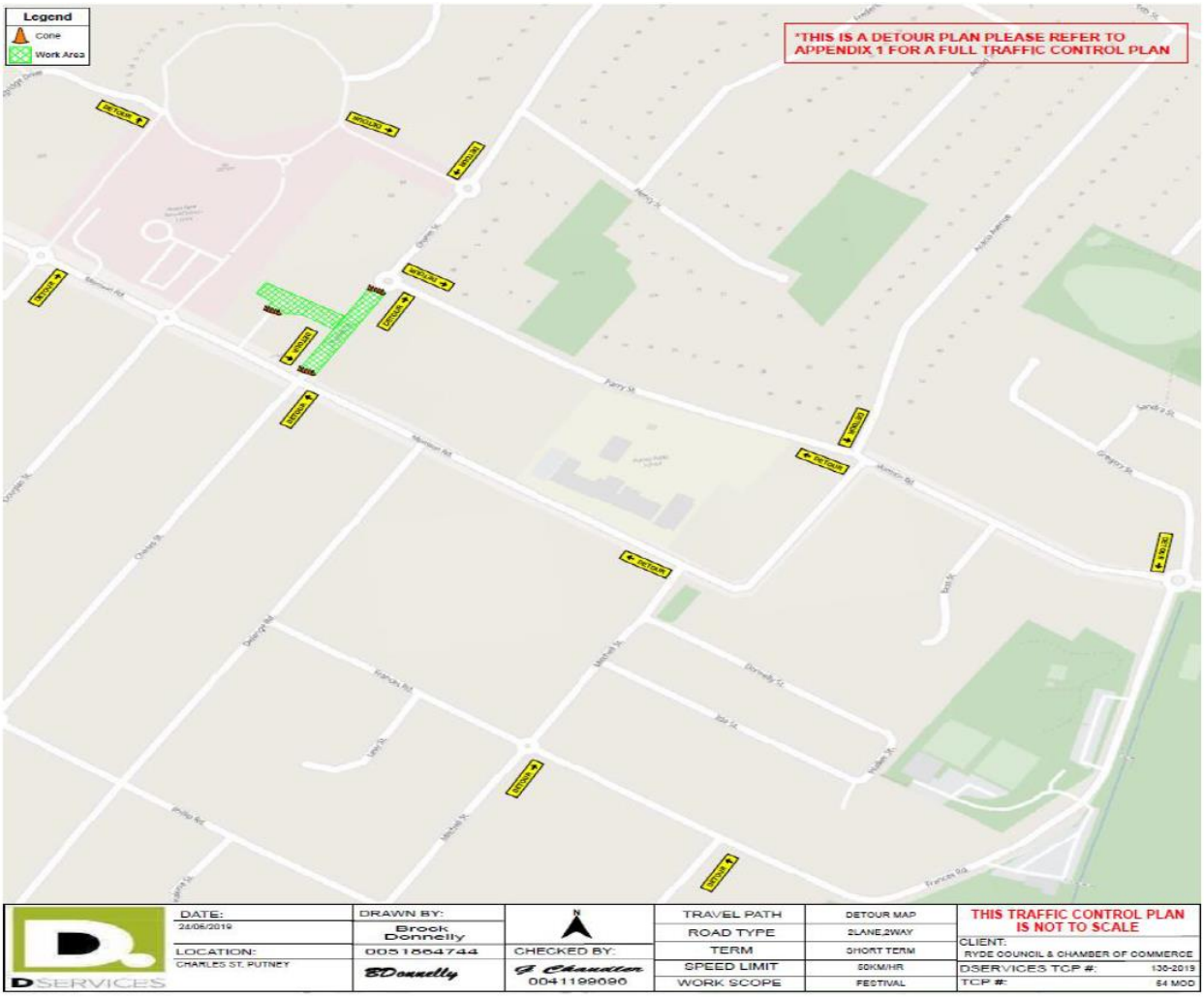

Figure Q2 - Proposed Detour Routes around the Charles Street Closure

ADVISORY ITEM 1 MATTERS APPROVED UNDER DELEGATION AND ELECTRONIC TRAFFIC COMMITTEE PROCESS

The parking control measures outlined in *Table 1*, below, were installed to reinforce existing controls under the [NSW] *Road Rules 2014*. The matters outlined in *Table 2*, below, were approved under Delegation. The matters outlined in *Table 3*, below, were approved under Electronic Traffic Committee process.

Table 1 Parking control measures installed to reinforce existing controls under Road Rules 2014

Location	Parking Control Measure	Existing *Road Rules 2014* Control	Installation Date

Table 2 Matters approved under Delegation

Item	Location	Proposal	Consultation	Approval Date
Item S	45-47 Fontenoy Road, Ryde	Relocate existing "Bus Zone" signage to meet statutory requirement of 20m on the departure side of the existing bus stop.	Rule 195 – Stopping at or near a bus stop	Sept 2019

Table 3 Matters Approved under Electronic Traffic Committee Process

Item	Location	Parking Control Measure	Consultation	Installation Date
Item T	2B-3 Whiteside St, North Ryde	No Parking across the driveway	Residents consulted	Sept 2019
Item U	Higginbotham Road, Ryde	Extension of No Parking signage at STA access gates	Residents not impacted	Sept 2019
Item V	Ryrie Street, North Ryde	No Stopping Restrictions	Affected residents support the proposal	Sept 2019

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ADVISORY ITEM 2 **ANGAS STREET, MEADOWBANK**

SUBJECT:	**ANGAS STREET BRIDGE CLOSURE**
ELECTORATE:	RYDE
WARD:	CENTRAL and EAST
POLICE LAC:	RYDE
ROAD CLASS:	NON-CLASSIFIED
REFERENCE:	HELPDESK-16009 & T2019-00822
OFFICER:	J BEGLEY

INTRODUCTION

City of Ryde has received representations from local residents requesting consideration be given to undertaking a 6 month trial closure of the Angas Street overbridge over Constitution Road in Meadowbank for vehicular traffic. Access would still be maintained for pedestrians and cyclists.

Figure A2-8: Location Plan

BACKGROUND

The Angas Street overbridge has a one lane carriageway with no separated footpaths provided. There is a 3 tonne restriction on the bridge and a reduced speed limit of 10kph

applies across the bridge. This reduced speed limit is the same speed limit as applies in shared zones where pedestrians and vehicles share the same road carriageway space. It is acknowledged that pedestrians and vehicles must give way to each other when traversing this bridge.

Figure A2-9: Signage on the approaches to the overbridge

It should be noted that while footpaths are provided on the southern side of the bridge there are no footpaths provided on the northern side of the bridge where much of the pedestrian generators are located.

Traffic and speed counts were undertaken in the vicinity of the bridge on 1 December 2017, results from the counters indicated that the average weekly traffic volume across the bridge was 620 vehicles per day, with the 85th percentile speed measured over the bridge at 25 km/h. The reduced speed limit of 10km/h was introduced in early 2019 and only covers the 15m of the overbridge itself.

A review of the crash database indicates that there have been no crashes involving pedestrians for the period 2012 – September 2018 along the full extent of Angas Street.

A number of site observations were undertaken at the Angas Street Overbridge during the morning and afternoon school drop off and pick up periods. It should be noted that the nearest school to the overbridge is the Italian Bilingual School. This school has a

significant catchment area with the majority of students not from the local area, and thus are generally driven to the school.
Site observations indicate that when a pedestrian is using the overbridge, vehicles stop until the pedestrian has cleared the environs of the overbridge. A site inspection on Wednesday 24 July 2019 between 2:30 – 3:30pm revealed that in total 16 pedestrians used the overbridge which comprised 5 adults, 4 adults who were accompanying 5 children, 2 unaccompanied school children (these children came from Meadowbank Public School).
There was little to no pedestrian activity in the morning school drop off period. Site observations indicated that of the 28 vehicles that traversed the overbridge in the 2:30-3:30pm time period, there were only 2 vehicles that were openly disobeying the 10km/h speed limit. NSW Police will be requested to include Angas Overbridge in its enforcement program.

DISCUSSION

Closure of the Angas Street overbridge is not endorsed as it would sever a vital north-south connection that all residents of the local area presently enjoy. Severing this link to vehicular traffic would then force additional traffic onto Bowden Street and Constitution Road which both suffer from considerable congestion during morning and afternoon commuter peak periods.
Council is currently in the concept design phase for the upgrade of the Angas Street overbridge. The upgrade would see the bridge widened to accommodate two-way traffic flow, with dedicated footpaths provided on both sides across the bridge to link in with new footpaths on both the northern and southern approaches to the bridge. It is envisaged that the proposed upgrade of the Angas Street Overbridge will be realised within 5 years.
The proposed Meadowbank Education Precinct is located in close proximity to the subject location which will see both Marsden High School and Meadowbank Public School relocated to the area. In addition to these two schools, expansion of the existing TAFE campus forms part of the precinct works. It is anticipated that the Meadowbank Education Precinct will become operational by 2021.
Given the significant traffic changes that the Meadowbank area will undergo as a result of the Meadowbank Education Precinct, severing one of the few transport links that service the area is not considered prudent.
The lack of a demonstrated crash history, low vehicular speeds and volumes across the overbridge and the benefit that the overbridge provides to the road network all support the need for the status quo to remain at the Angas Street overbridge.
For information only.

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ADVISORY ITEM 3 EASTWOOD TRAFFIC AND PARKING STUDY

SUBJECT: EASTWOOD TRAFFIC AND PARKING STUDY
ELECTORATE: RYDE
WARD: CENTRAL and EAST
POLICE LAC: RYDE
ROAD CLASS: NON-CLASSIFIED
REFERENCE: T2019-01148
OFFICER: J QUAN

INTRODUCTION

The Eastwood Traffic and Parking Study was commissioned by the City of Ryde and undertaken on our behalf by traffic consultants, Cardno, to assess the current traffic conditions and then to investigate the impacts of future potential development uplift (approximately 50% of maximum development yield from the 2014 LEP) in the Eastwood Town Centre. This was considered using a 10-year development horizon. As a result of the analysis of the potential development uplift, a localised strategy has been developed to address the traffic issues and parking demand identified in the study to improve the traffic conditions in the Eastwood Town Centre. Furthermore, a supplementary cycling infrastructure review has been undertaken to assess the suitability of existing and proposed cycling infrastructure.

BACKGROUND

The Eastwood Town Centre is a vibrant and well-patronised shopping centre that services the needs of the local community and those from surrounding areas, however, as a town centre, it is affected by chronic traffic and parking problems which restraint it from future development. Over the next 10 years, it is expected that due to the potential development uplift, the traffic and parking conditions in the Eastwood Town Centre will continue to deteriorate. To assist the Eastwood Town Centre to grow as a retail centre, the City of Ryde commissioned Cardno to assess the current and future land-use scenarios. The study area is presented below in Figure A3-1.

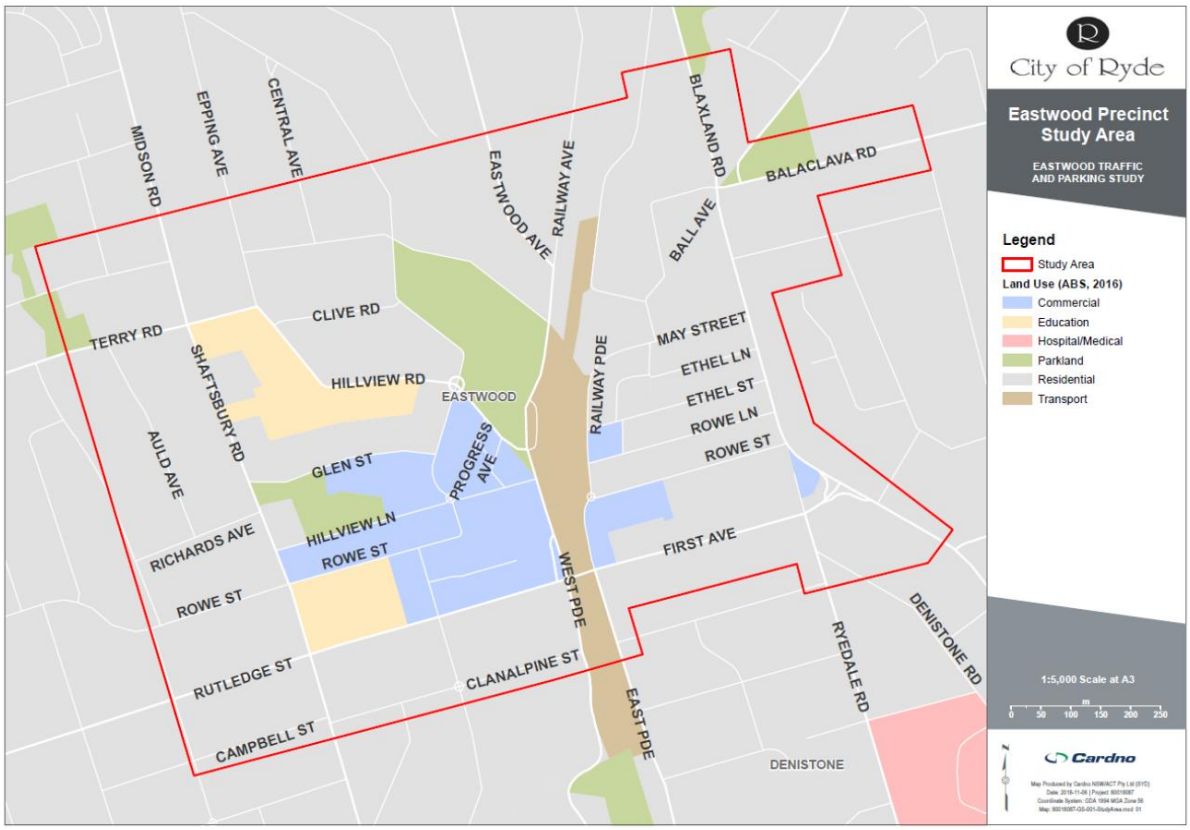


Figure A3-1: Study Area

The Draft Summary Report of the Eastwood Traffic and Parking Study was tabled at the Council meeting on the 11 December 2018, and Council resolved to undertake the following:

a) *That the General Manager investigate and assemble relevant information to outline a proposed concept plan which would support the relocation of Glen Street carpark to Shaftsbury Road precinct (in line with the findings of the Traffic and Parking Study) to provide adequate shopper car parking between 500-700 spaces and the creation of a civic place/square in the vicinity of the former Glen Street car park.*
b) *That the General Manager investigate the provision of new community facilities for the services on Shaftsbury Road precinct and options for temporary accommodation of these services, in consultation with user groups, should construction be endorsed by the community and the Council.*
c) *That the General Manager allocate funds as required from s7.11 reserve to develop draft concept plans for option 3B, as noted in the report, and for these concept plans along with the Draft Summary report Eastwood Traffic and Parking study be placed on public exhibition in early 2019 with a comprehensive consultation process to be undertaken involving residents, community groups and the local business community.*
d) *That the General Manager, noting that an Eastwood commuter car park would cause 'grid lock' throughout the local traffic network, write to Transport for NSW encouraging the State Government to build a commuter car park in West Ryde.*

e) *That the General Manager, noting new evidentiary support for three (3) new signalised intersections in the Eastwood town centre:*
   i. *Prepare independent Quantity Surveyor (QS) costings for their installation and that the costings be forwarded to Transport for New South Wales to enable promised funds to be transferred to the City of Ryde for their construction, pending results of community*
   ii. *consultation.*
   iii. *Write to RMS seeking approval to construct signalised intersections as identified in the report, pending results of community consultation and the finalisation of the traffic and parking study.*

A copy of the Draft Summary Report of the Eastwood Traffic and Parking Study is provided in ***ATTACHMENT 1***.

The City of Ryde also commissioned Cardno to undertake a review of cycling infrastructure to complement this study. The City of Ryde Bicycle Strategy (revised in 2014) identifies the bicycle routes that make up the bicycle network and divides them into Regional Routes, Local Routes, and residential streets or Local Links. The bicycle component of the study reviewed the existing and planned cycling infrastructure within a 600-metre radial catchment around Eastwood Station, as shown below in Figure A3-2.

A copy of the Cycling Infrastructure Review is provided in ***ATTACHMENT 2***.

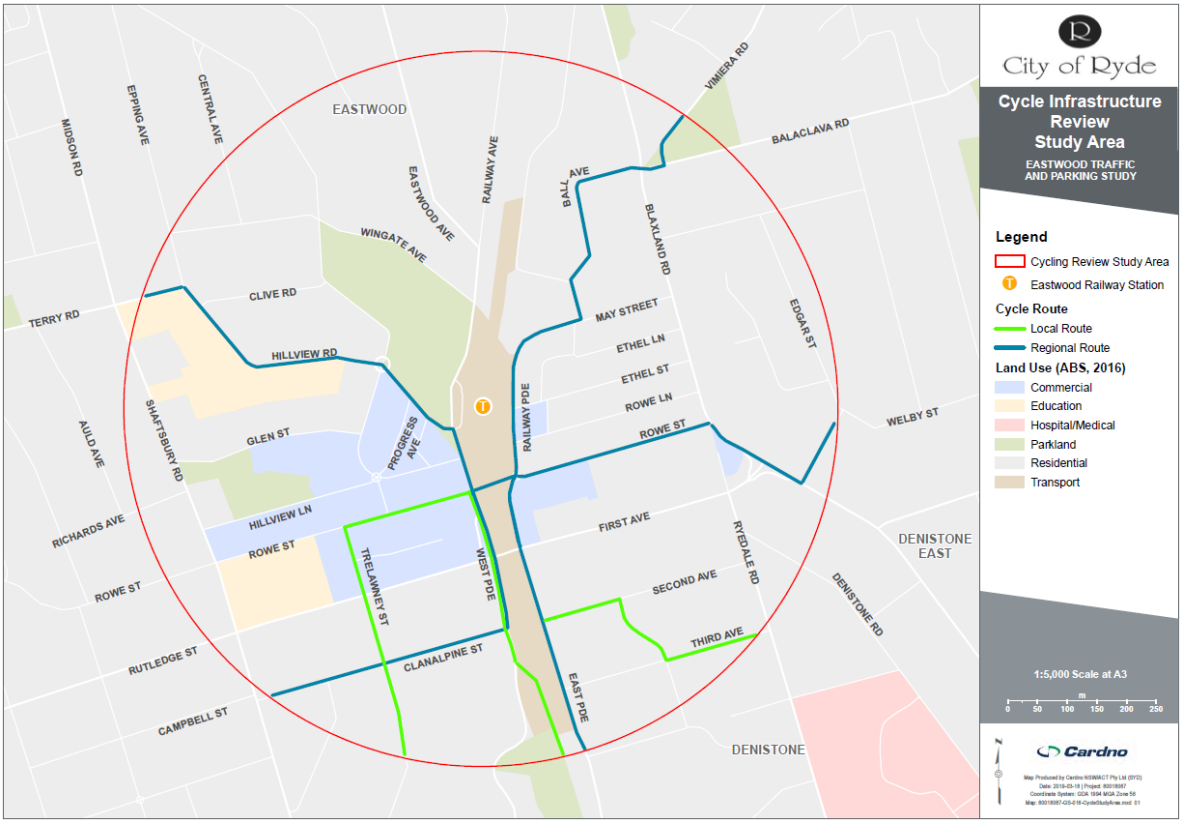


Figure A3-2: Bicycle Study Area

DISCUSSION

The study collected traffic and parking data in and around the core study area and developed mesoscopic traffic models for the current and future development scenarios of the Eastwood Town Centre. The projected future traffic generation is estimated based on the lodged/approved development applications and future potential development changes identified by the Council. A conservative growth scenario assessment (50% of the likely maximum development yield) has been applied to this study, as historically, land-use changes or development uptake in this Centre has been at a much lower rate as compared to other Centres, for example, Macquarie Park.

A review of existing traffic and parking conditions in the study area identified three key issues that are preventing growth in Eastwood. These are:

- Lack of available short term parking for shopping;
- The conflict between pedestrians and vehicles; and
- Traffic congestion at key intersections leading to/from and within the Eastwood Town Centre.

Car Parking – Retail and Commuter

The eastern side of the railway station was investigated for off-street parking opportunities as vehicle recirculation was observed due to shoppers searching for parking in the area and this was contributing to localised traffic congestion. The investigation identified that further retail parking amenity was needed on the eastern side of the railway station, in the

order of 250 spaces on the weekday and 100 spaces on the weekend. It is anticipated that a larger car park for shoppers will provide much-needed short-term parking to address the shortfall identified in the study for the current retail activity experienced on the eastern side of the railway station. Staff identified the existing at-grade Rowe Street East Car Park as the best location for this additional parking. Consequently, a development application for a multi-deck car park at the Rowe Street East Car Park site was lodged with Council and is currently under assessment.

The investigation of additional short-term parking options on the western side of the railway station provided impetus for Council to review the operation of Council's Glen Street Car Park. The review included an assessment of the car park's remaining useful life and the need to consider the provision of a new car park to manage the displacement of retail parking, if and when the car park had to be decommissioned. Following a review of a number of nearby sites, Glen Reserve was found to be the most suitable location for additional parking supply, being virtually adjacent to the existing Glen Street Car Park. Another of the main benefits of this site was that access could be off Shaftsbury Road, thus removing significant traffic circulation from within the Town Centre, particularly Lakeside Road.

To ensure at least an equivalent amount of parking could be provided (450 car spaces), it was identified that due to the size constraints of the Glen Reserve site that this new car park would need to be multi-deck. To account for the future growth of the Town Centre (identified from previous land-use planning studies), an additional 150 retail car spaces was considered necessary for the western side of the Town Centre. As such, a total of 600 retail car spaces were used in the analysis, allowing for the anticipated development growth of the western part of the Eastwood Town Centre.

Upon establishment of the "2028 preferred road network" Cardno carried out an analysis of the off-street car parking options on the western side of the station. Four scenarios were considered which are broadly summarised as follows:

- Option 3A - Glen Street Car Park (450 spaces) to remain in its current location (no commuter parking, no increase in retail parking)
- Option 3B - Glen Street Car Park is relocated to Glen Reserve + 150 additional retail parking spaces (no commuter parking)
- Option 3C - Glen Street Car Park to remain in its current location plus 230 space Commuter Car Park at Glen Reserve
- Option 3D - Glen Street Car Park is relocated to Glen Reserve + 150 additional retail parking spaces and additional 230 Commuter parking spaces at Glen Reserve (830 spaces in total)

On review of the traffic modelling outputs for the four scenarios, it was found that Option 3B (with enhanced retail parking on Glen Reserve) was better than Option 3A (leave the Glen Street Car Park in its existing location and no commuter car park) as it improved the local network performance. Moving the car park access to Shaftsbury Road improved traffic conditions in the Town Centre assuming that proposed mitigation measures were installed to allow for a "preferred road network" (refer to Figure A3-3).

