Planning Proposal for a
Proposed Car Retail Development

1 Cutler Rd,
Lansvale

TRAFFIC AND PARKING ASSESSMENT REPORT

15 August 2024

Ref 24055

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

Suite 6, 20 Young Street, Neutral Bay NSW 2089 - PO Box 1868, Neutral Bay NSW 2089 Ph: 9904 3224

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

1. INTRODUCTION

This report has been prepared to accompany a planning proposal to Fairfield City Council for a car retail development to be located at 1 Cutler Rd, Lansvale (Figures 1 and 2).

This planning proposal seeks to amend the *Fairfield Local Environmental Plan 2013* (*FLEP 2013*) to rezone the subject site from *R2 - Low Density Residential* to *E4 - General Industrial*, to allow a car retail development to be located on site.

The planning proposal envisages the construction of a new building for a car sale or hire premise.

Another building for a car dealership sales showroom is proposed on the neighbouring site at 230 Hume Hwy, Lansvale (currently zoned *E4 - General Industrial)*, and will be the subject of a future development application.

Off-street parking will be provided in a new at-grade, outdoor car parking area and will ultimately be designed to comply with Council *DCP* parking requirements and the relevant Australian Standards.

Vehicular access to the site is to be provided via a new entry/exit driveway located at the same location as the existing access driveway off Cutler Road.

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

- describes the site and provides details of the planning proposal

- reviews the road network in the vicinity of the site, and the traffic conditions on that road network

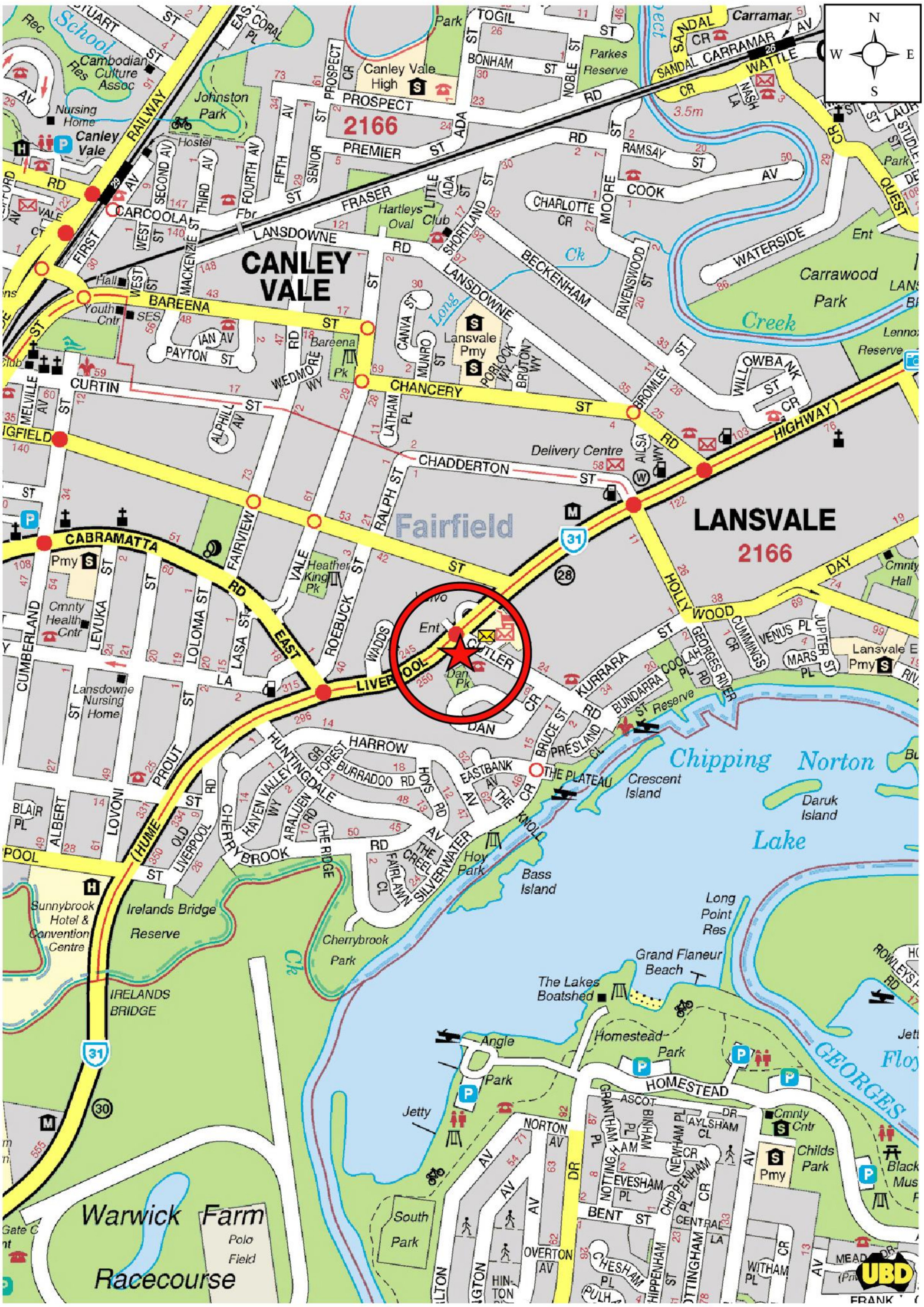
- reviews the public transport services available in the vicinity of the site