In analysing the above scenarios Cardno identified that the inclusion of the 230 space Commuter Car Park with enhanced retail parking (Option 3D) results in further deterioration in the road network traffic capacity in comparison to enhanced retail parking on Glen Reserve (Option 3B), as during the Saturday peak period the intersection performance along the Shaftsbury Road corridor deteriorates to the worst Level of Service

(LOS) F. This basically means that traffic will be grid-locked in this area. It should be noted that during Saturdays, it has been assumed that the commuter car park spaces will be utilised as retail car parking, as the demand for commuter car parking during weekends is minimal. The modelling results indicate that a car parking facility of 830 spaces at Glen Reserve (Option 3D) will further deteriorate the performance of key intersections along Shaftsbury Road to an unacceptable level.

The primary deficiency under Option 3C (leave the Glen Street Car Park in its existing location and 230 space commuter car park at Glen Reserve) is the insufficient capacity for traffic to turn right from Rutledge Street to Trelawney Street. This is particularly prevalent on the weekday peak hours. In comparison to Options 3A and 3B, intersections along Shaftesbury Road operate at a worse level of service for Option 3C. This is mainly due to the additional commuter car park and the resulting trips anticipated on Shaftesbury Road.

In saying this, prior to the network analysis, it was considered that the best available Council owned site within the Eastwood Town Centre was at Glen Reserve which is located directly west of the existing Glen Street Car Park. However, another important factor to note (in addition to that stated in the paragraph above) with this site is that the walking distance from the western end of the facility to Eastwood Station is greater than 400 metres. This would likely be a “significant” barrier to this site being supported by Transport for New South Wales (TfNSW) for its construction, as this is a critical factor that they use in deciding on a site for commuter parking.

Consequently, a further review of both Council and State Government owned properties within the study area was undertaken by Cardno. The outcome of their review is discussed in detail in Section 3 of the Draft Summary Report. Cardno identified Eastwood Police Station (located on Ethel Street) or alternatively, West Ryde Station commuter car park (located on Ryedale Road) as possible alternate sites for commuter car parking. Based on this, it is suggested that TfNSW and Council should undertake further investigation regarding the plausibility of utilising “other” state government land holdings such as Eastwood Police Station or West Ryde Station commuter car park, which is outside the study area, as possible commuter parking station options.

Network Improvement Options

To support the additional parking for the Centre, a number of key intersections will require “upgrading” to improve accessibility from within and to the State Road network that surrounds the Eastwood Town Centre. In this regard, an options testing regime was developed by Cardno with a view of establishing the “2028 preferred road network” to support future growth. Figure A3-3 summarises the upgrades considered in the “preferred network”.

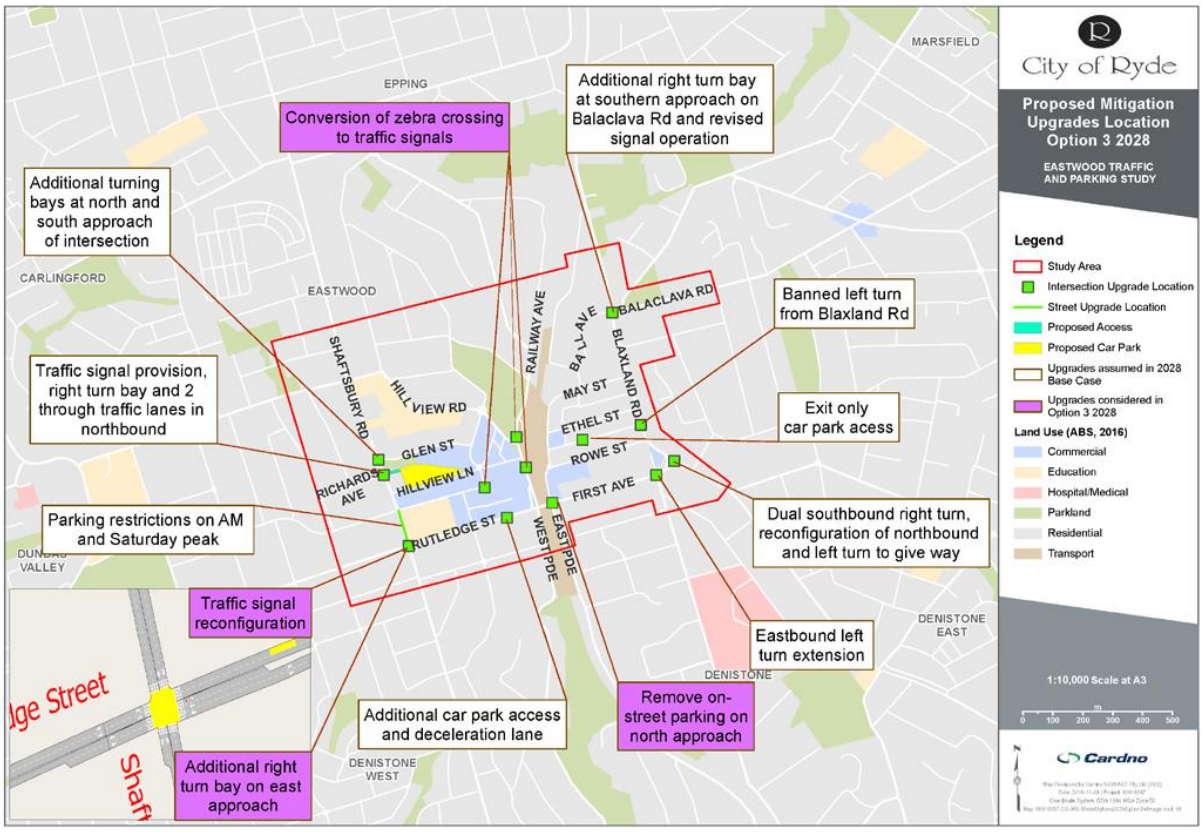


Figure A3-3: Preferred Road Network

Cycling Infrastructure Review

Cardno has undertaken a review of cycling infrastructure to complement the Eastwood Traffic and Parking study. There are four regional routes and two local routes travelling through the study area. A qualitative assessment was conducted based on the following four criteria: Safety, Comfort, Crossing and Width. The on-site assessment deemed much of the existing and proposed treatments fit for purpose with the following recommendations:

- *Improve connectivity for cyclists under and over the rail line;*
- *Ensure new paths are designed and built to the standard width, with appropriate signage and stencils;*
- *Install appropriate signage close to potential high traffic areas to advise vehicle drivers, cyclists and pedestrians to be aware of other road users;*
- *Provide bicycle stencils at recommended frequency for mixed traffic treatment;*
- *Provide sufficient signage along routes and at intersections to alert pedestrians and vehicles to the presence of cyclists; and*
- *Ensure appropriate on-road line markings and stencils are implemented and their visibility is maintained.*

COMMUNITY ENGAGEMENT

The Eastwood Traffic and Parking Study, Draft Summary Report was on public exhibition between 13 February 2019 and 14 March 2019 and community drop-in sessions were

undertaken on 16 February 2019 and 21 February 2019 at Eastwood Oval and Eastwood Plaza, respectively.

A number of submissions have been received in regards to traffic and parking components. A summary of key issues raised during the community consultation and subsequent Council's response is provided in ***ATTACHMENT 3***.

ATTACHMENTS

- ATTACHMENT 1 – Eastwood Traffic and Parking Study, Draft Summary Report (Cardno, 2018)
- ATTACHMENT 2 – Cycling Infrastructure Review (Cardno, 2019)
- ATTACHMENT 3 – Summary of Issues Raised in Community Consultation (Council, 2019).

CONCLUSION

The traffic and parking study identified a number of infrastructure upgrades to address the current and future needs for the Eastwood Town Centre.

Whilst this report is an advisory item to be noted by the Ryde Traffic Committee, in due course Council will reconvene the Eastwood Traffic and Parking Technical Committee to further analyse, and consider adopting, the recommendations of the Cardno Eastwood Traffic and Parking Study, Draft Summary Report.

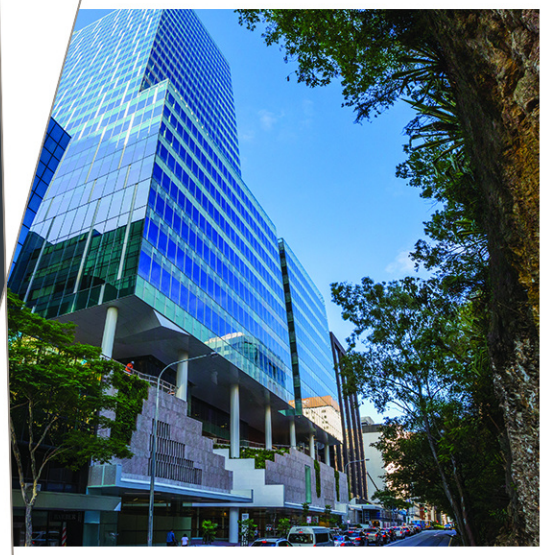
ATTACHMENT 1 –

Eastwood Traffic and Parking Study, Draft Summary Report (Cardno, 2018)

Draft Summary Report

Eastwood Traffic and Parking Study

80018087



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City of Ryde

6 December 2018

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1	09/11/2018	Executive Summary	Ghaith Farfour	Ivo Pais
2	27/11/2018	Draft Summary Report	Ghaith Farfour	Ivo Pais
3	06/12/2018	Draft Summary Report	Ghaith Farfour	Ivo Pais

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Figures

1 Introduction

1.1 Overview

City of Ryde Council (Council) commissioned Cardno to investigate the traffic and parking behaviour in the Eastwood town centre and evaluate the impacts of the proposed modifications to land uses under the existing planning controls. The scope included the development of a purpose-built traffic simulation model to test various road infrastructure options. This report summarises the key findings of the study.

1.2 Study area

The study area extends notionally from Blaxland Road to Shaftesbury Road and from Balaclava Road to Rutledge Street / First Avenue, a shown **Figure 1-1**.

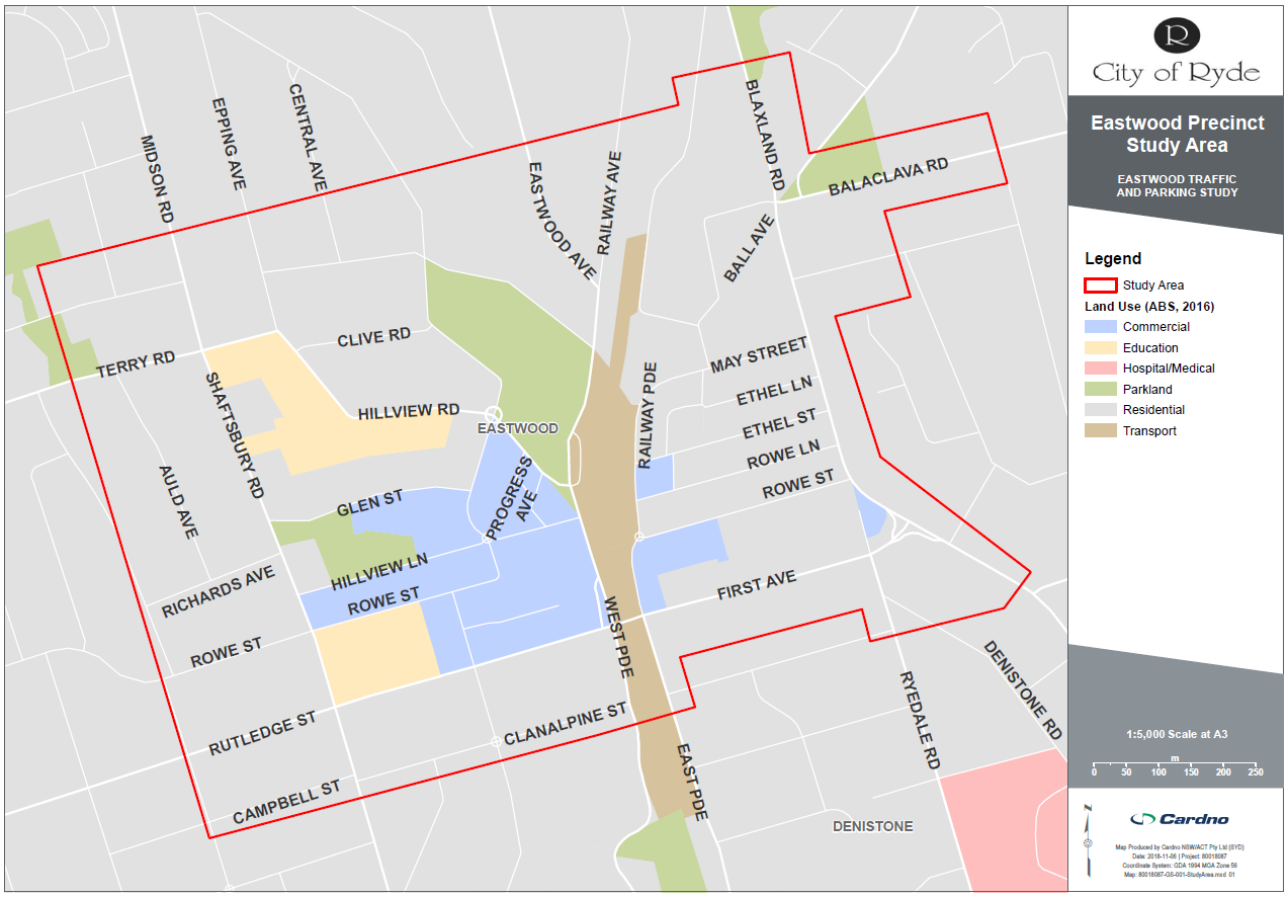


Figure 1-1 Study area

2 Existing Conditions

2.1 Data Collection

Traffic and parking surveys were undertaken on 24 March 2018 (Saturday) and 27 March 2018 (Tuesday). The parking surveys consisted of a detailed inventory of parking supply, hourly occupancy and duration of stay (on-street and off-street locations). The traffic surveys collected traffic counts for the majority of the intersections within the study area and access points to off-street car parks. Travel time and queue length data were also collected to define current congestion patterns and overall traffic operation.

2.2 Existing Conditions - Parking

Cardno has undertaken a parking supply and demand analysis for the Eastwood Town Centre, with consideration of land use context and consequent car parking demand profile.

The parking analysis indicated a total parking supply of 1,962 spaces within the core centre, as follows:

- 423 on-street spaces
- 1,129 off-street bays (public)
- 410 off-street spaces (private)

The western side of the rail line currently contains more parking supply compared to the eastern side (65% - 35% split). This is illustrated in **Figure 2-1**.

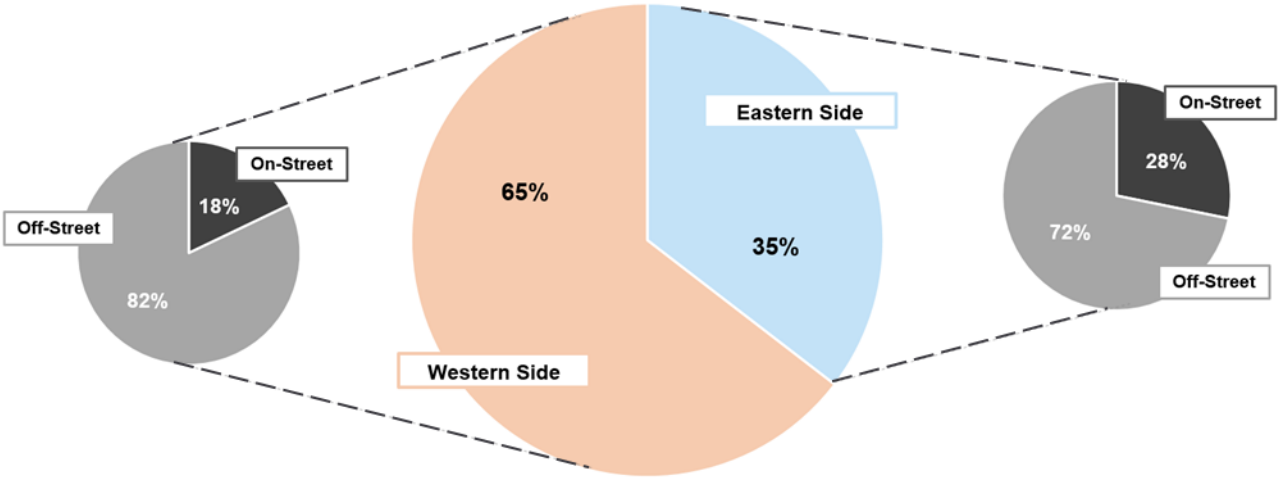


Figure 2-1 Existing Parking Supply Breakdown

The duration of stay results identified a clear distinction between the typical utilisation of on-street and off-street bays. More specifically, on-street bays are predominantly used by short-term visitors (especially on weekdays, with 80% vehicles staying for less than 2 hours) while off-street bays show a more balanced utilisation between short term and long term.

Demand for parking remains high throughout the day and reaches 100% occupancy at some locations during peak periods, predominantly on-street parking areas in proximity to the train station within the 400-metre catchment area. As parking reaches its practical capacity in the areas with high demand, overspill into some surrounding residential neighbourhood occurs. This is reflected in the flattened peak of the surveyed occupancy during the day. This results in additional parking search time and vehicle recirculation in an attempt to locate an available space. This is detrimental to the function of the traffic network.

Based on site visit within 800 metres surrounding Eastwood Station, ample on-street parking capacity beyond the 400-metre catchment was observed.

The shortage of available parking is more prevalent on the eastern side of the study area, where the demand exceeds supply by a considerable margin (estimated to be at least 250 bays during the weekday peak, and 100 bays during the weekend peak). This shortage results in parking overspill into surrounding residential streets and a tendency for visitors to look for parking on the western side of the railway station where the probability of finding a parking space is higher.

2.3 Existing Conditions – Traffic

2.3.1 Base Traffic Model Development

Base traffic simulation models were developed for the study area, allowing the current performance of the road network to be evaluated and quantified. These models were calibrated and validated using the criteria in the Roads and Maritime Services Traffic Modelling Guidelines. All requirements established in these criteria were met, and the model was also independently reviewed and scrutinised, confirming its adequacy to test future land use and road upgrade scenarios.

2.3.2 Peak hours

Analysis of the traffic surveys identified the peak hours for the weekday AM, weekday PM and Saturdays as:

- 8:00 to 9:00 as the AM Peak Hour
- 17:00 to 18:00 as the PM Peak Hour
- 11:00 to 12:00 as the Saturday Peak Hour

2.3.3 Traffic Congestion

The analysis identified traffic congestion spots during the weekday AM and PM peak hours and Saturday mid-day peak. The majority of the congestion hotspots were found along the Shaftsbury Road / Rutledge Street / First Avenue / Blaxland Road corridors. Some localised issues were found within the town centre, namely at pedestrian/vehicle conflict points, often resulting in long queues during the peak periods.

2.3.4 Intersection Level of Service

Traffic networks are typically evaluated using the level of service (LOS) indicator, which is based on the delay experienced by vehicles at each intersection. The LOS can range from A (good operation) to F (exceeding capacity). The LOS for signalised intersections is calculated based on a weighted average of the delay/volumes on all approaches. For priority controlled intersections and roundabouts, the LOS is defined based on the worst approach. The 2018 Base Model results confirmed that a number of intersections, particularly along Shaftsbury Road and Rutledge Road, have a very poor LOS in the AM, PM and Saturday peaks. The LOS results for all assessed intersections and all peak hours is shown in **Figure 2-2**.

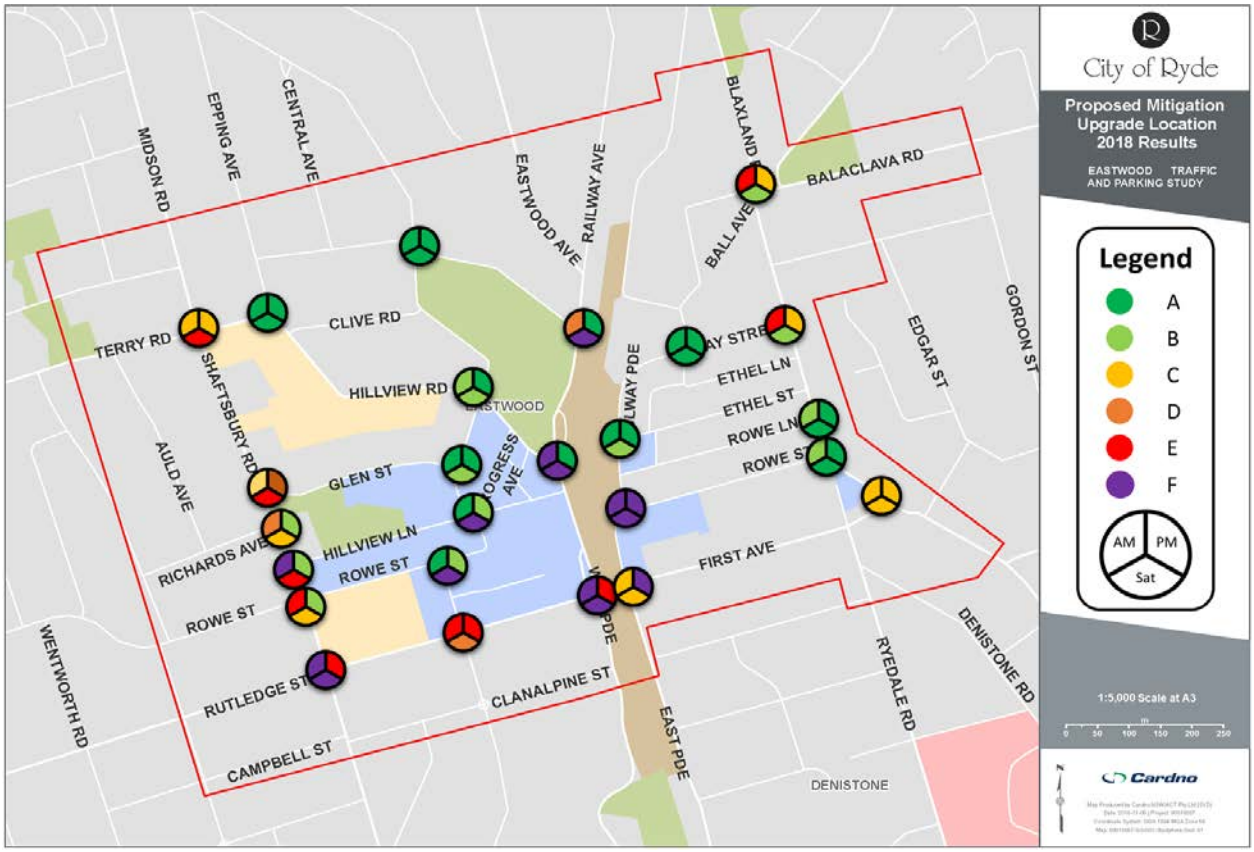


Figure 2-2 Existing Intersection Performance

3 Car Parking

3.1 Commuter Car Park Location

Seven locations were considered for the provision of a new commuter car park facility, all of which are located on publicly owned land (Council or state government owned). These are shown in **Figure 4-1**.

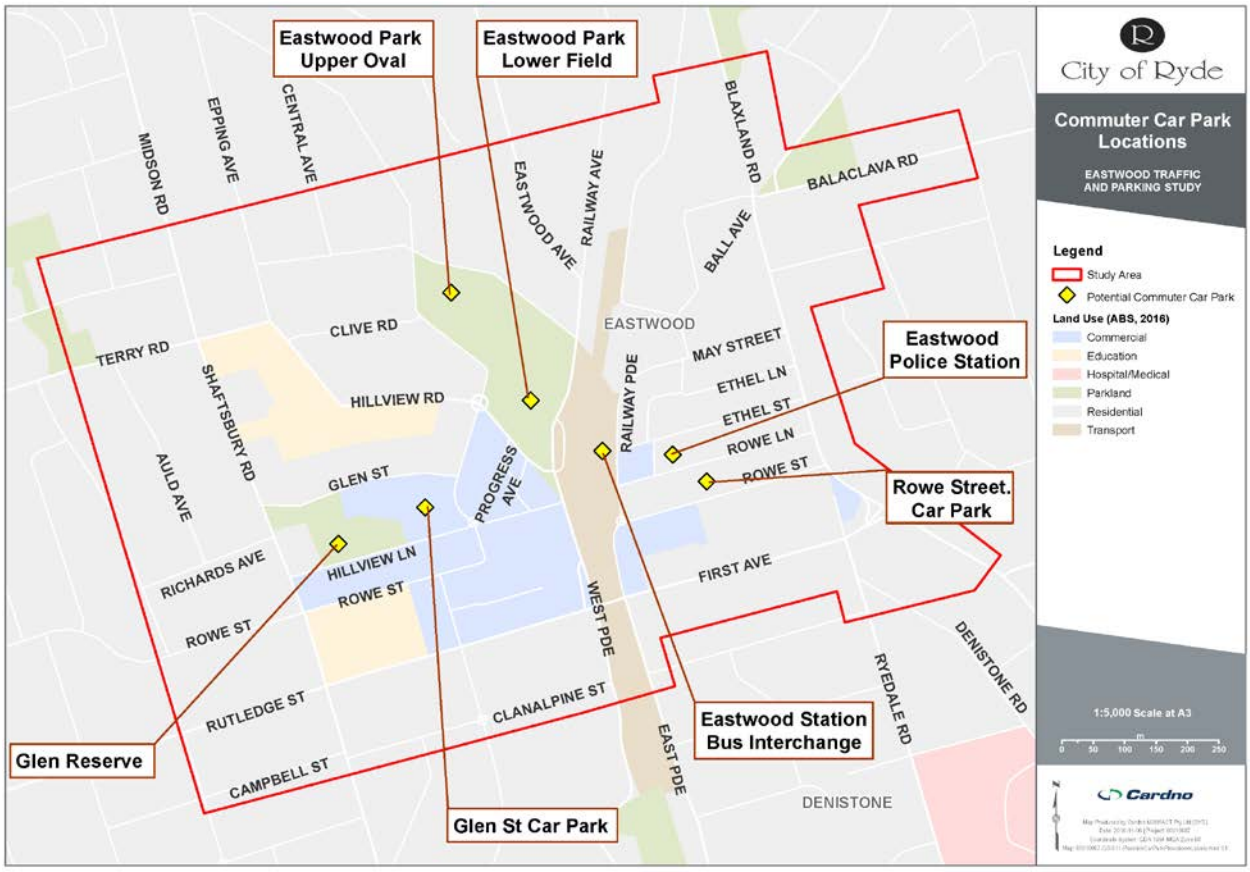


Figure 3-1 Commuter Car Park Locations

The analysis of the potential options took into account the specific site constraints, geometrical restrictions, distance to the train station, etc. More specifically, selecting the location and size of the commuter car park requires the consideration of the following factors:

- The projected parking demand of the centre.
- The quantum of car parking already available in the immediate vicinity
- Ease of access by vehicle and for pedestrians
  - Preferably via the laneway network and major roads on the periphery of the town centre
  - Vehicular access to car parking should limit the use of streets with significant pedestrian activity
- The car park should not interrupt the vitality of the centre
  - Avoid any potential congestion of central roads.
  - The car park should endeavour to be as unobtrusive as possible
- The feasibility of construction at each site
  - Size of the land available
  - Lot configuration and geometry
- Ownership of the site
  - Government agencies would partially or entirely own the site.

3.1.2 Dismissed Options

The factors contributing to the dismissal of some of the options considered are summarised below.

> Eastwood Park (upper oval and lower field):

- Community Consultation identified considerable opposition by Eastwood residents to any large-scale car park located within Eastwood Park. Council's Mayoral minutes for the meeting held on September 26th 2017 document that "the City of Ryde Council is opposed to a car park in any part of Eastwood Park and will not agree to Eastwood Park being used for that purpose."

> Eastwood Station Bus Interchange:

- Vehicular access to this location would significantly increase traffic in the vicinity of the Station, in an area that is already heavily constrained. The additional demand would exacerbate congestion, impact on pedestrian, cycling and bus transport amenity, and reduce safety outcomes.

> Rowe Street Car Park:

- The small size of the lot precludes this location from supporting an even higher amount of parking, beyond the upgrade to the 150 space multi-storey car park. Expansion of the site to the east or west could occur, but land acquisition requirements would make this cost prohibitive.

> Glen Street Car Park

- This option would need to provide at least 450 parking bays to replace the existing bays (which would be lost with the demolition of the existing structure) plus additional car parking to support improved commuter parking.
- The plot area containing the existing car park and adjacent lots is irregularly shaped which reduces the efficiency of the layout that could be considered.
- Due to the seasonal flooding within the Eastwood area, basement levels may be unfeasible, subject to further investigation. Entrance to the proposed car park will likely be on Glen Street, which could result in congestion along the corridor in the future once land uses on both sides of Glen Street are fully developed.

3.1.3 Potential Options

> Eastwood Police Station

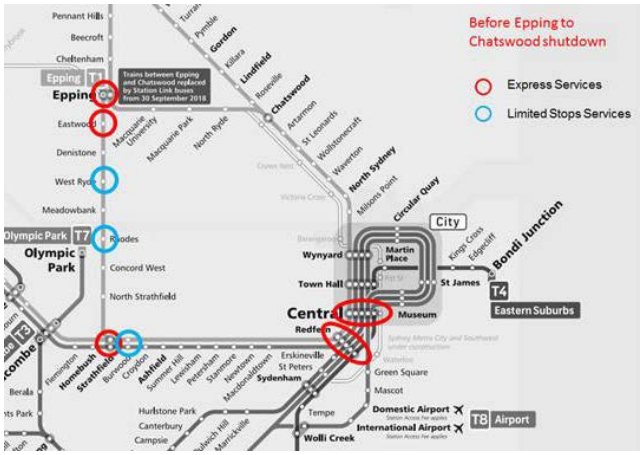
- The Eastwood Police Station is located on Ethel Street, just east of the train station. This lot has an area of 1,888 m². The potential implementation of a commuter car park at this location could be highly advantageous due to the proximity to the Eastwood Train Station and the lot size (bigger than the Rowe Street Car Park site). It can be assumed that the potential conversion of this lot to a commuter car park would generate minimal traffic disruption compared to other options given that the road network surrounding the site allows for various routes to/from the site resulting in improved distribution.
- Given that the site is owned by the State Government, further consultation between Council, Transport for NSW (TfNSW) and NSW Police Force would need to take place to evaluate the suitability of the site as a future commuter car park.

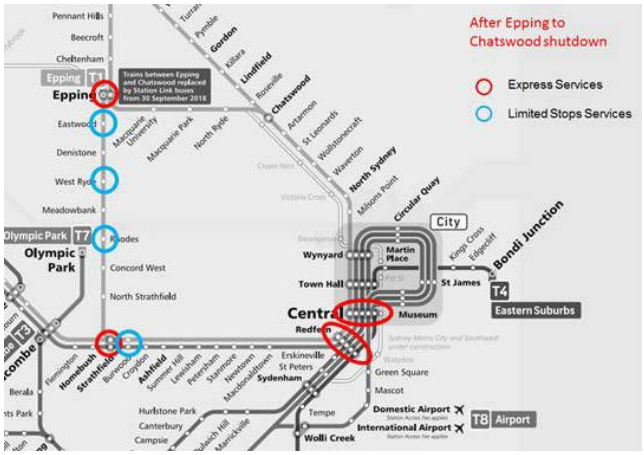
> West Ryde Parking Facility

- A commuter park (at grade) is currently located next to the West Ryde Train Station. A potential expansion of this facility to accommodate a multi-level structure would deliver a considerable amount of parking spaces with an ideal location (adjacent to a train station). This site is currently owned by Rail Corporation.
- Both Eastwood and West Ryde stations are part of the "T1 – Northern Line". Since 30 September 2018, trains between Epping and Chatswood were replaced by buses while the line is upgraded to receive Sydney Metro services in mid-2019. Before this closure, express services to/from the city stopped at Eastwood during weekday peak hours. This is no longer the case as only "limited stops" and "all stops" services stop at both stations currently. The type of services stopping at each of these stations before and after the Epping to Chatswood closure is summarised in the table below.

Table 3-1 Change of services at Eastwood and West Ryde station due to Chatswood Station Closure

		Express Services (peak periods)	Limited Stops Services (peak periods)	All Stops Services
Before Epping to Chatswood closure	Eastwood	✓	✓	✓
	West Ryde	×	✓	✓
After Epping to Chatswood closure	Eastwood	×	✓	✓
	West Ryde	×	✓	✓





- It is unknown if Transport for NSW (TfNSW) is planning to reintroduce express services to the Eastwood station once Sydney Metro starts operating. The option of upgrading the existing at-grade commuter car park at West Ryde would be optimised if it could be combined with the introduction of express services stopping at West Ryde station instead of Eastwood.
- Further investigation to be undertaken between TfNSW and Council to review Opal card data to determine transfer of patrons from Eastwood Station to West Ryde Station to access Express Services and also determine whether West Ryde Station can accommodate the increase in patrons.
- This would effectively encourage some commuters to shift from the constrained area around Eastwood station (from traffic and parking capacity perspectives) to West Ryde. A transport study would be required to evaluate the impacts and feasibility of this option. Some of the aspects to consider include traffic impacts, station capacity to attract more passengers, commuter parking supply, etc.

> Glen Reserve Car Park

- The Glen Reserve land is located west of the existing Glen Street Car Park and is owned by Council. The land ownership presents a benefit compared to the previous two options, which are based on land not owned by the Council.
- Access to this car park would be provided via Shaftesbury Road through an extension of Richards Avenue.
- It should be noted that this location also poses some challenges, namely the distance to the station (over 400m walking distance). The pedestrian infrastructure linking the station and the car park would need to be carefully planned/upgraded to ensure that a safe and convenient walking route would be delivered in conjunction with the commuter car park.

3.2 Retail (Short-Term) Car Park

Given the parking deficit described for the eastern side of the study area, consideration was given to the potential upgrade of the existing at-grade car park at Rowe Street into a multi-storey parking structure. Under this option, the car park capacity would increase from the current 50 spaces to approximately 150 spaces. **Figure 3-2** shows the location of the car park.

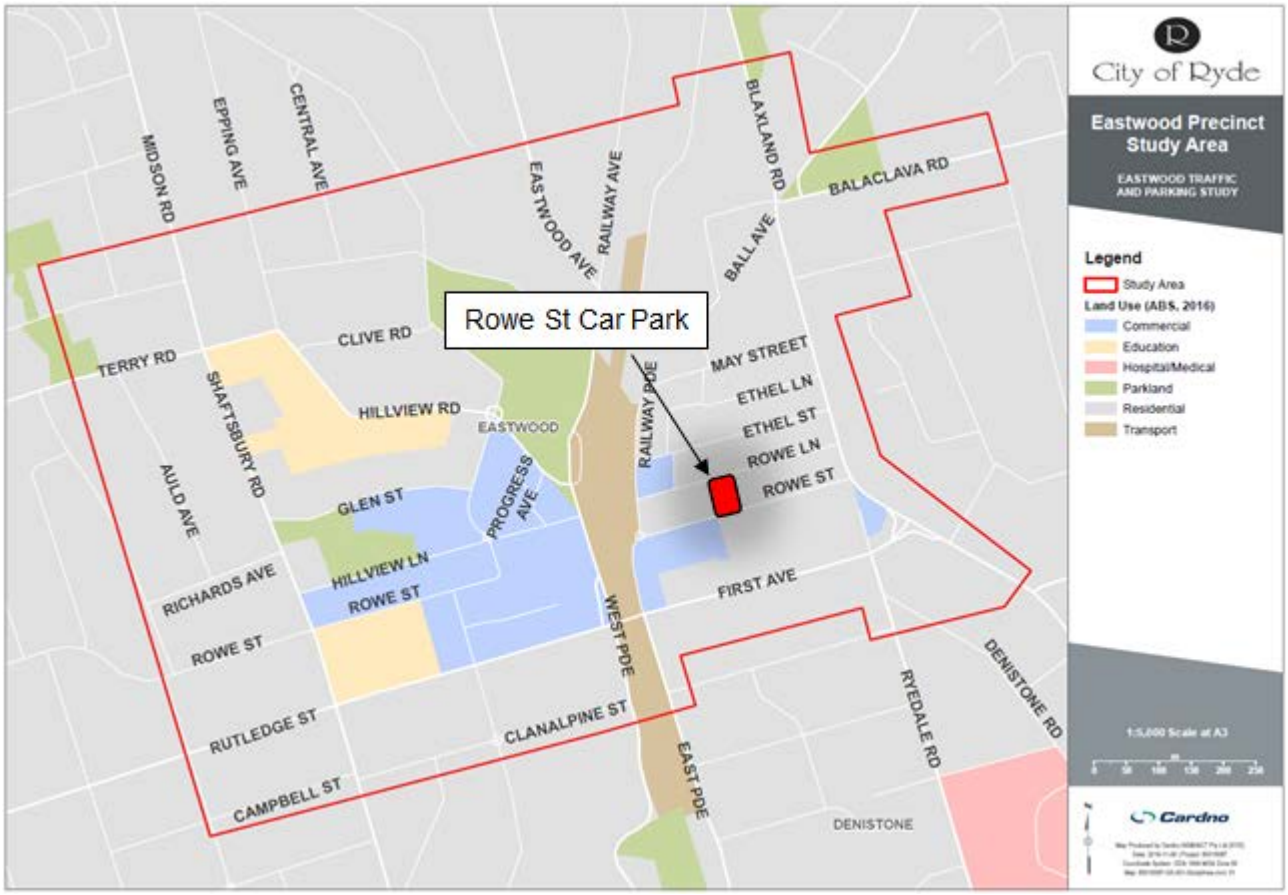


Figure 3-2 Rowe Street Car Park Location

The traffic models were used to evaluate the immediate impacts of the road network associated with this proposal, based on the following assumptions:

- Introducing 100 additional parking spaces;
- Consolidating the access and egress at Rowe Lane to a single exit;
- Retaining the current configuration for the access and egress at Rowe Street.

The assessment focused on the intersections in the vicinity of the Rowe Street Car Park. The results of the evaluation indicated that the proposed Rowe Street car park upgrade would have minimal impacts on the intersections across the Eastern Town Centre (when compared to current intersection operation). No noticeable differences were found in the intersections' level of service and congestion patterns across the Town Centre.

4 Future Land Use

The future land use scenarios involve significant changes to the current land use mix and densities. Most of the land parcels contained within the study area experience some form of redevelopment (with or without changes to the type of land use) and uplift of the current densities.

Figure 4-1 below identifies the land parcels anticipated to experience some land use changes:

- Lodged/Approved Development Applications – shown in yellow*
- Future land use changes based on Eastwood Planning Study, 2016 – shown in green**
- Future land use changes based on Eastwood TMAP Final Report, 2008 – shown in pink**

** assumed to be completed by 2028*
*** assumed to be completed by 2038. The 2028 future year scenario assumed 50% completion*

Figure 4-1 Development Plans for Eastwood Town Centre

Table 4-1 summarises the additional trip generation estimated for the proposed land use changes.

Table 4-1 Trip Generation by Land Use

Land Use Type	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Residential	750	150	600	750	450	300	750	375	375
Retail	1006	503	503	2013	1006	1006	2407	1203	1203
Commercial	430	369	61	476	84	392	110	55	55
Community Facility	50	25	25	50	25	25	50	25	25
Existing Glen Street Car Park	35	18	18	35	18	18	35	18	18
Child Care	77	42	35	77	36	41	0	0	0
Proposed Rowe Street Car Park	80	40	40	206	103	103	206	103	103
Total Trips (ultimate - 2038)	**2819**	**1366**	**1453**	**3969**	**1803**	**2166**	**3352**	**1676**	**1676**
2028 Trips	**2115**	**1028**	**1088**	**3001**	**1353**	**1648**	**2573**	**1286**	**1286**
Existing Trips	**1416**	**863**	**552**	**1960**	**819**	**1141**	**1456**	**728**	**728**
Difference (2028 – Existing)	**699**	**165**	**536**	**1041**	**534**	**507**	**1117**	**558**	**558**

The trips generated by the proposed commuter car park on Glen Reserve are discussed in more detail in **Section 5.5**. By 2028, the additional number of vehicle trips anticipated to be generated by the redeveloped land parcels is summarised below:

- 699 additional vehicle trips in the AM peak hour
- 1041 additional vehicle trips in the PM peak hour
- 1117 additional vehicle trips in the Saturday peak hour

5 Traffic Modelling

5.1 Traffic modelling scenarios

Traffic models were developed for the 2028 future year horizon based on the current land use planning controls. The “2028 base” models include the road upgrades assumed to be in place by then. The list of road upgrades to be added was agreed in consultation with Roads and Maritime and Council.

The traffic model assessed the following scenarios:

- 2028 Base (Do Minimum) Case
- 2028 Additional Network Improvement Cases (3 Road Network Options)
- 2028 Car Park Sub-Options (4 Parking Sub-Options)

5.2 2028 Base Road Network Upgrades

The list of road upgrades adopted in the 2028 year horizons (2028 base) include proposed road upgrades along Blaxland Road, parking restrictions along Shaftesbury Road, and access points to proposed developments and parking lots. **Figure 5-1** shows the base 2028 upgrades included in the models.

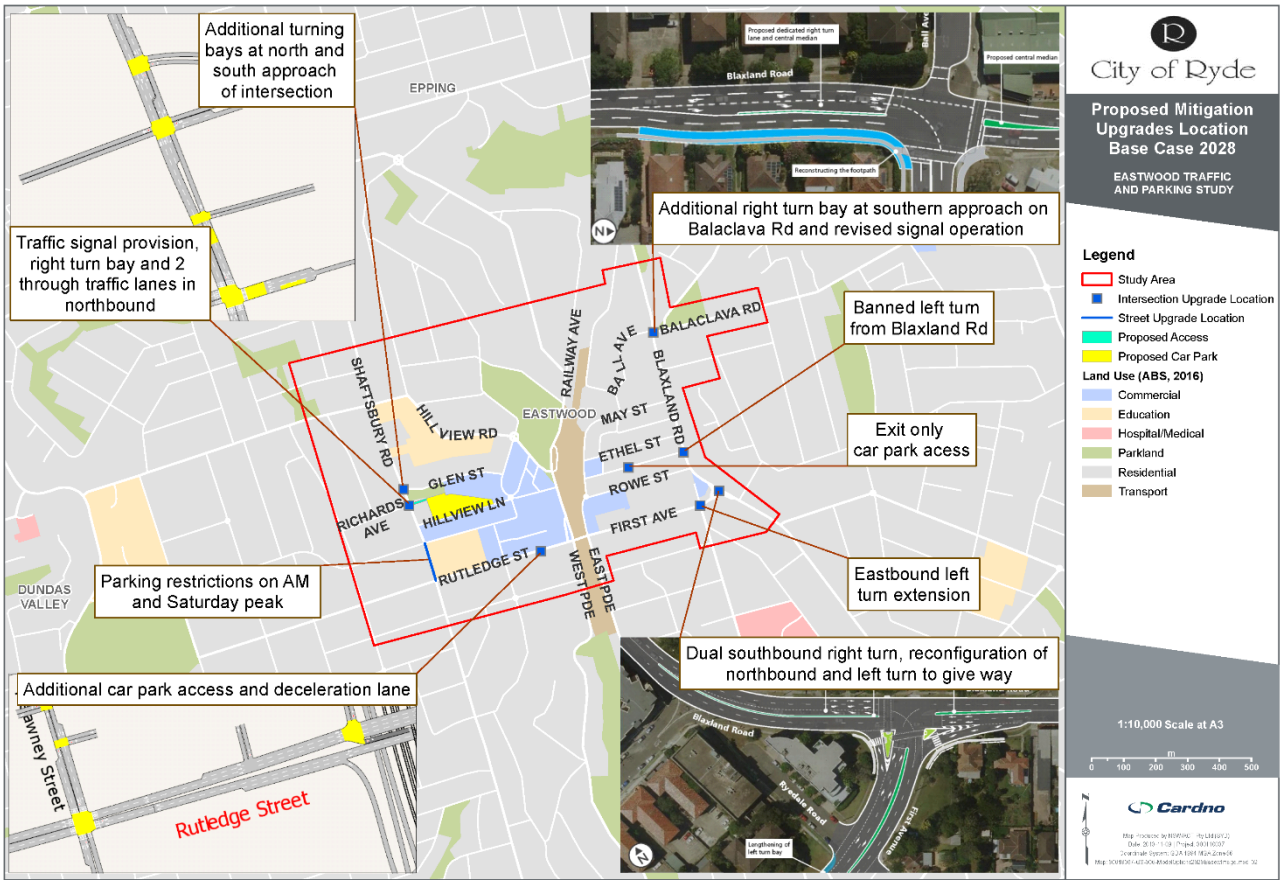


Figure 5-1 Base 2028 Model – Road Upgrades

5.3 2028 Base Models Results

In an urban area, the capacity of a road network can be largely determined by the capacity of the controlling intersections. The key indicator of intersection performance level of service (LoS) is delay, where results are place on a continuum from 'A' to 'F' as shown in **Table 5-1**.