- estimates the traffic generation potential of the planning proposal and assigns that traffic generation to the road network serving the site

- assesses the traffic implications of the planning proposal in terms of road network capacity

- reviews the geometric design features of the proposed car parking and loading facilities for compliance with the relevant codes and standards

- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.

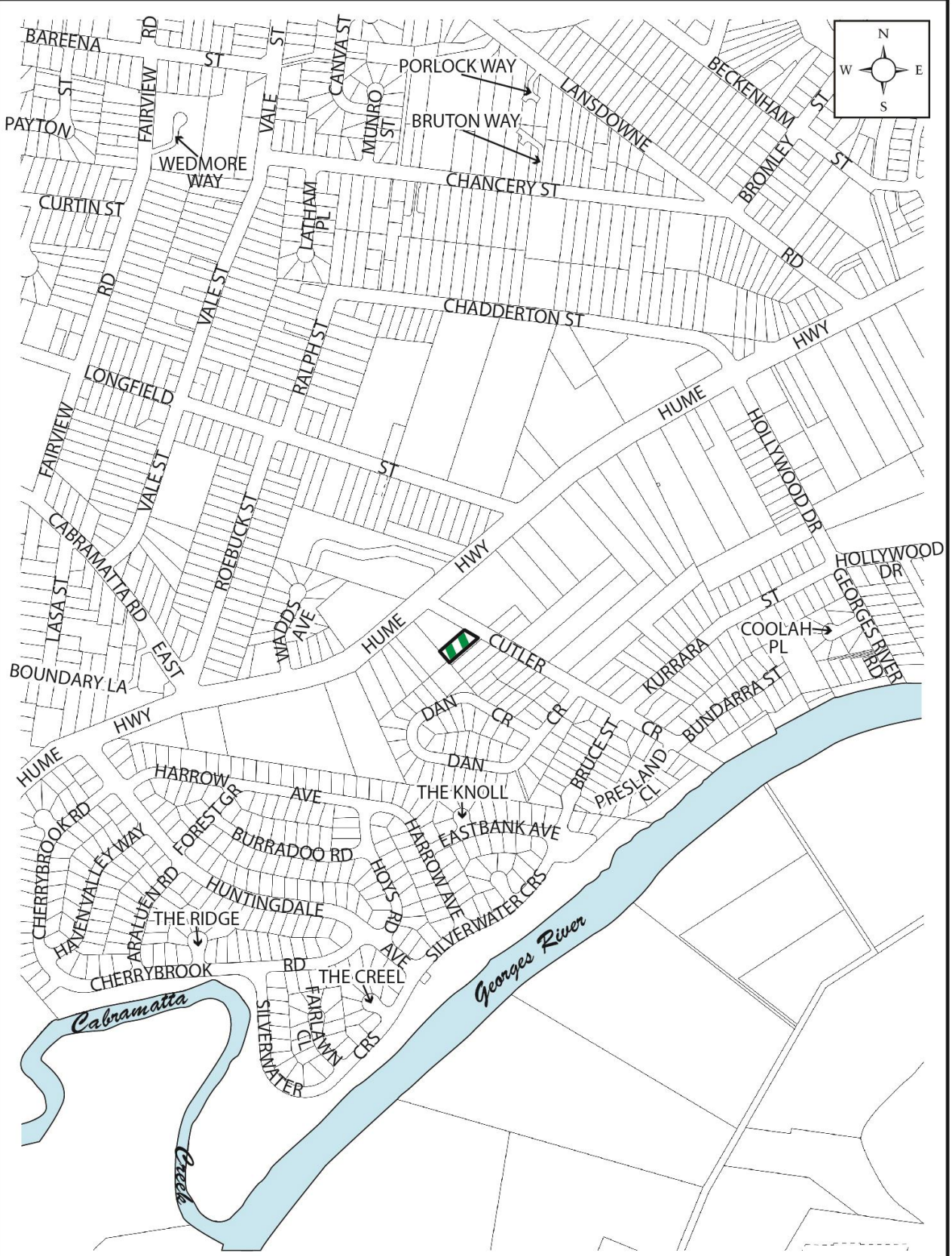


VARGA TRAFFIC PLANNING Pty Ltd

Traffic and Parking Consultants

LOCATION

FIGURE 1



VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants

SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

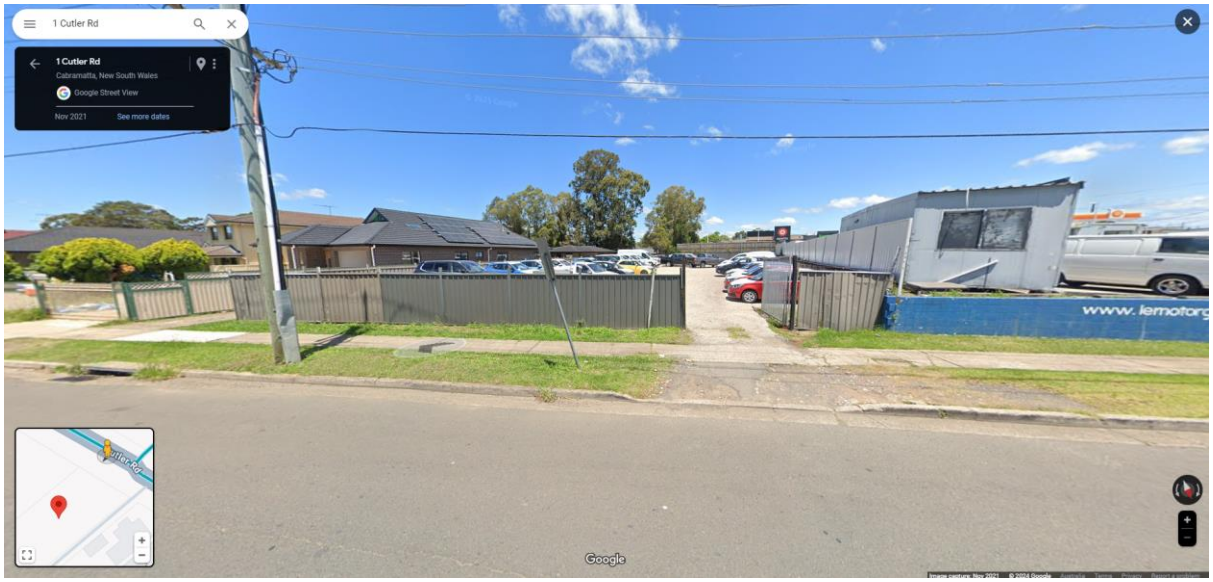
The subject site is Lot 1 in DP 525324, located on the southern side of Cutler Road, approximately 70m southeast of the Cutler Road and Hume Highway intersection, and approximately 1.4km east of Cabramatta Railway Station. The site has a street frontage of approximately 23m to Cutler Road, and occupies an area of approximately 1,113m^2.

The subject site is currently zoned *R2 - Low Density Residential*. A recent aerial image of the site and its surroundings is reproduced below.

Source: MetroMap

The subject site is currently occupied by an outdoor, hardstand car storage yard and is vacant of structures.

Vehicular access to the site is currently provided via an existing access driveway located towards the northwest end of Cutler Road site frontage, as shown in the *Streetview* image in the next page.



View of the site along the Cutler Road site frontage

Existing Planning Controls

The primary instrument that governs the types of land use permitted of the development on site is contained within the *Fairfield Local Environmental Plan 2013* (*FLEP 2013*). As noted in the foregoing, the subject site is located on land zoned *R2 - Low Density Residential* where a car retail development is not permitted, as it falls under 'Neighbourhood shops' which are not permitted in *R2 - Low Density Residential* zoned lands.

Planning Proposal

This planning proposal seeks approval to rezone the subject site from *R2 - Low Density Residential* to *E4 - General Industrial* to allow a car retail development to be located on site.