Table 5-1 Level of Service Criteria*

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

**For traffic signals, the average movement delay and level of service over all movements is considered. For roundabouts and priority control intersections the level of service is based on the modelled delay for the most/worst delay movement.*

The 2028 base model was run based on the land uses assumptions described above and their corresponding trip generation, the construction of the Glen Reserve commuter car park, and the list of upgrades summarised above. The intersections' Level of Service results are summarized in **Figure 5-2**.

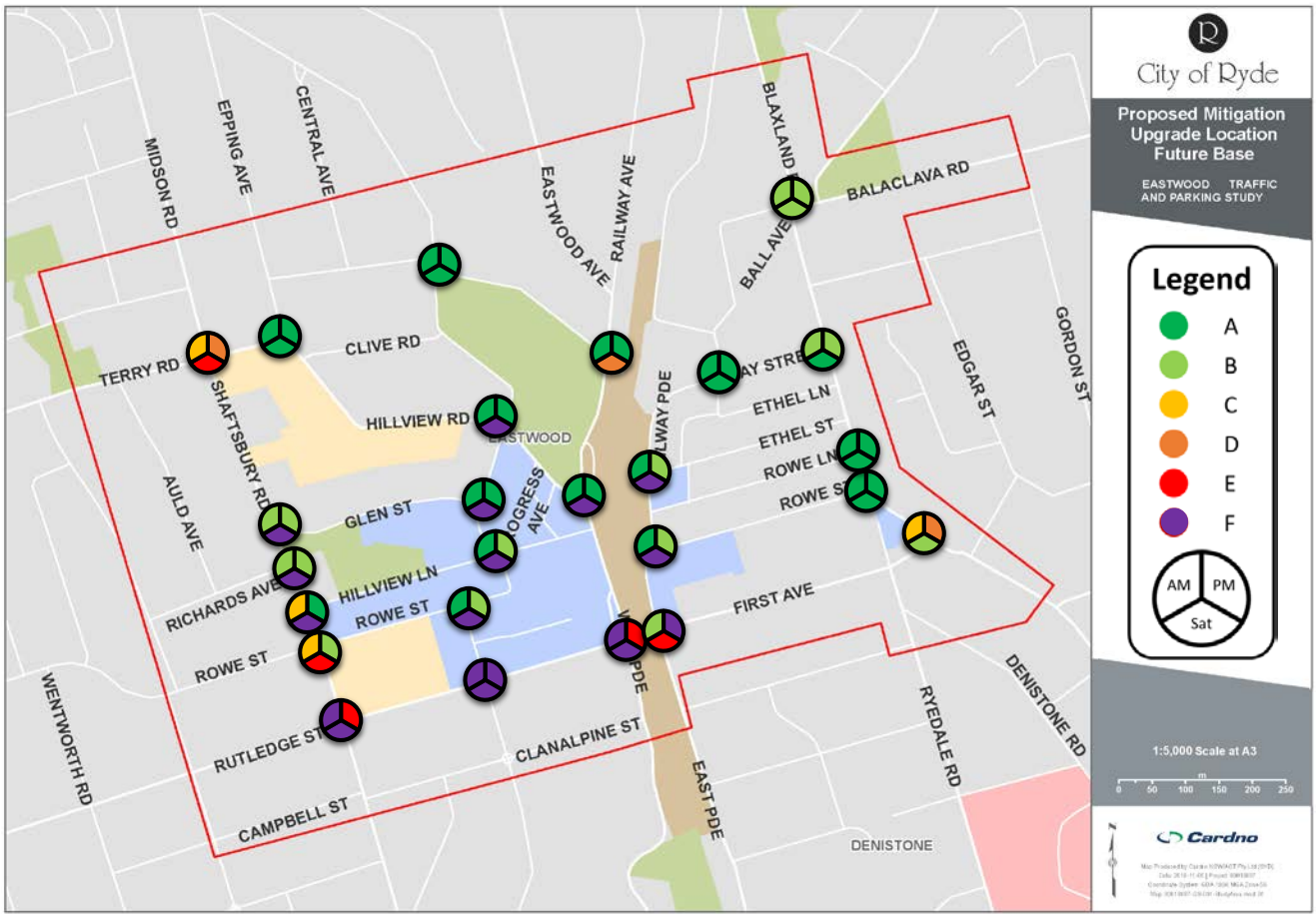


Figure 5-2 Base 2028 Model Results

The results indicate that while the proposed road upgrades provide additional capacity at some locations, the additional trips resulting from the land use changes use that capacity, with one factor effectively balancing the other out.

Overall, the traffic network shows operational deficiencies very similar to those experienced at present in the AM and PM peak hours. While the network absorbs the additional trips, significant delays are experienced on some sections of the study area (predominantly along Rutledge Street and Shaftsbury Road corridors).

The Saturday peak hour is that resulting in the highest number of additional trips (911 trips/hour). As a consequence, the network fails to absorb all trips and significant delays and queues are shown in the model, eventually leading to a “grid-lock effect”. High pedestrian volumes (predominantly along The Avenue) contribute to capacity issues for vehicular traffic and route shift. **Figure 5-3** provides a visualisation of the observed model gridlock in the Saturday peak hour.

Figure 5-3 Base 2028 Saturday – Example of Traffic Network Deficiencies

5.4 2028 Additional Network Improvement Cases (Options 1, 2 and 3)

Based on the initial 2028 Base Model findings and the observed operational deficiencies, it was agreed to proceed to the option testing stage to identify a list of upgrades to the transport network that can help accommodate the proposed changes in land use.

Three future road upgrade scenarios were developed, all of which complement the modifications described for the 2028 base case. That is, the land use assumptions adopted for the 2028 base case were maintained, and the option testing consisted of upgrades/modifications in an attempt to improve the transport network performance.

5.4.1 Option 1

In addition to the improvements adopted under the 2028 Base model, Option 1 includes the following upgrade to the road network:

- **Conversion of the zebra crossing to traffic signals at The Avenue:** Zebra crossings provide priority to pedestrians over vehicular traffic at conflict points. In cases of high pedestrian demand, this can result in extensive delays to vehicular traffic. In such cases, the conversion of zebra crossings to signalised

crossings should be considered to allow more control and a better balance between the time allocated to pedestrians and cars.

Figure 5-4 displays the changes to the road network for Option 1. The upgrade highlighted in red consists of that added as part of Option 1 (in addition to the 2028 base case).

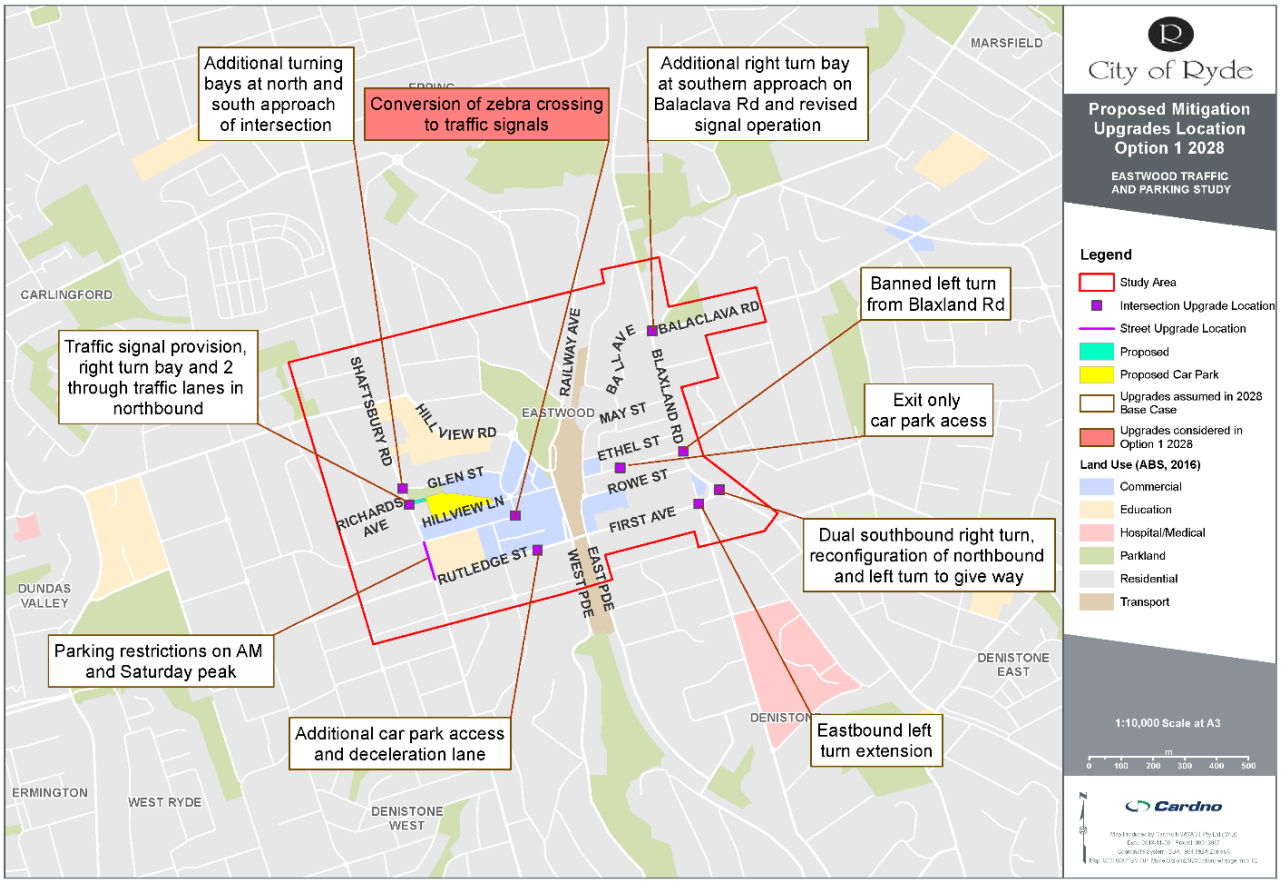


Figure 5-4 Option 1 Road Network Upgrades

The road network performance significantly improves during the Saturday peak hour with the Option 1 upgrade addition. All intersections perform at level of service E or better (compared to a few intersections operating at LOS F in the 2028 base case). Gridlock is no longer observed.

Some noticeable improvements are also experienced in the AM peak scenario. The PM peak shows modest operational improvements.

Despite the improvements described above, the right turning movement from Rutledge Street to Trelawney Street still causes capacity issues along Rutledge Street, with the intersection working at deteriorating levels of service during all three peak hours. The results of Option 1 are shown below in **Figure 5-5**.

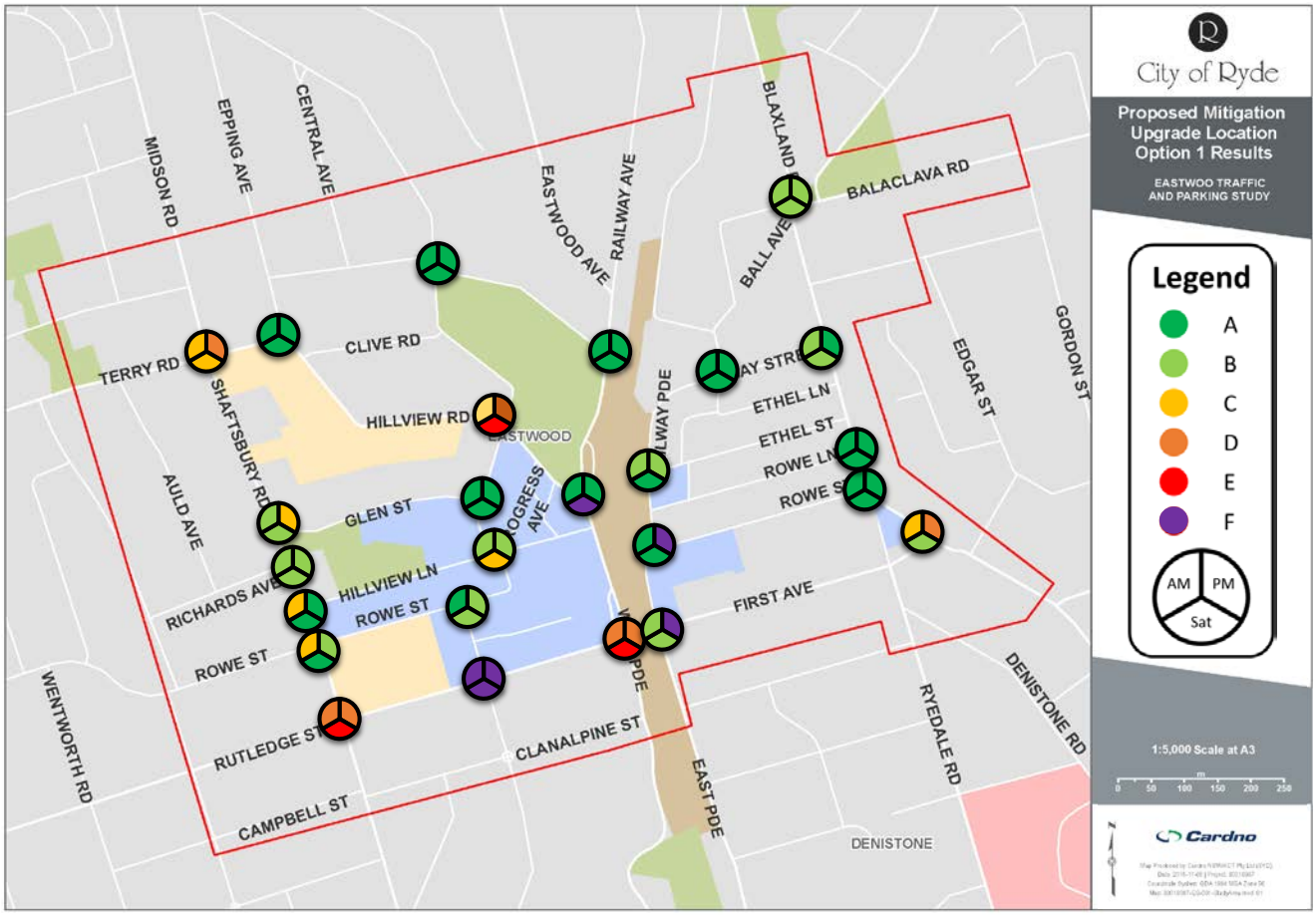


Figure 5-5 Option 1 Results

5.4.2 Option 2

Option 2 focuses on improving the pedestrian infrastructure within the study area. In addition to the modifications adopted under Option 1, it includes the conversion of some sections of the road network to shared zones, no vehicle access to The Avenue and Rowe Street (between Trelawney Street and Hillview Lane) and further pedestrian crossing signalisation. These modifications aim to improve pedestrian mobility within Eastwood. **Figure 5-6** depicts the road network changes for Option 2. The upgrades highlighted in blue consist of those added as part of Option 2 (in addition to the 2028 base case).

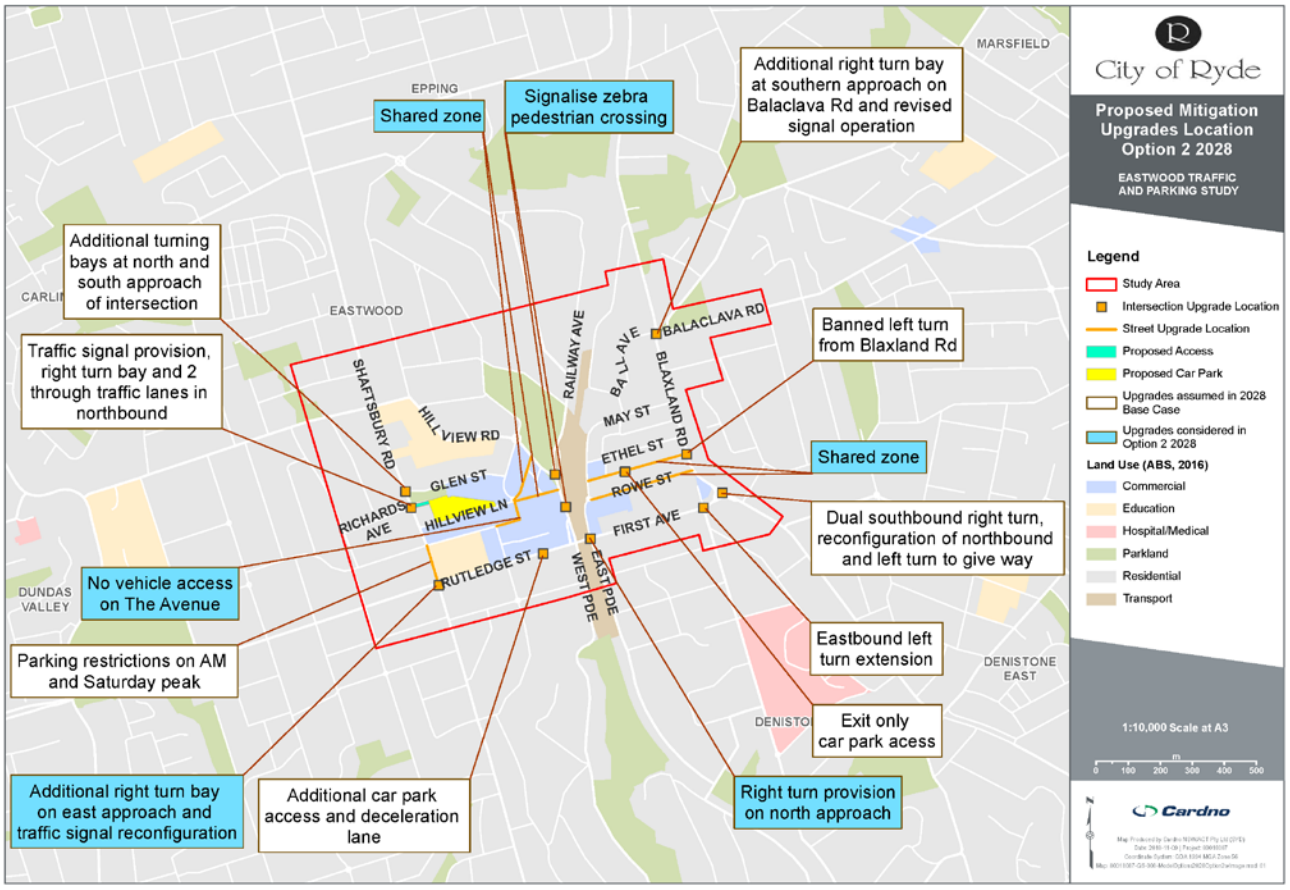


Figure 5-6 Option 2 Road Network Upgrades

Observations of the Option 2 models run results indicate a significant deterioration in the network operation compared to Option 1, especially on the western side of the rail line. This is due to the nature of most of the modifications adopted under Option 2, which achieve an improvement of pedestrian amenity but result in a reduced capacity for vehicular traffic. The primary factor contributing to the poor results observed with Option 2 is the closure of The Avenue, which results in some rerouting (vehicles searching alternative road corridors to complete their trips) but in turn puts additional traffic demand at intersections already operating beyond its practical capacity (namely intersections with Shaftsbury Road / Rutledge Street).

All peak hours tested showed several intersections operating well beyond its practical capacity with queues extending past several adjacent intersections. **Figure 5-7** shows the intersection Level of Service results for the Option 2 models. **Figure 5-8** shows some of the operational issues observed with the Options 2 scenario testing.

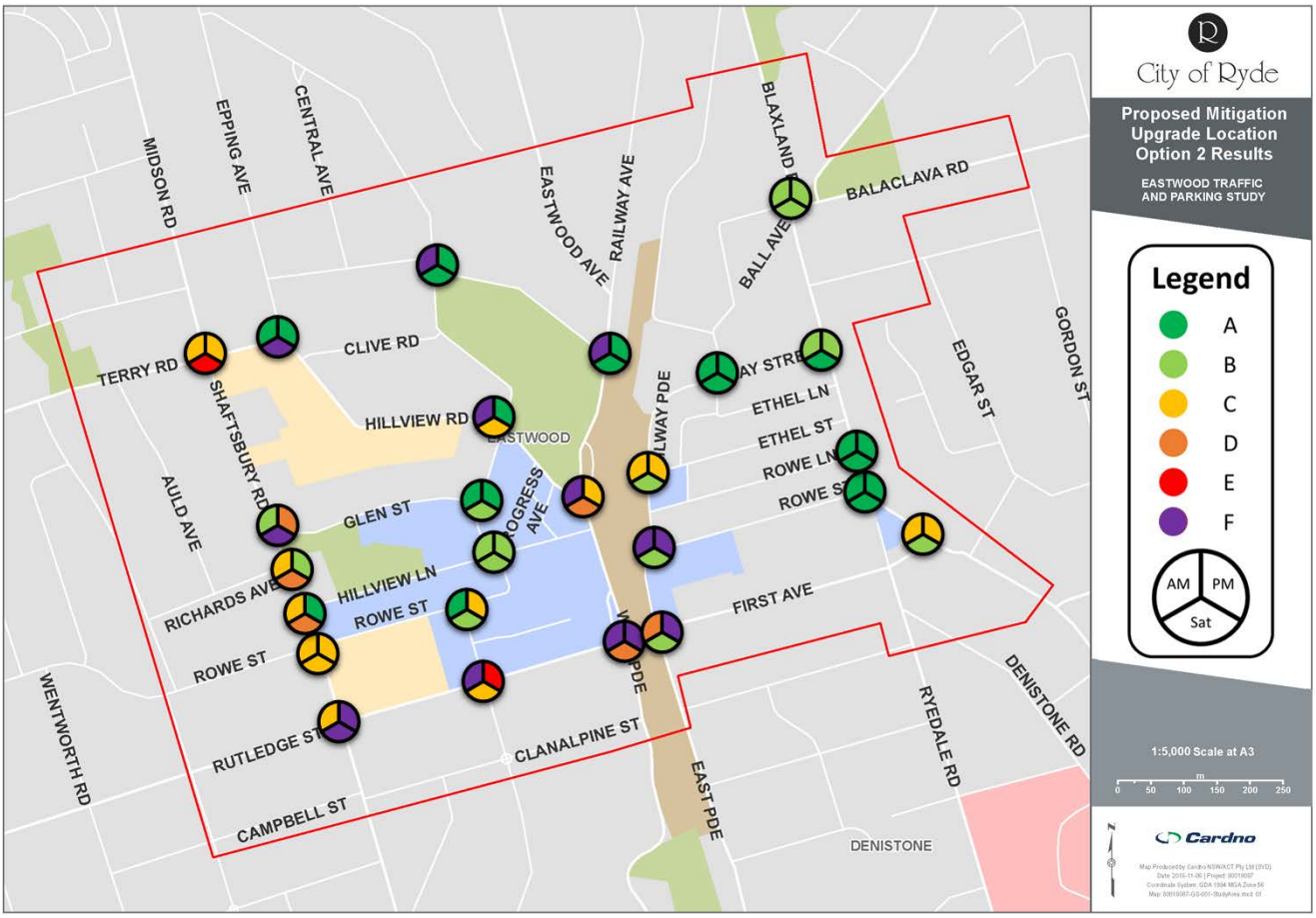


Figure 5-7 Option 2 Results

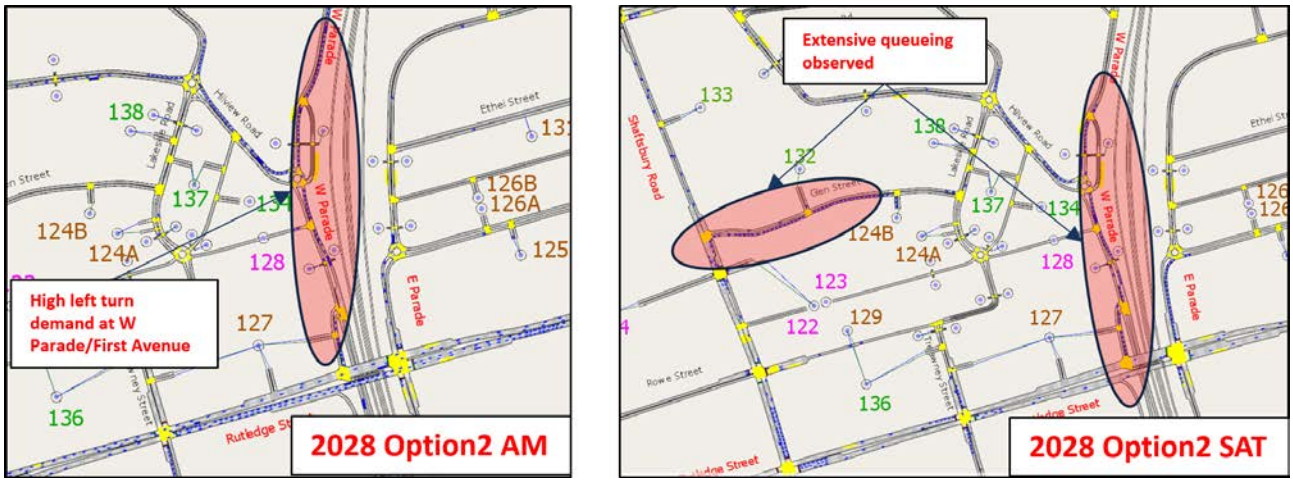


Figure 5-8 2028 Option 2 Scenario – Example of Traffic Network Deficiencies

5.4.3 Option 3 (Preferred Network)

Considering the observations of Base 2028, Option 1, and Option 2 models, Option 3 combines the upgrades that are deemed necessary to achieve optimum level of service and traffic operation across the Eastwood Town Centre road network. These consist of:

- Conversion of the zebra crossing to traffic signals at The Avenue;
- Conversion of two zebra crossings on West Parade to traffic signals;
- Remove two on-street parking spaces along the eastern side of East Parade, north of First Avenue intersection to provide additional capacity at East Parade/First Avenue intersection; and
- New right turn bay (60 metres long) at the eastern approach to the Shaftsbury Road / Rutledge Street intersection (and resulting signal phasing optimisation).

Figure 5-9 summarises the upgrades considered for Option 3.

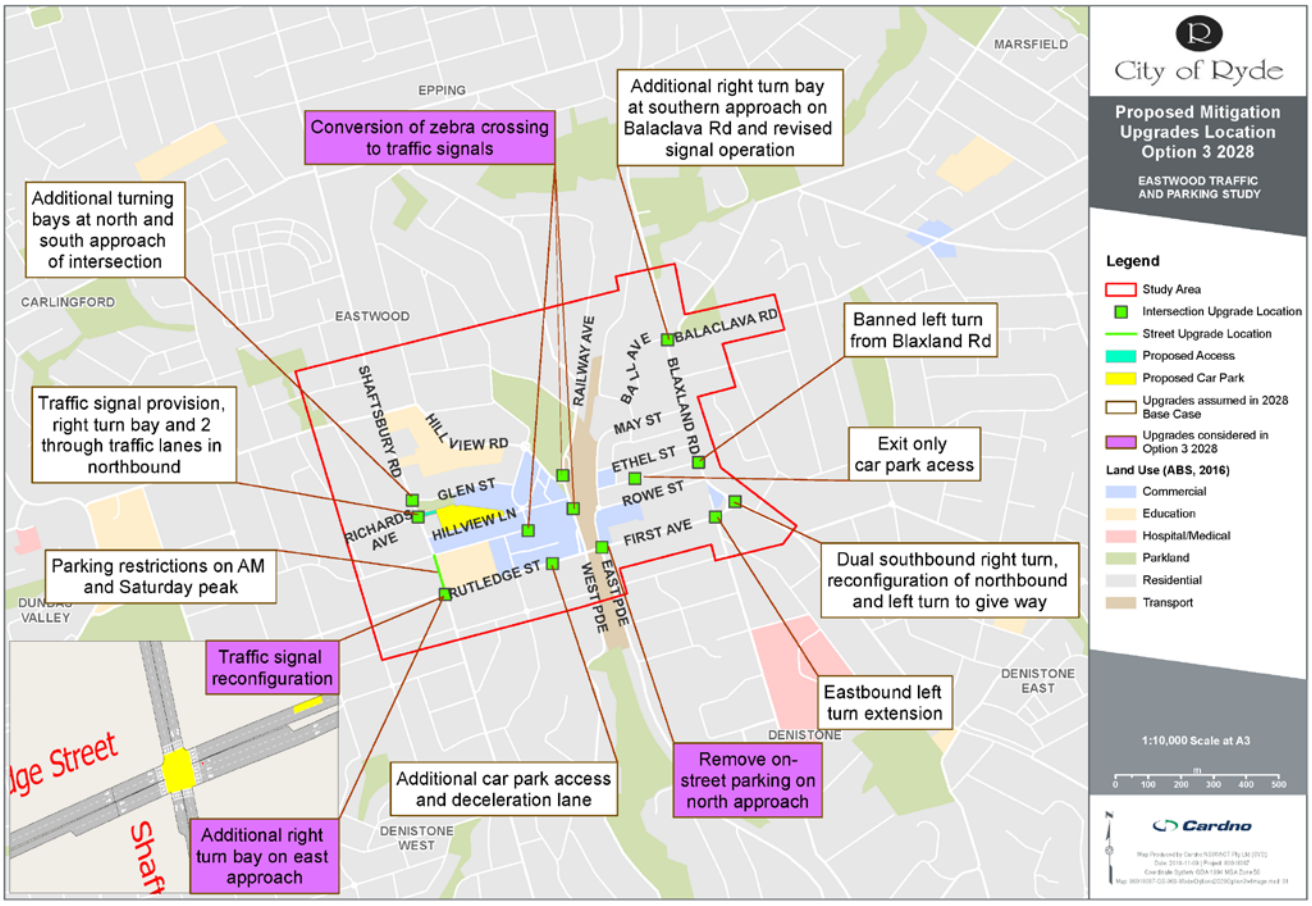


Figure 5-9 Option 3 Road Network Upgrades

The results for Option 3 are presented in **Section 5.5** given that this option was converted into four sub-options, all of which are based on the road upgrades described above. The differences between the four sub-options consist of variations on the type/capacity of parking infrastructure considered.

5.5 2028 Car Park Sub-Options (Options 3A, 3B, 3C and 3D)

Four variations of Option 3 were modelled to test the impact of various options to modify current off-street car parking supply. The four options are described as follows:

- Option 3A: No change; Glen Street Car Park (450 spaces) to remain in its current location (No commuter car parking, no increase in retail parking);
- Option 3B: Relocation of Glen Street Car Park to Glen Reserve (plus 150 additional retail parking spaces) and no provision for commuter parking;
- Option 3C: Glen Street Car Park to remain in its current location plus 230 space Commuter Car Park at Glen Reserve;
- Option 3D: Relocation of Glen Street Car Park to Glen Reserve (plus 150 additional retail parking spaces) plus 230-space Commuter Car Park at Glen Reserve.

Table 5-2 summarises the differences between the four variations and the resulting additional trip generation.

Table 5-2 Option 3 Variations

Option	Additional Trip Generation								
	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Option 3A	0	0	0	0	0	0	0	0	0
Option 3B	60	30	30	154	77	77	154	77	77
Option 3C	50	50	0	200	0	200	200	100	100
Option 3D	110	80	30	354	77	277	354	177	177

Under Options 3A and 3C, the existing Glen Street retail car park is assumed to maintain its current location and capacity. Under Options 3B and 3D, the retail car park is assumed to be relocated to Glen Reserve with additional 150 retail parking spaces.

5.5.2 Option 3A

Option 3A does not introduce any new parking supply (commuter or retail) at Glen Reserve but maintains the road upgrades described for all Option 3 scenarios. This would correspond to a scenario in which new commuter parking supply would not be delivered in Eastwood, with one option being the potential expansion of the commuter parking supply in West Ryde (discussed in **Section 3.1.3**).

Figure 5-10 shows the results of the option model runs.

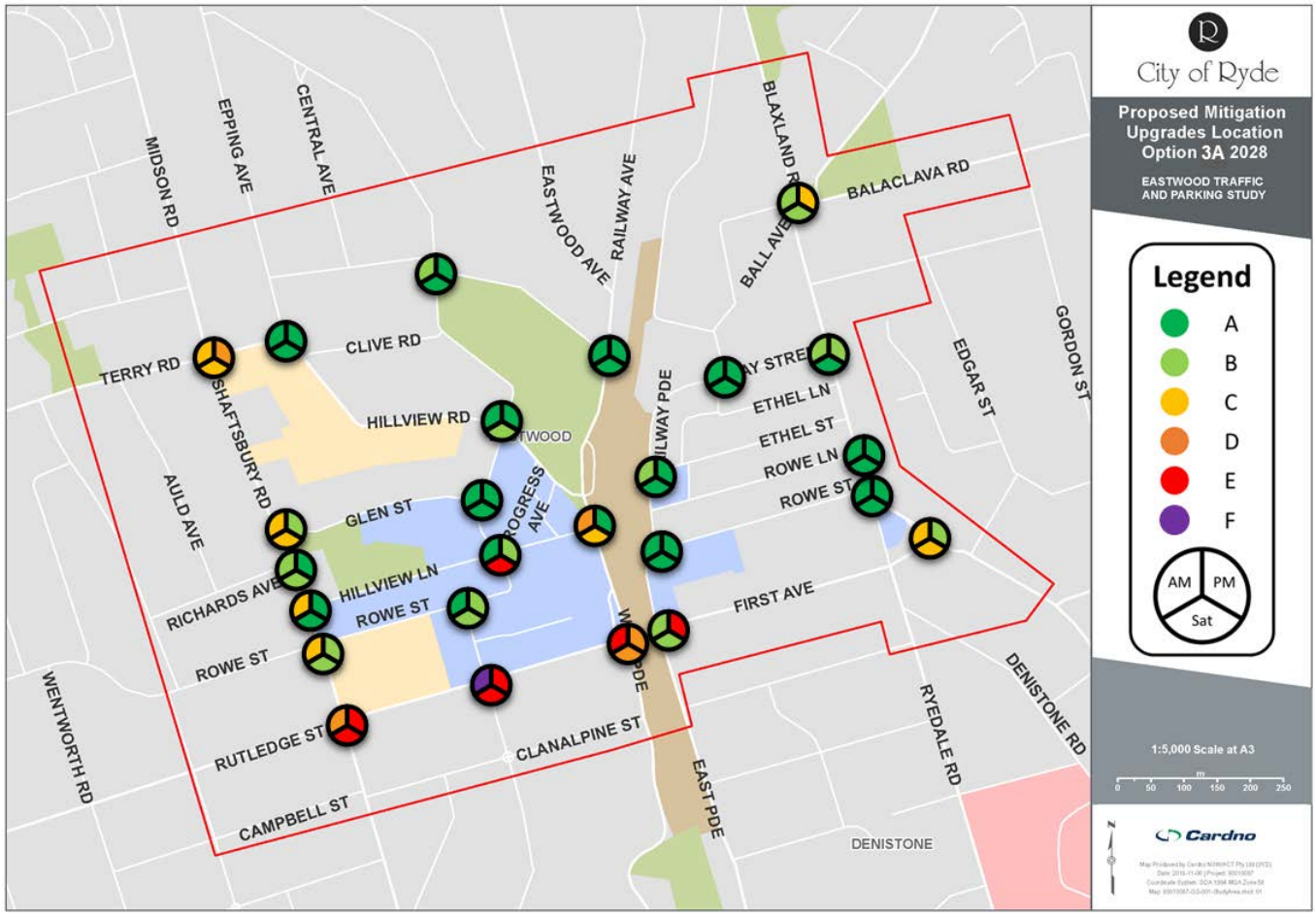


Figure 5-10 Option 3A Results

Modelling results indicate that intersections along Shaftesbury Road operate better in Option 3A than what is observed for Option 2. Intersections in the Western Town Centre along Lakeside Road and Epping Road also perform at more acceptable levels of service than Option 2.

5.5.3 Option 3B

Option 3B assumes a 600-space retail car park on Glen Reserve. This is based on relocating the existing Glen Street car park from its existing location to Glen Reserve.

Figure 5-11 shows the results of the Option 3B models.

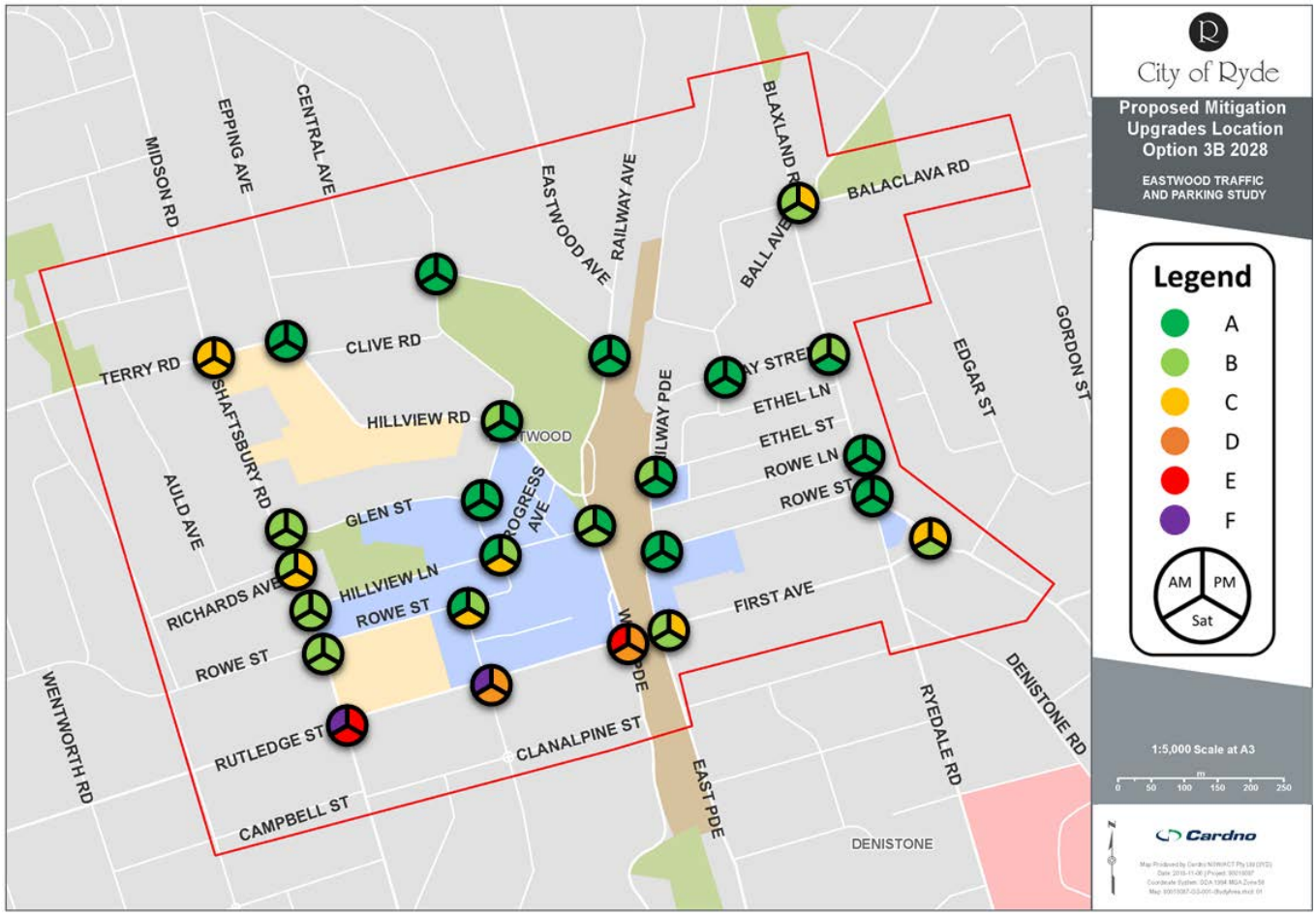


Figure 5-11 Option 3B Results

In comparison to Option 3A, the results of Option 3B show improved traffic operation along the Eastwood town centre, particularly along Rutledge Street with the exception to the Rutledge Street/Shaftesbury Road Intersection. This is due to a reduction in the number of vehicles turning right at Trelawney Street (and turning right at Shaftsbury Road instead to access the relocated car park entrance).

5.5.4 Option 3C

Option 3C was modelled with the commuter car park assumed to be constructed at Glen Reserve with a capacity of 230 spaces. While some congestion is still anticipated in some parts of the network (predominantly along the Rutledge Street corridor), the modelling results demonstrate a significant improvement compared to Option 2 (which included banning traffic along The Avenue). The primary deficiency under Option 3C is the insufficient capacity for traffic to turn right from Rutledge Street to Trelawney Street. This is particularly prevalent on the weekday peak hours. In the Saturday peak, average speed and delays improve significantly compared to weekdays.

The results of the Option 3C models are shown in **Figure 5-12**.

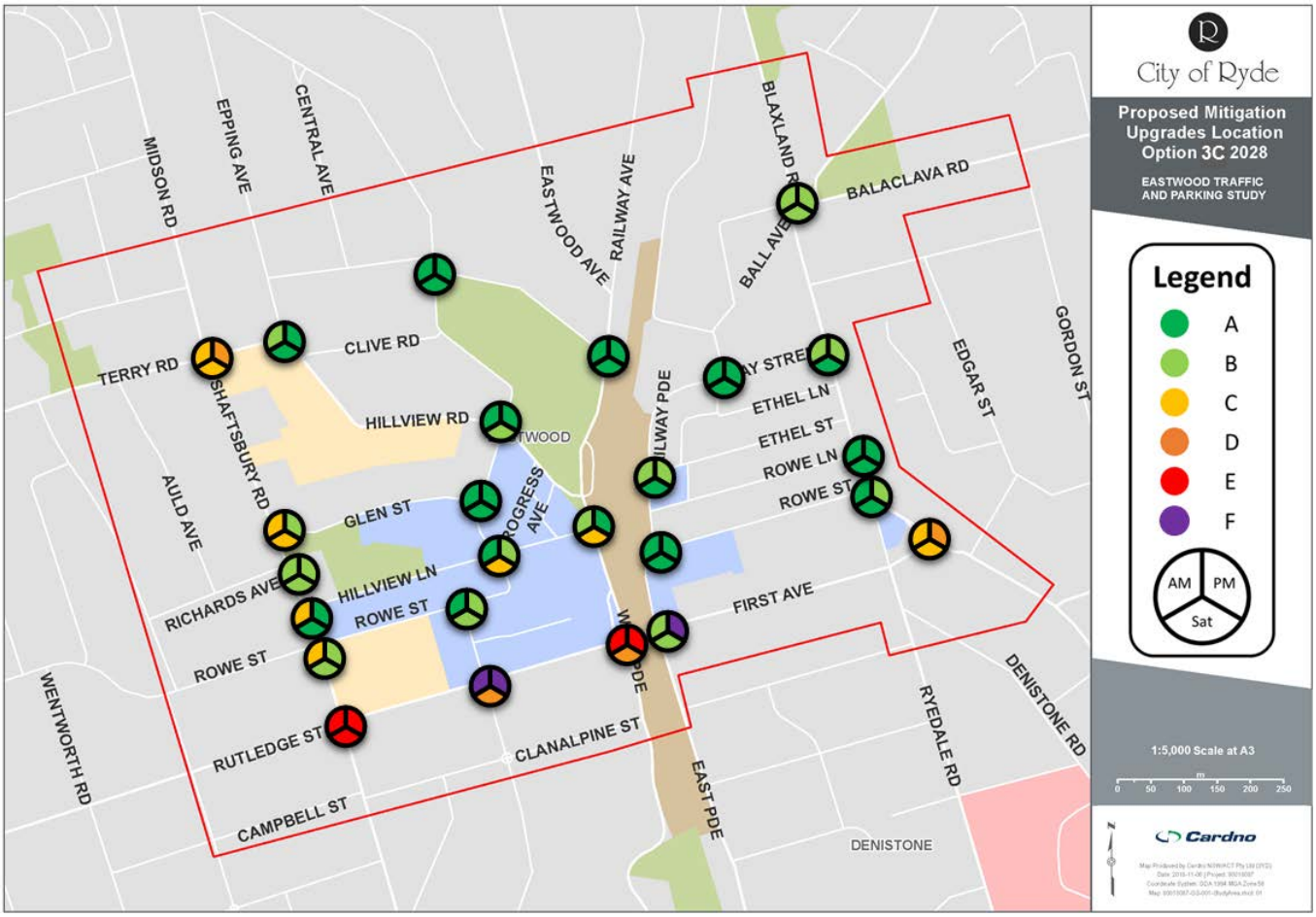


Figure 5-12 Option 3C Results

In comparison to Options 3A and 3B, intersections along Shaftesbury Road operate at a worst levels of service than those reported for Options 3A and 3B. This is mainly due to the additional commuter car park and the resulting trips anticipated on Shaftesbury Road.

5.5.5 Option 3D

Option 3D considers both retail and commuter car parks on Glen Reserve. This results in a total parking supply of approximately 830 parking spaces.

The modelling results show that while Option 3D still operates better than Option 2, it shows some deterioration of traffic operation results when compared to Option 3A, 3B, and 3C. This is predominantly related to the higher number of vehicles travelling along Shaftsbury Road to/from the car park. It should be noted that under this option, some 830 parking bays would be accessed via a single entry/exit point, which contributes to the deficiencies described above. **Figure 5-13** illustrates the intersections' levels of service for Option 3D.

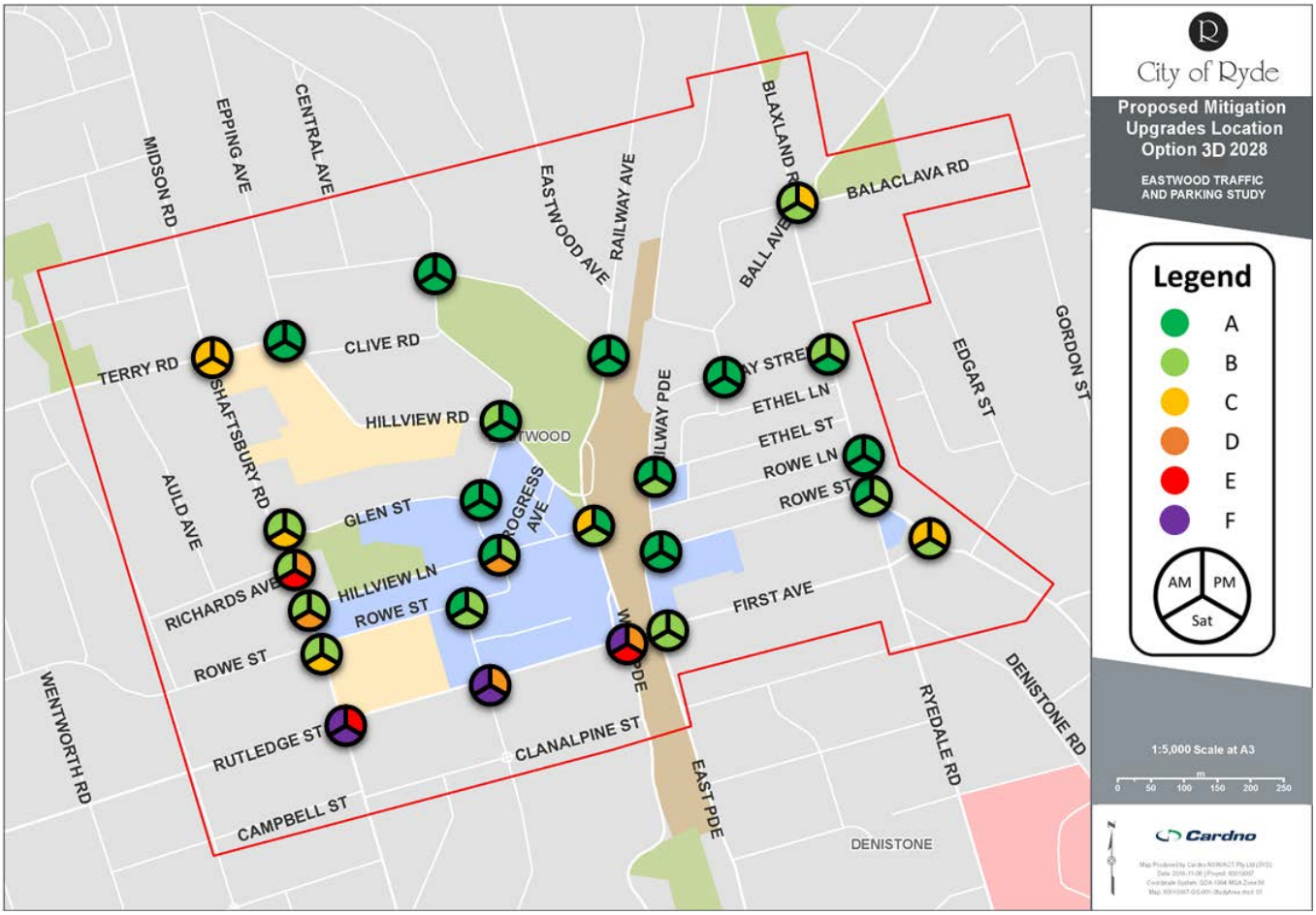


Figure 5-13 Option 3D Results

5.5.6 Options' Comparison and Preferred Option

One of the main benefits experienced with all the variations of Option 3 consists of signalising the pedestrian crossing at The Avenue (instead of closing this section to vehicular traffic as assumed in Option 2). The proposed right turn pocket from Rutledge Street to Shaftsbury Road also provides a significant improvement given that the existing road network only permits "filtered right turns" from Rutledge Street (westbound) to either Trelawney Street or Shaftsbury Road (northbound). This results in a limited number of vehicles being able to undertake these right turn movements and consequent queues affecting capacity for westbound through traffic.

Figures 5-14, 5-15, and **5-16** present a network-wide set of metrics for each of the alternatives to assist in determining the option with the best traffic operation results.

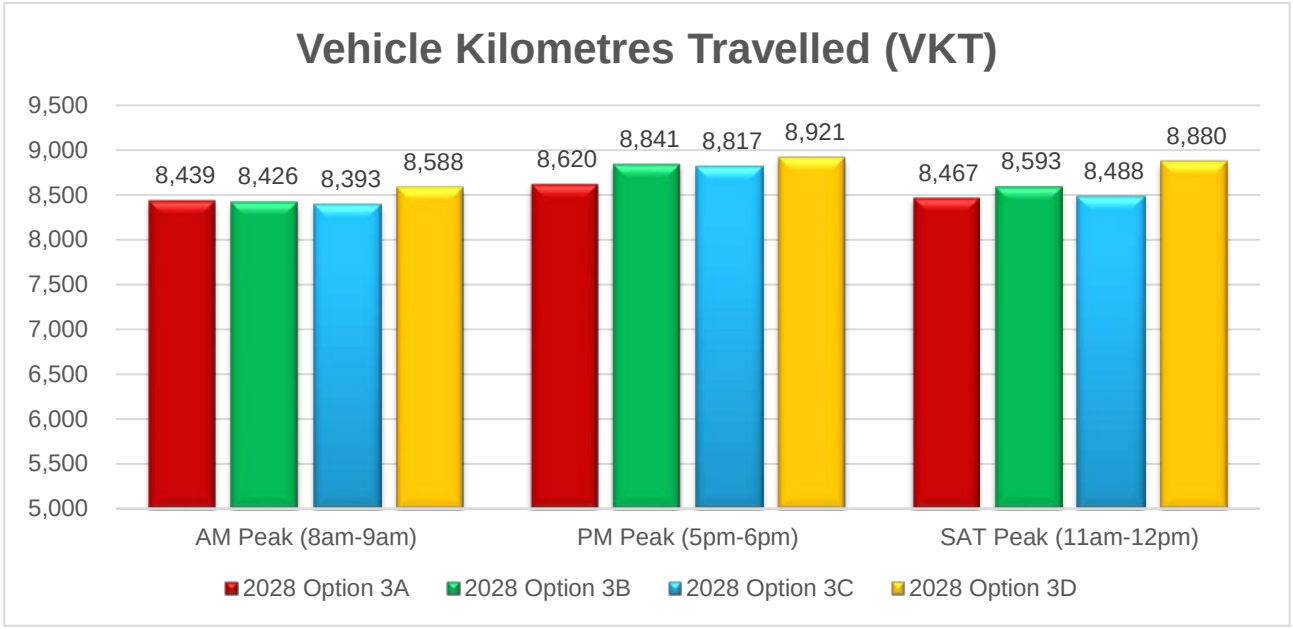


Figure 5-14 Vehicle Kilometres Travelled for Options 3A, 3B, 3C, and 3D

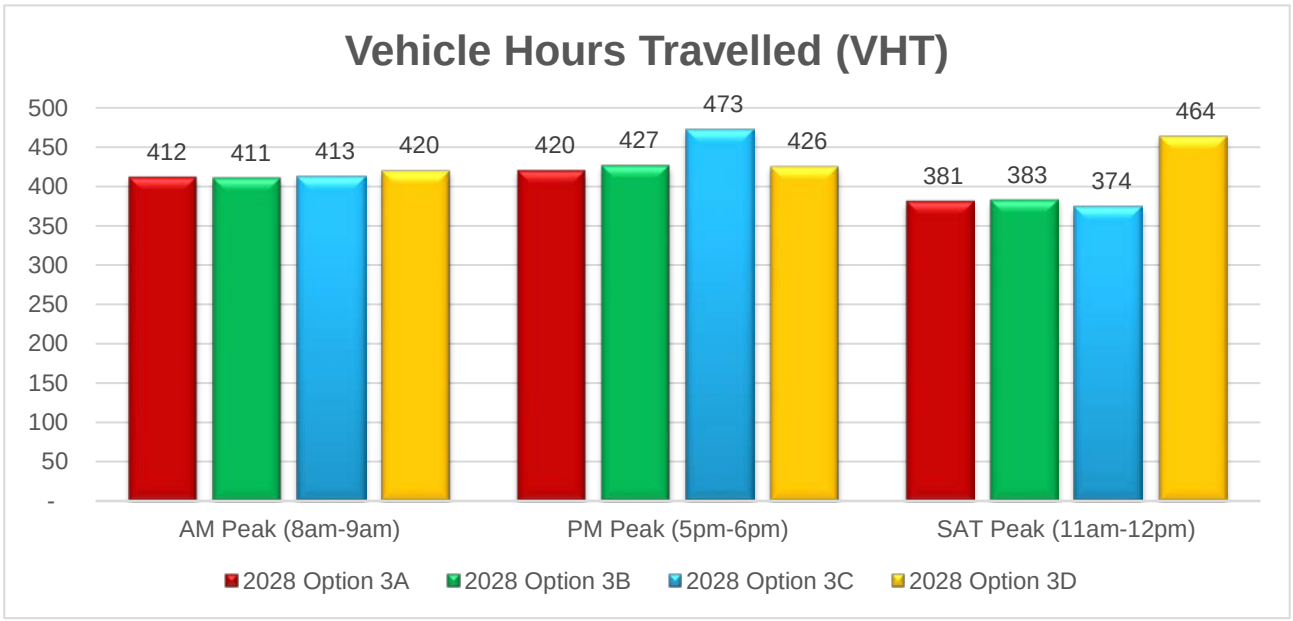


Figure 5-15 Vehicle Hours Travelled for Options 3A, 3B, 3C, and 3D

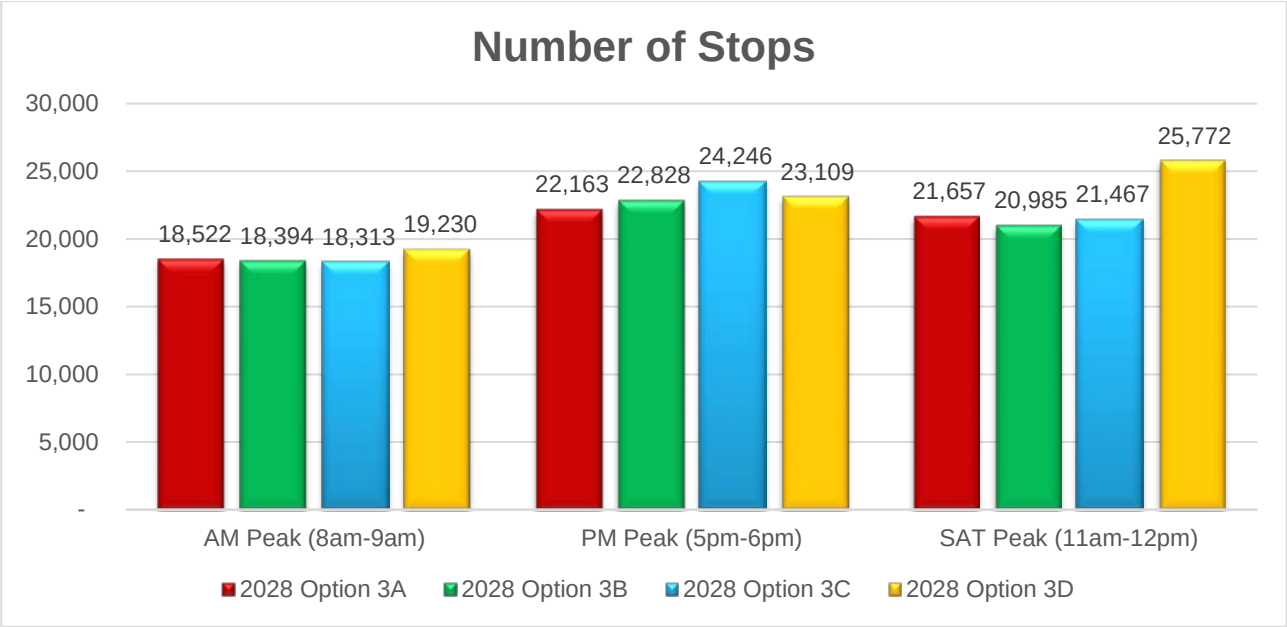


Figure 5-16 Number of Stops for Options 3A, 3B, 3C, and 3D

The results shown in the figures above refer to the overall road network operation and therefore dilute some of the operational benefits/issues at the intersection level. A comparison across these four sub-options is more relevant if conducted at the intersection operational level, especially for the areas surrounding the potential changes to parking infrastructure (Glen Street / Glen Reserve).

Overall, Option 3B shows the best performance metrics of all options assessed. One of the main findings is that the relocation of the existing Glen Street retail car park from its current location to Glen Reserve generates traffic operation benefits given that it results in a decrease in the number of vehicles turning right from Rutledge Street to Trelawney Street (and shifting this right turn demand to Shaftsbury Road where the proposed right turn pockets assists in managing this demand).

The modelling results also indicate that the provision of a commuter car park at Glen Reserve can be accommodated, but there is some deterioration of the traffic operation on Shaftsbury Road, especially if this car park is combined with the relocation of the Glen Street retail car park to this location. Under the scenario of combining the retail and commuter car park at Glen Reserve (total supply of approximately 830 spaces), consideration should be given to the provision of additional access points to/from the site to allow for better traffic distribution.

In summary, Options 3C and 3D, i.e. options that include Commuter car park, generate additional trips to the western side of the study area and contribute to the further deterioration of capacity issues at nearby intersections (predominantly along the Rutledge Street and Shaftsbury Road corridors).

The main difference between Options 3A and 3B consists of maintaining the Glen Street car park at its current location (Option 3A) or relocating it to Glen Reserve (Option 3B). The modelling results indicate that traffic benefits are achieved at the nearby intersections if the car park is relocated. This is due to a reduction in the number of vehicles turning right at Trelawney Street (and turning right at Shaftsbury Road instead to access the relocated car park entrance).

6 Conclusions and Recommendations

- Cardno completed a study to investigate the traffic and parking behaviour in the Eastwood town centre and evaluate the impacts of the proposed modifications to land uses under the existing planning controls;
- Traffic and parking data was collected to help evaluate the existing operation;
- The parking analysis identified a total parking supply of some 1,962 spaces within the study area, the majority of which consist of off-street parking bays;
- The duration of stay results identified that on-street bays are predominantly used by short-term visitors (especially on weekdays, with 80% vehicles staying for less than 2 hours) while off-street bays show a more balanced utilisation between short term and long term;
- Demand for parking remains high throughout the day and reaches 100% occupancy at some locations during peak periods. The shortage of available parking is more prevalent on the eastern side of the study area than that of the western side, where the demand exceeds supply by a considerable margin (at least 250 bays during the weekday peak, and 100 bays during the weekday peak). This results in parking overspill into surrounding residential streets and a tendency for visitors to look for parking on the western side of the railway station where the probability of finding a parking space is greater;
- Traffic simulation models were developed for the study area, allowing the existing performance of the road network to be evaluated and quantified. The analysis identified traffic congestion spots during the weekday AM, PM, and weekend peak hours. The majority of the congestion hotspots were found along the Shaftsbury Road / Rutledge Street / First Avenue / Blaxland Road corridors. Some localised issues were also found within the town centre, namely at conflict points between pedestrians and vehicles, often resulting in long queues during the peak periods;
- Given the parking deficit described for the eastern side of the study area, consideration was given to the potential upgrade of the existing at-grade car park at Rowe Street East into a multi-storey parking structure. Under this option, the car park capacity would increase from the existing 50 spaces to approximately 150 spaces. This option was tested in the traffic models, and it was found that no detrimental impact would be expected for the traffic network;
- Several Council owned sites were considered for the provision of the commuter car park, but it was found that none of these locations presented the ideal context for that use. After dismissing unsuitable locations, the best available option (out of the Council owned locations) is Glen Reserve, but this also presents some issues, namely the distance to the station (over 400m walking distance). The pedestrian infrastructure linking the station and the car park would need to be carefully planned/upgraded to ensure that a safe and convenient walking route would be delivered in conjunction with the commuter car park.
- Other potential locations were considered for the commuter car park:
  - Eastwood Police Station: this site is currently owned by NSW Police Force. The implementation of the commuter car park could be highly advantageous due to the site proximity to Eastwood Station, the lot size, and the anticipated minimal disruption to the Eastwood Eastern Town Centre due to the various routes from/to the site.
  - West Ryde Parking Facility: this existing at-grade commuter park is owned by Rail Corporation. An expansion to this facility to accommodate a proposed multi-level structure would be ideal due to the site being adjacent to the West Ryde train station. This upgrade could be optimised by introducing express services at West Ryde Station after the completion and operation of Sydney Metro.
  - Further investigation for both of those options is recommended by to be undertaken by TfNSW to further understand the impacts of the commuter cark park implementation at either location.
- Traffic models were developed for the 2028 future year horizon based on the current land use planning controls. The “2028 base” models include the proposed commuter car park on Glen Reserve and road upgrades assumed to be in place by then;
- Option testing was completed for the 2028 future year scenario, which revealed that the existing operational deficiencies are likely to be exacerbated by the additional trips generated by the proposed changes to land use. This must be addressed by monitoring the network performance as redevelopment takes place and transport demand patterns and trends evolve. Based on the modelling undertaken to date and land use assumptions, the recommendations for the road network upgrades to be in place by 2028 are as follows:

- Upgrades adopted in 2028 Base Model:
  - Additional northbound right turn bay (88m long) and traffic signal phasing optimisation at the intersection of Blaxland Road / Balaclava Road. This would result in a dual right turn onto Balaclava Road;
  - Double right turn from Blaxland Road into First Avenue by allowing the middle lane to accommodate through and right turn vehicular traffic. A two-lane exit approach will also be required (through network geometry re-configuration) to ensure that this movement is feasible. Traffic operation at the northbound left turn from Blaxland Road into First Avenue is required to be modified from a merge to a give-way;
  - Ban left turn from Blaxland Road to Rowe Lane;
  - Provision of turning bays at north and south approaches of Glen Street / Shaftsbury Road. Glen Street / Shaftsbury Road intersection to remain as give-way. This would require banning some kerbside parking at this location;
  - Extension of the left turn lane from First Avenue to Blaxland Road (50m extension);
  - Eastwood Centre Redevelopment (based on submitted DA plans):
    - all movements permitted to/from Trelawney Street car park (i.e. same as existing);
    - left turn in from Rutledge Street to the new car park access - install new 45m deceleration lane;
    - left turn out to Rutledge Street from the new car park access;
    - West Parade loading dock access moved just north of current location.
  - Rowe Street East car park access:
    - maintain access from Rowe Street;
    - consolidate two access points from Rowe Lane into a single access point and convert it to exit only (i.e. left and right turn out only);
  - Parking restrictions on AM and Sat peaks at Shaftsbury Road between Rowe Street and Hillview Lane (same restrictions as current PM restrictions);
  - Conversion of Richards Avenue / Shaftsbury Road intersection to traffic signals to cater for the new commuter car park. Removal of parking north and south of the intersection to cater for separate right-turn bays and two through traffic lanes northbound.
- Additional upgrades identified as part of the preferred option testing:
  - Short-term measures:
    - Conversion of the zebra crossing at The Avenue to traffic signals;
    - Conversion of the zebra crossings on West Parade to traffic signals;
    - Remove two on-street parking spaces along the eastern side of East Parade, north of First Avenue intersection;
  - Long-term measures:
    - New right turn bay (60 metre long) at the eastern approach to the Shaftsbury Road / Rutledge Street intersection (and consequent signal phasing optimisation)

- Several combinations of infrastructure upgrades were tested in an attempt to optimise transport infrastructure to the future demand. One of the main findings was the importance of signalising the pedestrian crossing at The Avenue. Zebra crossings provide priority to pedestrians over vehicular traffic at conflict points. In cases of high pedestrian demand, this can result in extensive delays to vehicular traffic. In such cases, the conversion of zebra crossings to signalised crossings should be considered to allow more control and a better balance between the time allocated to pedestrians and cars.
- It was found that closing The Avenue to vehicular traffic would result in a significant deterioration of traffic issues due to the lack of alternative routes.
- The proposed right turn pocket from Rutledge Street to Shaftsbury Road also provides a significant improvement given that the existing road network only permits “filtered right turns” from Rutledge Street (westbound) to either Trelawney Street or Shaftsbury Road (northbound). This results in a limited number

of vehicles being able to undertake these right turn movements and consequent queues affecting capacity for westbound through traffic.

- Four options were developed to test various combinations of modifications to parking infrastructure in the study area. These can be summarised as follows:
  - Option 3A: No change; Glen Street Car Park (450 spaces) to remain in its current location (No commuter car parking, no increase in retail parking);
  - Option 3B: Relocation of Glen Street Car Park to Glen Reserve (plus 150 additional retail parking spaces) and no provision for commuter parking;
  - Option 3C: Glen Street Car Park to remain in its current location plus 230 space Commuter Car Park at Glen Reserve;
  - Option 3D: Relocation of Glen Street Car Park to Glen Reserve (plus 150 additional retail parking spaces) plus 230-space Commuter Car Park at Glen Reserve.
- Options 3C and 3D include the provision of a new commuter car park at Glen Reserve. This generates additional trips to the western side of the study area and contributes to the further deterioration of capacity issues at nearby intersections (predominantly along Rutledge Street and Shaftsbury Road corridors).
- Options 3A and 3B do not include the new commuter car park at Glen Reserve. The main difference between Options 3A and 3B consists of maintaining the Glen Street car park at its current location (Option 3A) or relocating it to Glen Reserve (Option 3B). The modelling results indicate that traffic benefits are achieved at the nearby intersections if the car park is relocated. This is due to a reduction in the number of vehicles turning right at Trelawney Street (and turning right at Shaftsbury Road instead to access the relocated car park entrance).
- In summary, the modelling results allowed the identification of the infrastructure upgrades required to be in place by 2028 to help accommodate the proposed land use changes within the study area. Four sub-options were tested to evaluate potential changes to car parking infrastructure, and it was found that Option 3B resulted in the most beneficial outcomes from an operational traffic perspective. This option would require the relocation of the Glen Street car park to Glen Reserve (plus 150 additional retail parking spaces) and no commuter car park at this location.
- It is recommended that consultation with state government agencies takes place in order to evaluate the alternatives for the delivery of a commuter parking facility other than the above mentioned Glen Reserve site. More specifically, two locations were identified to have significant potential in comparison to Council owned sites in Eastwood. These are the lot currently occupied by NSW Police Force and the at-grade commuter car park near the West Ryde station.
- Similarly, further consultation with key stakeholders is recommended to take place in order to obtain a better understanding of proposed upgrades to active transport and public transport infrastructure within the study area (including the proposed bus interchange). In addition, Cardno has been commissioned to undertake a review of cycling infrastructure to complement this study. This will assist in the holistic evaluation of the Eastwood transport network with consideration given to the integration across all transport modes.

ATTACHMENT 2 –

Cycling Infrastructure Review (Cardno, 2019)

Eastwood Traffic and Parking Review

Cycling Infrastructure Review

80018087

Prepared for
City of Ryde

17 April 2019

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Draft	22 Mar 2019	Draft Report	Nathan English Jane Parker	Jane Parker Bahman Mehrpour
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Tables

Figures

1 Introduction

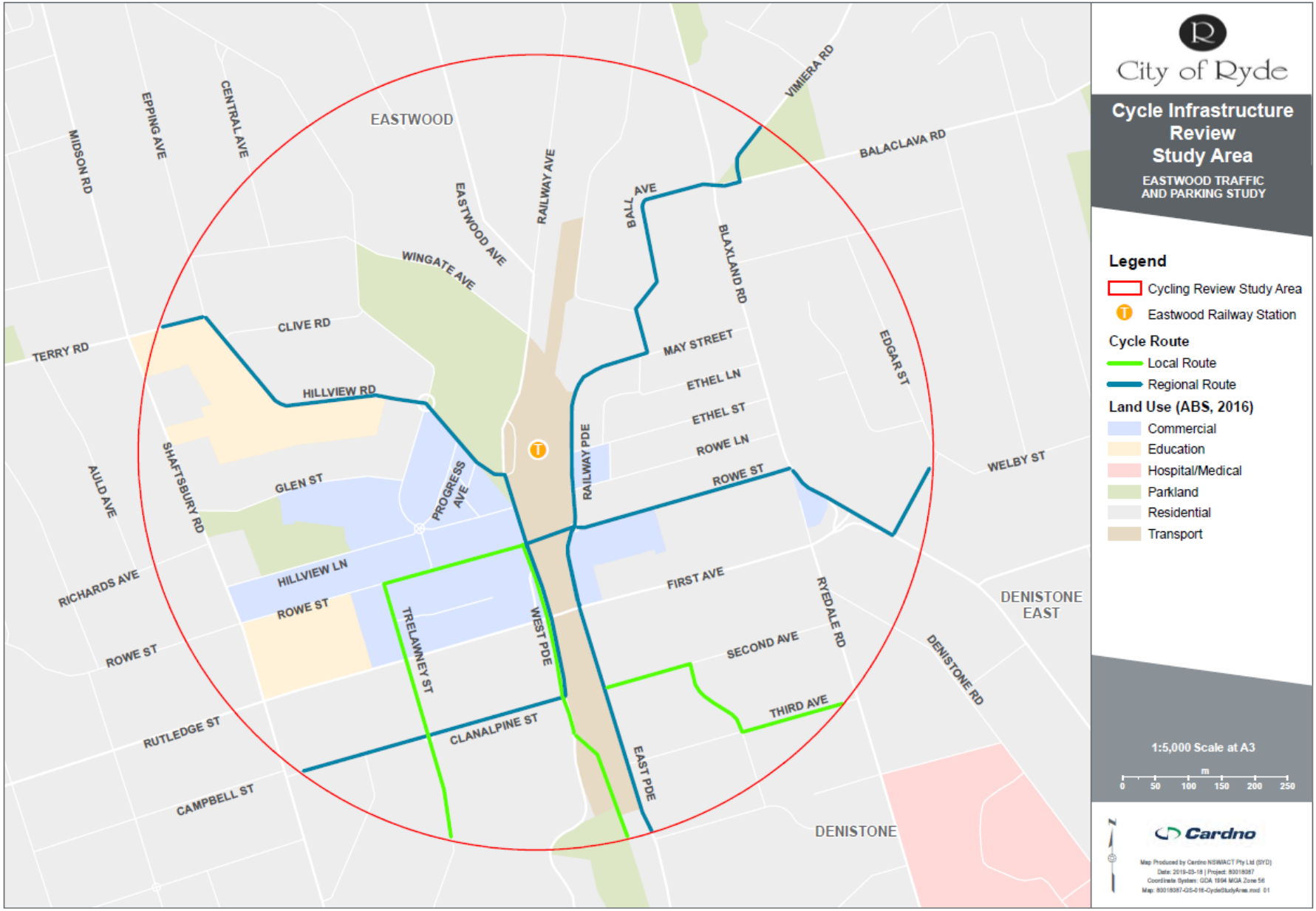
Cardno was commissioned by City of Ryde Council (Council) to undertake a review of its cycling network and infrastructure within a 600-metre radial catchment of Eastwood Railway Station (Eastwood Station). This review was completed as a variation to the Eastwood Traffic and Parking Review conducted by Cardno, which investigated traffic and parking behaviour in the Eastwood Town Centre.

The cycling infrastructure review is the primary focus of this report. The review will assess the suitability of existing and proposed infrastructure, to assist Council in implementing a safe and connected network.

1.1 Study area

The study area for this review is a 600-metre radial catchment around Eastwood Station. The catchment is shown in **Figure 1-1**. A number of regional (blue) and local (green) cycling routes are also shown, all of which form part of the broader City of Ryde cycling network beyond the 600-metre catchment.

Figure 1-1 Study area



2 Background review

2.1 City of Ryde Bicycle Strategy – Updated February 2014

The City of Ryde Bicycle Strategy (the Strategy) was revised in 2014 and builds on the 2007 strategy. It aims to facilitate increased bicycle use across the City of Ryde over the ten-year period to follow.

The vision for the Strategy was informed by a number of stakeholders including Bike North, the key bicycle user group in the region. The Strategy looks to ensure that the City of Ryde evolves into a bicycle-friendly environment where people of all ages feel encouraged to use bicycles for everyday transportation and recreation. It seeks to make the City of Ryde better connected, providing a safer, more comfortable and enjoyable cycling experience. The Strategy's vision recognises the importance of cycling when it comes to improving liveability, health and a sustainable environment with reduced traffic congestion. Ultimately, it seeks to make active transport people's natural first choices for their short or medium trips, such as for local shopping, within the City of Ryde. The benefits of cycling identified in the Strategy are shown in **Figure 2-1**.

Figure 2-1 Identified community benefits of cycling

Source: City of Ryde Bicycle Strategy 2014, p.10

The Strategy identifies two key elements required to deliver Council's desired cultural change towards a higher cycling mode share, which are:

- A properly designed bicycle network and implementation plan; and
- The development of a bicycle-user support plan.

Key objectives of the Strategy are:

- To review and analyse the existing bicycle network (within the City of Ryde and its surrounding areas) and technically assess its structure and engineering treatments;
- To review and analyse the City of Ryde road network to identify and assess the feasibility of new and future bicycle network routes and linkages to improve bicycle access within the City and to surrounding areas;

- To prepare detailed mapping of the City of Ryde and surrounding areas to clearly show the network routes and other bicycle infrastructure;
- To prepare a detailed plan for the development of the new network and associated infrastructure over the next five years (including a costed works schedule and concept treatment diagrams);
- To work closely with Council staff and community stakeholders, in particular Bike North, to include local knowledge, detailed technical information and to verify research findings;
- To provide seamless integration with the bicycle networks in adjoining council areas in order to ensure good regional and local connectivity;
- To develop a program for monitoring the effectiveness of the network; and
- To devise a series of supporting measures and programs which will actively encourage use and assist greater participation by all sectors of the City of Ryde community.

The Strategy also defines ways to measure success over time by:

- Monitoring for a gradual increase in girls and women who choose to cycle, as this is considered an indicator of perceived comfort and safety;
- Measuring the success of the improved network upgrades through annual user surveys based either on a major centre or trip attractor or along a specific cycle route;
- Measuring actual improved safety by studying the available crash statistics and hospital injury data; and
- Ongoing promotion of the benefits and advantages of cycling, using the proposed Ryde Bicycle Strategy Support Plan.

An important potential scheme highlighted in the Strategy is Cycle ‘n’ Ride, focusing on the integration of cycling with public transport. Promoting cycling as a first/last mile connection to Eastwood Station, for example, could be a way to increase cycling mode share and sustainable transport usage overall.

Council intends to investigate the potential for Cycle ‘n’ Ride by working closely with public transport operators to:

- Improve bicycle network access to all railway stations;
- Improve and extend (long term and short term) parking provisions at all stations and selected high volume bus stops; and
- Improve station accessibility as well as rider and walker safety around station entrances in conjunction with Council traffic calming measures and Transport for NSW (TfNSW) station access programs.

The Strategy details the routes that make up the network and divides them into Regional Routes (RR), Local Routes (LR), and residential streets or Local Links (LL). In each case, proposed treatments have been provided for the various sections which make up those routes.

The Strategy identifies a number of available non-council based funding mechanisms to help progress the implementation of its proposed cycling network. These are especially useful for more costly separated cycle paths, which are proposed for certain high-traffic routes. The routes located within the study area are discussed in the following section.

2.2 Eastwood cycling routes

The Regional Routes and Local Routes identified in the Strategy, where part or all of the route is located within the study area, are shown in **Table 2-1**. Details of the proposed treatments for each route and segment are also included.

Table 2-1 Eastwood routes and treatment details

Route and segment	Location	Treatment details
RR – Regional Routes		
RR01	**Hornsby to Strathfield Rail Trail**	**Via the northern railway corridor between Eastwood and Meadowbank – interim on-road route.**
1	Vimiera Road between Forester Park (path to Essex Street, Epping) and Blaxland Road	Standard treatment S06B. Bicycle lanes. 11.5m road - 1x2.3m parking lane, 2x1.5m bicycle lanes, 2x3.1m traffic lanes. Parking signage.
2	Ball Avenue, May Street, Railway Parade, East Parade to First Avenue	Standard treatment S05B. Bicycle lane and shared lane. 10.0m road - 1x3.7m shared travel lane, 1x2.9m travel lane, 1x1.4m bicycle space, 1x2.0m parking space. Parking signage.
3	East Parade between First Avenue and Denistone Station	Standard treatment S03A. Two-way shared path, 3.0m wide along one side of road.
RR02	**Turramurra to Eastwood**	**Via Browns Waterholes shared path, Vimiera Road, Ball Avenue, May Street, Railway Parade and East Parade**
3	Ball Avenue, May Street, Railway Parade, East Parade to First Avenue	Segment overlaps RR01 Segment 2. See detail above.
RR11	**Eastwood to Parramatta River**	**Via West Parade, Clanalpine Street, Shaftesbury Road, Clan William Street, Read Street, Warrawong Street, Brush Road, Hermoyne Street, Winbourne Street, Marsden Road, Wharf Road, Cobham Lane and Cobham Avenue.**
1	West Parade between Rowe Street and rail trail start	Two-way 'bicycle road' along one side of roadway. Special bent-in treatments at intersections.
2	Clanalpine Street	Standard treatment S07. Wide or narrow profile.
RR12	**Parramatta to Macquarie**	**Via Terry Road, Hillview Road, Railway underpass, Rowe Street, Blaxland Road, Edgar Street, Welby Street, County Road corridor, Woorang Street, County Road corridor (Kotara Park), Herring Road, Kent Road, ELS Hall Park paths and Shrimptons Creek Path.**
1	Terry Road between Marsden Road and Hillview Road	In Parramatta City LGA: Part of PCC Regional Route RR03. Planned for Standard treatment S02 bicycle shoulder lanes.
2	Hillview Road	Standard treatment S05C.
3	West Parade	Standard treatment S02. 12.8m road - 2x2.0m parking, 2x1.5m bicycle space, 2x2.9m travel lanes - with or without a centreline. Update existing facilities.
4	First Avenue, across railway	Standard treatment S03A. Two-way shared path, 3.0m wide along one side of road. Includes signal adjustments at East Pd.
5	Rowe Street	Standard treatment S04. 9.0m road - 2x1.5m bicycle lanes, 2x3.0m traffic lanes.
6	Blaxland Road	Standard treatment S03A. Two-way shared path, 3.0m wide along one side of road.
7	Edgar Street	Standard treatment S03A. Two-way shared path, 3.0m wide along one side of road.
LR – Local Routes		
LR02	**Eastwood to Parramatta River**	**Via Rowe Street, Trelawney Street, Bellevue Avenue, Victoria Road, Adelaide Street and Andrew Street**
1	Rowe Street, Trelawney Street	Standard treatment S07. Wide or narrow profile. Includes allowance for minor civil and traffic works.
LR03	**Eastwood to Parramatta Valley Cycleway via West Ryde**	**Via West Parade, Railway Corridor, Anthony Road, Betts Street, Chatham Road, Station Street, Rex Street, Federal Road and Meadowbank Memorial Park Paths**
1	West Parade between Rowe Street and rail trail entrance	Two-way 'bicycle road' along one side of roadway. Special bent-in treatments at intersections.

Route and segment	Location	Treatment details
2	Rail trail between Chatham Road and Anthony Road	Existing shared path.
LR12	**Eastwood to Top Ryde**	**Via Second Avenue, Young Parade, Third Avenue, Ryedale Road, Fourth Avenue, Denistone Road, pathway through Denistone Park, Terry Road, Inkerman Road, Pennant Avenue, Anzac Avenue and Blaxland Road**
1	Second Avenue, Young Parade, Third Avenue	Standard treatment S07. Wide or narrow profile.

3 Network assessment and recommendations

3.1 Site audit

3.1.1 Audit process

Cardno's audit of the planned Eastwood cycling catchment took place on Tuesday 12 March, 2019 between 9.30am and 2.30pm. The team assessed the study area using the ArcGIS Collector app, to record on-site observations and photos. Every proposed bicycle route from the Strategy located within a 600-metre catchment of Eastwood Station was qualitatively assessed to review the appropriateness of the existing and proposed treatments. The implementation status of the proposed network was also observed. These routes are shown in **Figure 3-1**.

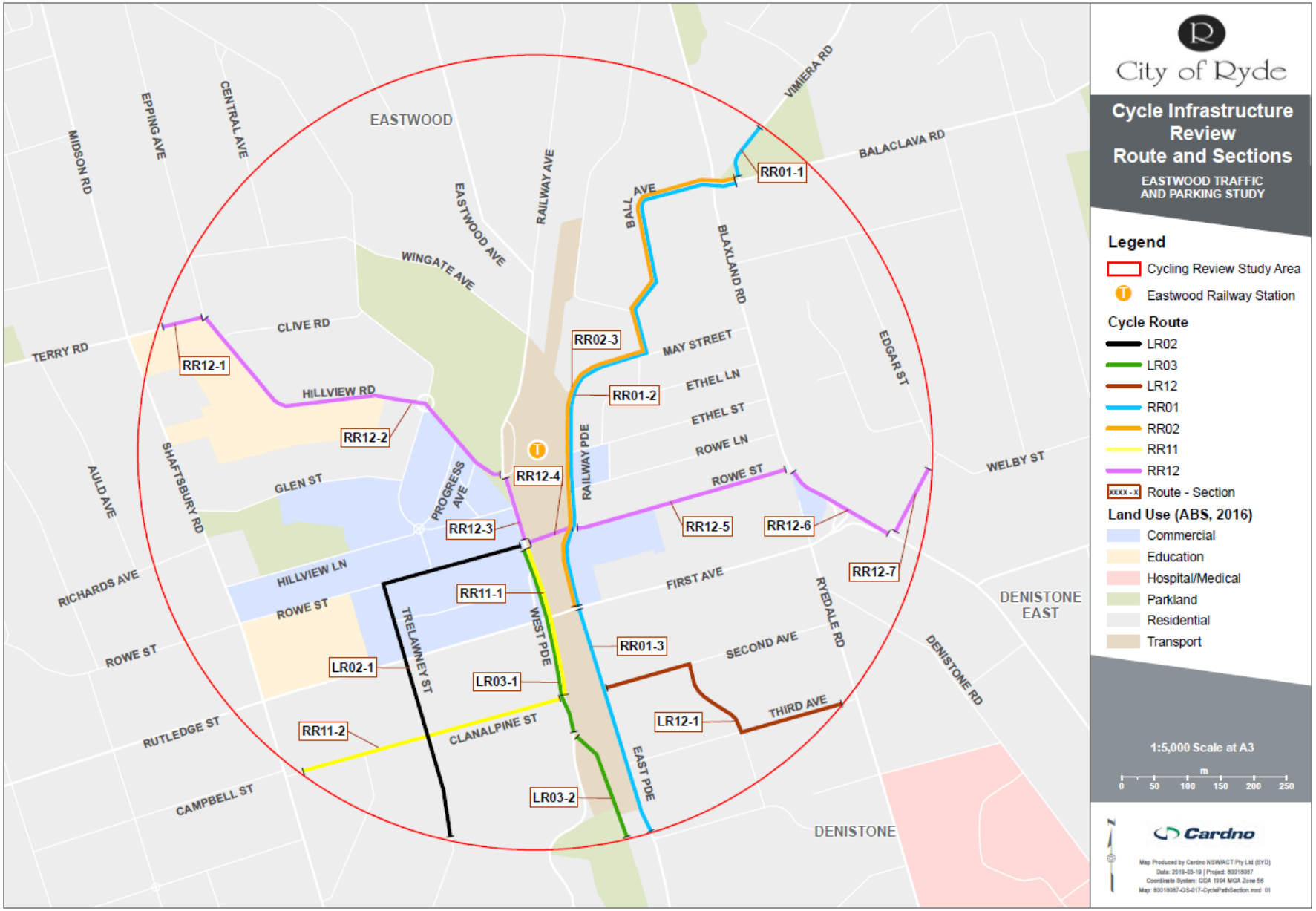
3.1.2 Audit criteria

The audit criteria focused on a qualitative assessment of four elements: Safety, Comfort, Crossing and Width. The criteria are shown in **Table 3-1**.

Table 3-1 Audit criteria

Criteria	Assessment details
Safety	▪ High traffic volumes ▪ Posted speed limit of >40km/h ▪ Potential conflict with pedestrian/vehicle ▪ Blind spot
Comfort	▪ Steep gradient ▪ Limited surveillance (active/passive) ▪ Sharp/sudden turn or transition point
Crossing	▪ Missing ▪ Hazardous crossing point
Width	▪ Too narrow ▪ Located in car door zone

Figure 3-1 Cycling routes and sections



3.2 Audit results

Given that many of the Strategy's proposed cycling treatments for the study area are not yet in place, the audit results focus on the assessment of the treatments planned for implementation. The results are discussed in **Table 3-2**.

Table 3-2 Audit results and recommendations

Route and Segment	Location	Treatment details	Assessment and observations	Recommendations
RR – Regional Routes				
RR01 **Hornsby to Strathfield Rail Trail** **Via the northern railway corridor between Eastwood and Meadowbank – interim on-road route.**				
1	Vimiera Road from Bertram Street to Blaxland Road	Standard treatment S06B [on-road / bicycle lane]. Bicycle lanes. 11.5m road - 1x2.3m parking lane, 2x1.5m bicycle lanes, 2x3.1m traffic lanes. Parking signage.	▪ General observation: On-road cycling facility deemed satisfactory.	▪ n/a
2	Ball Avenue, May Street, Railway Parade, East Parade to First Avenue	Standard treatment S05B [on-road / Bicycle lane + shared lane]. Bicycle lane and shared lane. 10.0m road - 1x3.7m shared travel lane, 1x2.9m travel lane, 1x1.4m bicycle space, 1x2.0m parking space. Parking signage.	▪ General observation: Planned cycling infrastructure not yet in place. ▪ Safety observation: Shoulder lane on west side of East Parade disappears without warning approaching the roundabout at Rowe Street. ▪ Safety observation: Posted speed limit > 40 km/h with on-road treatment.	▪ General recommendation: Ensure bicycle shoulder lane designed and built to standard width, and appropriate signage and stencils provided. ▪ Safety recommendation: Investigate alternative safe treatment for cyclists through the roundabout. Install signage approaching intersection to alert bicycle riders and motorists to changing lane conditions. ▪ Safety recommendation: Consider lobbying for speed limit reduction to improve cyclist safety and comfort.
3	East Parade between First Avenue and Denistone Station	Standard treatment S03A [off-road / shared path]. Two-way shared path, 3.0m wide along one side of road.	▪ General observation: No current cycling infrastructure observed. ▪ Comfort observation: Steep gradient heading south from Second Avenue to Fourth Avenue could deter some cyclists.	▪ Comfort recommendation: Provide sufficient signage along route and at intersections to alert pedestrians and vehicles to the presence of cyclists.
RR02 **Turramurra to Eastwood** **Via Browns Waterholes shared path, Vimiera Road, Ball Avenue, May Street, Railway Parade and East Parade**				
3	Ball Avenue, May Street, Railway Parade, East	Segment overlaps RR01 Segment 2.	▪ General observation: No current cycling infrastructure observed. ▪ Safety observation: Posted speed limit > 40 km/h with on-road treatment.	▪ General recommendation: Ensure bicycle shoulder lane designed and built to standard width, and appropriate signage and stencils provided.

Route and Segment	Location	Treatment details	Assessment and observations	Recommendations
	Parade to First Avenue			▪ Safety recommendation: Consider lobbying for speed limit reduction to improve cyclist safety and comfort.
RR11 **Eastwood to Parramatta River** **Via West Parade, Clanalpine Street, Shaftesbury Road, Clan William Street, Read Street, Warrawong Street, Brush Road, Hermoyne Street, Winbourne Street, Marsden Road, Wharf Road, Cobham Lane and Cobham Avenue.**				
1	West Parade between Rowe Street and rail trail start	Two-way 'bicycle road' along one side of roadway. Special bent-in treatments at intersections.	▪ Safety observation: Existing bicycle road on eastern side of West Parade has limited directional signage for cyclists, particularly directing them to access the cycleway approaching from the north. ▪ Safety observation: Potential conflict point with pedestrians and/or vehicles close to Rowe Street pedestrian mall. ▪ Safety observation: Existing bicycle road has faded line markings and stencils. ▪ Safety observation: Accessing the underpass is unsafe as there are no kerb ramps. ▪ Comfort observation: Existing underpass close to Rowe Street lacks appropriate signage, includes a number of sudden turns, and has limited active surveillance. ▪ Crossing observation: Proposed treatment details for crossing from West Parade to Clanalpine Street are unclear. Current crossing guides cyclists from eastern side of West Parade to footpath on western side with no kerb ramp or clear point of access.	▪ Safety recommendation: Provide sufficient signage along route and at intersections to guide cyclists and alert other road users to their presence. ▪ Safety recommendation: Install appropriate signage close to Rowe Street pedestrian mall to remind vehicle drivers, cyclists and pedestrians to be aware of other road users. ▪ Safety recommendation: Ensure appropriate on-road line markings and stencils are implemented and their visibility is maintained. ▪ Safety recommendation: Install kerb ramps to facilitate safe access to underpass. ▪ Comfort recommendation: Provide upgrades to underpass to improve surveillance and safety for pedestrians and cyclists e.g. regular maintenance of mirrors for greater visibility. ▪ Crossing recommendation: Consider and design for pedestrian, cyclist, and vehicle driver sight lines at the intersection of West Parade and Clanalpine Street given the current road geometry, and the vegetation on the northern side of Clanalpine Street.
2	Clanalpine Street	Standard treatment S07 [on-road / mixed traffic]. Wide or narrow profile.	▪ General observation: No current cycling infrastructure observed. ▪ Crossing observation: At intersection with West Parade, kerb ramps and refuge are non-compliant. ▪ Crossing observation: The crossing between West Parade and Clanalpine Street is hazardous due to the lack of a kerb break in the existing bicycle road on the eastern side of West Parade.	▪ General recommendation: Provide bicycle stencils at recommended frequency for mixed traffic treatment. ▪ Crossing recommendation: Ensure proposed crossing treatment includes compliant kerb ramps and compliant refuge design. ▪ Crossing recommendation: Install kerb break in bicycle road on the eastern side of West Parade to facilitate crossing to/from Clanalpine Street.
RR12 **Parramatta to Macquarie** **Via Terry Road, Hillview Road, Railway underpass, Rowe Street, Blaxland Road, and Edgar Street**				

Route and Segment	Location	Treatment details	Assessment and observations	Recommendations
1	Terry Road from Shaftsbury Road to Hillview Road	Planned for Standard treatment S02 [on-road / bicycle shoulder lanes] bicycle shoulder lanes	▪ General observation: No current cycling infrastructure observed.	▪ General recommendation: Ensure bicycle shoulder lane designed and built to standard width, and appropriate signage and stencils provided.
2	Hillview Road	Standard treatment S05C [on-road / bicycle lanes uphill + mixed traffic downhill]	▪ Safety observation: Hillview Road is a bus route so there is potential for conflict between cyclists and buses. ▪ Comfort observation: Steep gradient heading west on Hillview Road could deter some cyclists.	▪ Safety recommendation: Ensure bicycle shoulder lane designed and built to standard width, and appropriate signage and stencils provided. ▪ Comfort recommendation: Provide sufficient signage along route and at intersections to alert pedestrians and vehicles to the presence of cyclists. ▪ Comfort recommendation: Investigate potential of an alternative lower gradient route via Wingate Avenue.
3	West Parade	Standard treatment S02 [on-road / bicycle shoulder lanes]. 12.8m road - 2x2.0m parking, 2x1.5m bicycle space, 2x2.9m travel lanes - with or without a centreline. Update existing facilities.	▪ General observation: No current cycling infrastructure observed.	▪ General recommendation: Ensure bicycle shoulder lane designed and built to standard width, and appropriate signage and stencils provided.
4	First Avenue, across railway	Standard treatment S03A [off-road / shared path]. Two-way shared path, 3.0m wide along one side of road. Includes signal adjustments at East Pd.	▪ Crossing observation: Proposed treatment details for crossing from east to west is unclear – the Strategy Map 7 indicates Rowe Street as the crossing point, while the description indicates First Avenue. ▪ Crossing observation: Safe cycling infrastructure for cyclists crossing under and/or over the rail line is missing.	▪ Crossing recommendation: Improving connections across the rail line for cyclists should be a priority. Current underpass requires upgrades to improve surveillance and safety for pedestrians and cyclists e.g. regular maintenance of mirrors for greater visibility, and also prohibits cyclists from riding through it. The proposed shared path treatment on First Avenue would provide a safer and potentially more comfortable alternative, however the ideal would be to have both safe overpass and underpass options.
5	Rowe Street	Standard treatment S04 [on-road / bicycle lanes]. 9.0m road - 2x1.5m bicycle lanes, 2x3.0m traffic lanes.	▪ Safety observation: Potential conflict point with pedestrians and/or vehicles due to high vehicle and pedestrian movement. ▪ Safety observation: Presence of parking lanes and median strip may constrain the proposed treatment.	▪ Safety recommendation: Install appropriate signage along Rowe Street to remind vehicle drivers, cyclists and pedestrians to be aware of other road users. ▪ Safety recommendation: Review current street layout to determine whether reconfiguration is needed to accommodate proposed treatment.

Route and Segment	Location	Treatment details	Assessment and observations	Recommendations
6	Blaxland Road	Standard treatment S03A [off-road / shared path]. Two-way shared path, 3.0m wide along one side of road.	▪ General observation: Shared path facility deemed satisfactory. ▪ Crossing observation: No bicycle lanterns currently in place at the Blaxland Road/First Avenue crossing to facilitate safe crossing to the shared path.	▪ n/a ▪ Crossing recommendation: Install bicycle lanterns at the Blaxland Road/First Avenue crossing to facilitate safe access to the shared path.
7	Edgar Street	Standard treatment S03A [off-road / shared path]. Two-way shared path, 3.0m wide along one side of road.	▪ General observation: Shared path facility deemed satisfactory.	▪ n/a
LR – Local Routes				
LR02 **Eastwood to Parramatta River** **Via Rowe Street, Trelawney Street, Bellevue Avenue, Victoria Road, Adelaide Street and Andrew Street**				
1	Rowe Street, Trelawney Street	Standard treatment S07 [on-road / mixed traffic]. Wide or narrow profile. Includes allowance for minor civil and traffic works.	▪ General observation: No current cycling infrastructure observed. ▪ Safety observation: Potential conflict point with pedestrians and/or vehicles due to high vehicle and pedestrian movement.	▪ General recommendation: Provide bicycle stencils at recommended frequency for mixed traffic treatment. ▪ Safety recommendation: Install appropriate signage along Rowe Street to remind vehicle drivers, cyclists and pedestrians to be aware of other road users.
LR03 **Eastwood to Parramatta Valley Cycleway via West Ryde** **Via West Parade, Railway Corridor, Anthony Road, Betts Street, Chatham Road, Station Street, Rex Street, Federal Road and Meadowbank Memorial Park Paths**				
1	West Parade between Rowe Street and rail trail entrance	Segment overlaps RR11 Segment 1.	▪ Safety observation: Existing bicycle road on eastern side of West Parade has limited directional signage for cyclists, particularly directing them to access the cycleway approaching from the north. ▪ Safety observation: Potential conflict point with pedestrians and/or vehicles close to Rowe Street pedestrian mall. ▪ Comfort observation: Existing bicycle road has faded line markings and stencils. ▪ Comfort observation: Existing underpass close to Rowe Street lacks appropriate signage, includes a number of sudden turns, and has limited active surveillance. ▪ Crossing observation: The crossing between West Parade and Clanalpine Street is hazardous	▪ Safety recommendation: Provide sufficient signage along route and at intersections to guide cyclists and alert other road users to their presence. ▪ Safety recommendation: Install appropriate signage close to Rowe Street pedestrian mall to remind vehicle drivers, cyclists and pedestrians to be aware of other road users. ▪ Comfort recommendation: Ensure appropriate on-road line markings and stencils are implemented and their visibility is maintained. ▪ Comfort recommendation: Provide upgrades to underpass to improve surveillance and safety for pedestrians and cyclists e.g. regular maintenance of mirrors for greater visibility.

Route and Segment	Location	Treatment details	Assessment and observations	Recommendations
			due to the lack of a kerb break in the existing bicycle road on the eastern side of West Parade. ▪ Crossing observation: Proposed treatment details for crossing from West Parade to Clanalpine Street are unclear. Current crossing guides cyclists from eastern side of West Parade to footpath on western side with no kerb ramp or clear point of access.	▪ Crossing recommendation: Install kerb break in bicycle road on the eastern side of West Parade to facilitate crossing to/from Clanalpine Street. ▪ Crossing recommendation: Consider and design for pedestrian, cyclist, and vehicle driver sight lines at the intersection of West Parade and Clanalpine Street given the current road geometry, and the vegetation on the northern side of Clanalpine Street.
2	Rail trail between Chatham Road and Anthony Road	Existing shared path.	▪ General observation: Shared path facility deemed satisfactory.	▪ n/a
LR12 **Eastwood to Top Ryde** **Via Second Avenue, Young Parade, Third Avenue, Ryedale Road, Fourth Avenue, Denistone Road, pathway through Denistone Park, Terry Road, Inkerman Road, Pennant Avenue, Anzac Avenue and Blaxland Road**				
1	Second Avenue, Young Parade, Third Avenue	Standard treatment S07 [on-road / mixed traffic]. Wide or narrow profile.	▪ Safety observation: Existing mixed traffic route has faded bicycle stencils. Third Avenue has been resurfaced but stencils have not yet been repainted.	▪ Safety recommendation: Ensure appropriate on-road line markings and stencils are implemented and their visibility is maintained.

4 Summary

The City of Ryde has outlined a detailed plan for supporting increased cycling mode share in the 2014 Bicycle Strategy. The area surrounding Eastwood Station forms an important part of the overall regional and local route network, and includes existing and proposed shared path and on-road treatments.

This review assessed the appropriateness of existing and proposed treatments across the study area, from the perspective of rider safety and comfort levels, as well as crossing treatments and path width. The on-site assessment deemed much of the existing and proposed treatments fit for purpose, with the main recommendations being to:

- Improve connectivity for cyclists under and over the rail line;
- Ensure new paths are designed and built to the standard width, with appropriate signage and stencils;
- Install appropriate signage close to potential high traffic areas to advise vehicle drivers, cyclists and pedestrians to be aware of other road users;
- Provide bicycle stencils at recommended frequency for mixed traffic treatment;
- Provide sufficient signage along routes and at intersections to alert pedestrians and vehicles to the presence of cyclists; and
- Ensure appropriate on-road line markings and stencils are implemented and their visibility is maintained.

ATTACHMENT 3 –

Summary of Issues Raised in Community Consultation (Council, 2019)

Topics	Comments/Questions Received	Council's Response
Existing/New Car Park	Provision of additional parking spaces and growth of Eastwood are not supported	Eastwood Town Centre is identified as an important retail and commercial centre within City of Ryde that services the needs of the community and those from surrounding areas, however, as a town centre, it is affected by traffic and parking problems which restraints it from future development. Although excessive parking supply can reduce the amenity within the town centre, insufficient parking supply can undermine the commercial viability of the precinct. The additional parking spaces will help to encourage re-developments and revitalise the town centre. Therefore, at the Council meeting on 11 December 2018 (Council Meeting No. 17/18), it was resolved that: *(a) That the General Manager investigate and assemble relevant information to outline a proposed concept plan which would support the relocation of Glen Street carpark to Shaftsbury Road precinct (in line with the findings of the Traffic and Parking Study) to provide adequate shopper car parking between 500-700 spaces and the creation of a civic place/square in the vicinity of the former Glen Street car park.*
	Parking demand management options (such as paid parking) to be considered in the new car park.	This comment has been noted. Appropriate parking management options would be considered during the detail design stage of the Project.
	Will the existing Hillview Lane Car Park be demolished or upgraded?	The existing Hillview Lane car park will be replaced by the new car park as part of the Project.
	Can the existing Glen Street Car Park be upgraded/redeveloped instead?	Unfortunately, neither the upgrade or redevelopment of the existing Glen Street Car Park was a viable option. The proposal has been considered by Transport for NSW in August 2017 as a potential alternative for the commuter car park in Eastwood. The Eastwood Commuter Car Park Consultation Report stated that: *" ... the current structure has not been designed to bear additional levels and loading. Following an engineering assessment adding additional levels was determined to not be viable. Therefore the existing structure would need to be demolished and rebuilt to meet the increased parking need, which would be a significant cost, with extensive impact to the community because of the loss of over 400 parking spaces during construction.* *Property acquisition would also have been required to progress this option. It was estimated that this option would cost significantly more than either of the presented options. "*
	Consider other options for commuter car park such as Police Station or West Ryde.	At the Council meeting on 11 December 2018 (Council Meeting No. 17/18), it was resolved that: *(d) That the General Manager, noting that an Eastwood commuter car park would cause 'grid lock' throughout the local traffic network, write to Transport for NSW encouraging the State Government to build a commuter car park in West Ryde.* Therefore, Council will urge Transport for NSW to explore other potential options to meet the community's demand for a commuter car park.
	Providing new off-street carpark is inconsistent with Integrated Transport Strategy (ITS) which recommends "Progressive diminishing of off-street parking outwards from the centre's hub (Figure 14)" and "Discourage over-supply of off-street parking (PK2)"	The Study identified a lack of available short term retail parking spaces which prevents future growth of Eastwood. Cardno undertook an inventory and occupancy survey for all on-street parking spaces across the study area on a typical weekday and a weekend. The survey showed that the occupancy level is constantly high throughout the weekdays and weekends. Site observations indicate that vehicles need to circulate around the town centre looking for available parking spaces which creates additional traffic at the key intersections. Council proposes to address the current shortfall of parking supply in the area. The proposed new car park would be located at the town centre fringe which aims to discourage vehicular traffic in the Town Centre.
	Additional 150 spaces along would unlikely meet the long term parking needs	Any significant increase in the parking provision above the Option 3B is likely to cause 'grid lock' throughout the local traffic network.
	The location of the proposed Eastwood Central project is too far away from shop/station and it is an obtrusion to the residential area.	The proposed new car park would be located at the town centre fringe which aims to discourage vehicular traffic in the Town Centre.
	The Eastwood Central Project should be built prior to the demolition of the existing Glen Street Car Park.	Council will take this into consideration when planning the project stages and there will be further community consultation at a later stage with detailed information.

Topics	Comments/Questions Received	Council's Response
	Why couldn't the Rowe Street Car Park be upgraded instead of constructing the Eastwood Central Project?	Council's intention is to consider both car parks to satisfy the parking demand of Eastwood Town Centre on both sides of the railway station. Due to current planning controls on the Rowe Street car park site, the number of proposed car spaces is limited.
	Vote for option 3A/3D instead	This comment has been noted.
Traffic Impact	The capacity of Eastwood as a town centre and the capacity of the roads in the town centre are limited, therefore, traffic should be discouraged from this area.	The proposed new car parks would address the current and future parking needs of the area. The proposed car park would be located at the town centre fringe which aims to discourage vehicular traffic in the Town Centre.
	Is land acquisition required for the signalisation of Rutledge Street with Shaftsbury Road?	The proposal is currently at its early stage. The necessity of land acquisition will be evaluated at a later stage.
	Consider converting the intersection of Shaftsbury Road with Hillview Lane to Left-in-Left-out only due to safety concerns.	This comment has been noted and proposed arrangements would be considered during the detail design stage.
	Signalisation of the pedestrian crossing will not reduce the congestion because the bottlenecks are the intersection of West Parade/Rutledge Street and the Rutledge Street/First Avenue corridor.	The signalisation of the pedestrian crossings is proposed as a part of the overall infrastructure upgrades. It is demonstrated that with the upgrades, the network can accommodate the future traffic demand and perform at a better level compared to the existing network.
	Signalising the pedestrian crossings might cause an increase in travel speed or illegal crossing which is considered a safety risk to pedestrians.	Council has submitted a concept design for High Pedestrian Activity Area schemes at Eastwood Town Centre and will work closely with RMS for the approval.
	40 km/h High Pedestrian Activity Area (HPAA) should be considered in Eastwood Town Centre.	Council has submitted a concept design for High Pedestrian Activity Area schemes at Eastwood Town Centre and will work closely with RMS for the approval.
	The traffic volume adopted in the Year 2028 scenario is an overestimation of the future development yield.	A conservative growth scenario assessment (50% of the likely maximum development yield) has been applied to this study, as historically, land-use changes or development uptake in this Centre has been at a much lower rate as compared to other Centres.
	The future parking demand might be reduced by the additional parking supply introduced by the new developments.	Any new developments are likely to contain privately owned on-site parking spaces, which would be unavailable for general public. Redevelopment of Eastwood Plaza will contain both private and public car parking spaces.
	Banning left turn from Blaxland Rd into Rowe Lane is not supported.	Council has engaged an independent road safety audit team to assess the adequacy of the intersection of Blaxland Road with Rowe Lane. The audit study found that the physical configuration of the intersection cannot support both ingress and egress movement safely and efficiently. The audit team recommended banning left-turn from Blaxland Road as it is considered beneficial to the vehicles travelling on Blaxland Road and will provide a safer intersection for traffic exiting from Rowe Lane to Blaxland Road. Council will undertake a separate community consultation for this proposal.
	The preferred network does not alleviate the congestion. It only relocates the congestion from Glen Street/Lakeside Road to Shaftsbury Road.	The infrastructure measures identified in the "preferred network option" would provide additional capacity in the overall road network. The proposed new car park would be located at the town centre fringe which aims to discourage vehicular traffic in the Town Centre.
	The proposal might attract more traffic into the residential area west of Shaftsbury Road.	This comment has been noted. Further consideration will be given during the detail design stage to minimise potential traffic into the residential area.
	The proposed signalised intersection of Shaftsbury Road with Richard Avenue is unsafe.	The proposal is currently at its early stage. Road safety audit(s) will be undertaken by an independent auditor.
	The traffic study prioritised vehicle delay over pedestrian safety or amenity. The existing pedestrian crossing is safer for pedestrians, especially for children and the elderly.	It is widely recognised that there is extensive traffic congestion in Eastwood Town Centre, especially in weekday afternoon and weekend peak periods. Cardno was engaged by Council to identify the deficiency in the existing road network and to propose solutions to provide a better balance between all road users, including public transport patronages, vehicle drivers and pedestrians. Should RMS support of the signalisation of the pedestrian crossings, Council will proceed with the detailed design. Road safety audit(s) will be undertaken by an independent auditor.

Topics	Comments/Questions Received	Council's Response
Pedestrian Crossing	Warrant check/Justification required for the proposed signalisation of pedestrian crossings	In June 2017, Council tabled an advisory item to Ryde Traffic Committee regarding the warrant assessment of the signalisation of the pedestrian crossings in Eastwood. The assessment was based on the pedestrian and vehicle volumes in 2017. The investigation showed that although the pedestrian volumes are high throughout the day, the warrant was not met due to the lack of vehicular volume. It is therefore concluded that "If signals can be installed, network-wide modelling is necessary to take into account trip generation from future land use; co-ordinating new and existing traffic signal sites, and ensure pedestrian/vehicular interactions are equitable." The network-wide models Cardno prepared for Eastwood Town Centre aim to provide a better balance between the amenity of vehicle drivers and pedestrians. Therefore, based on the capacity assessment of the area-wide network model, the signalisation of the pedestrian crossings are recommended.
	Peak period crossing supervisors can be considered instead of traffic signals.	On-going financial support will be required to engage crossing supervisor(s).
	Support the signalisation of the pedestrian crossings.	This comment has been noted.
Active Transport Mode	Request for the bicycle section of the Study to be available	A copy of the bicycle infrastructure review can be provided upon request.
	Active / Public transport should be prioritised over the proposed new car park. Council should provide more public transport services (e.g. Ryder Shuttle Bus, On-demand public transport) in Eastwood.	Council will work closely with Transport for NSW to explore potential public transport solutions that can cater the need in Eastwood Town Centre.