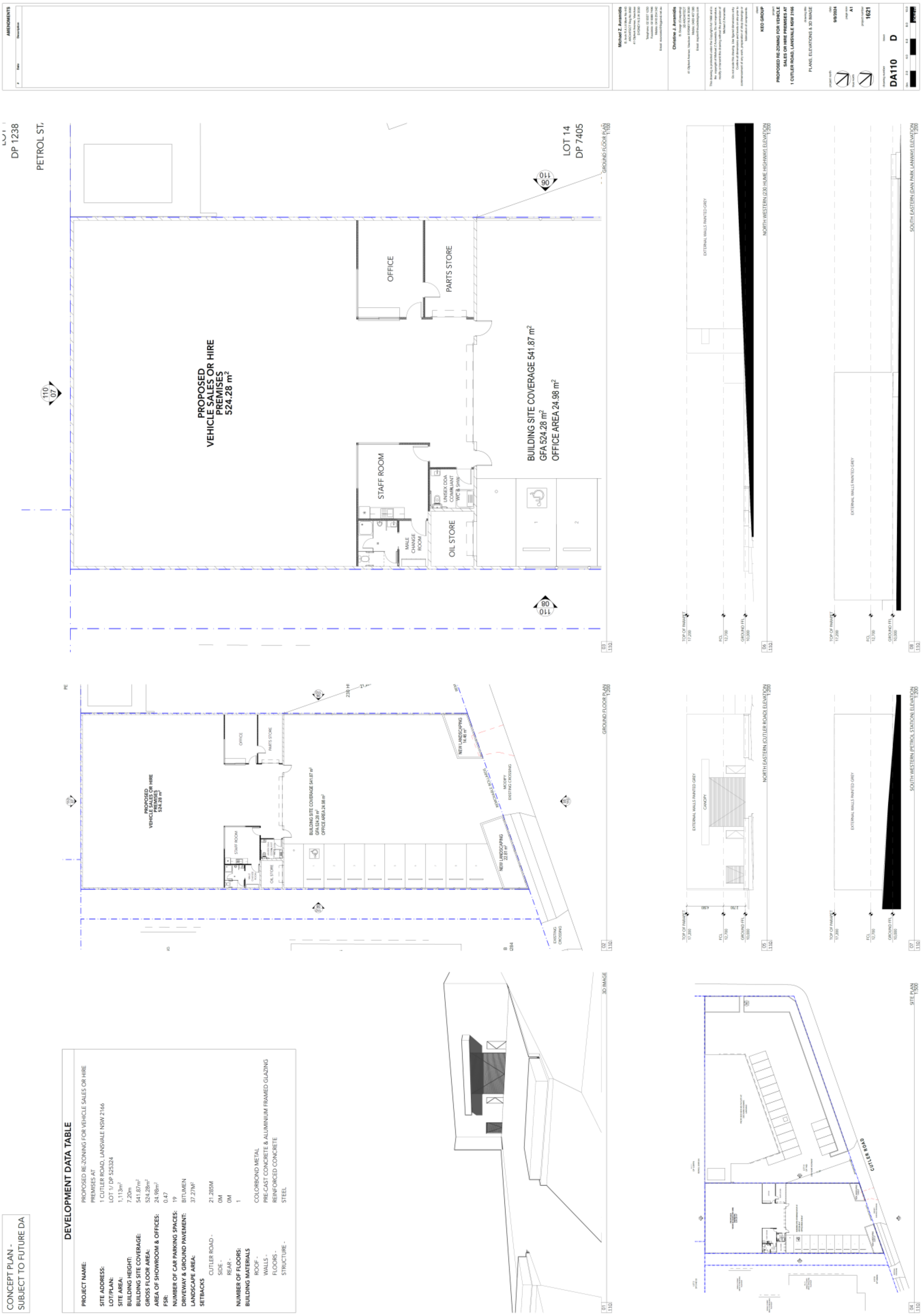
The proposed change to the planning control envisages a new building for a car sale or hire premise with a total GFA of 524.28m^2, comprising a showroom component and an ancillary office component.

All cars to be displayed for sale at the subject site will be driven individually to the subject site *after pre-delivery* work being undertaken at another location.

Off-street parking will be provided in new at-grade, outdoor car parking areas on site and will be designed in accordance with Council's *Fairfield Citywide Development Control Plan 2013* and relevant Australian Standards requirements.

Vehicular access to the site is to be provided via a new entry/exit driveway located at the same location as the existing access driveway off Cutler Road.

Concept plans of the planning proposal have been prepared by *Michael Z Avramidis* and are reproduced in the following pages.


CONCEPT PLAN - SUBJECT TO FUTURE DA
DEVELOPMENT DATA TABLE
PROPOSED VEHICLE SALES OR HIRE PREMISES 524.28 m²
OFFICE
PARTS STORE
STAFF ROOM
OIL STORE
BUILDING SITE COVERAGE 541.87 m²
GFA 524.28 m²
OFFICE AREA 24.98 m²
LOT 14 DP 7405
DP 1238
PETROL ST.
GROUND FLOOR PLAN
3D IMAGE
SITE PLAN
CUTLER ROAD
DA110

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the surrounding road network by Transport for NSW (TfNSW) is illustrated on Figure 3.

Hume Highway is classified by TfNSW as a *State Road* and provides the key east-west road link in the area, linking Ashfield suburb in the east and Casula suburb in the west. It comprises a dual carriageway which carries 3 traffic lanes in each direction separated by a landscaped central median island. Additional traffic lanes are provided at key intersections to accommodate turning movements. Clearway restriction Monday to Friday applies on both sides of the road.

Cabramatta Road East is classified by TfNSW as a *State Road* and provides the key east-west road link in the area, linking Hume Highway in the east and Cabramatta Railway Station in the west. It typically carries two traffic lanes in each direction with additional turning lanes provided at key intersections.

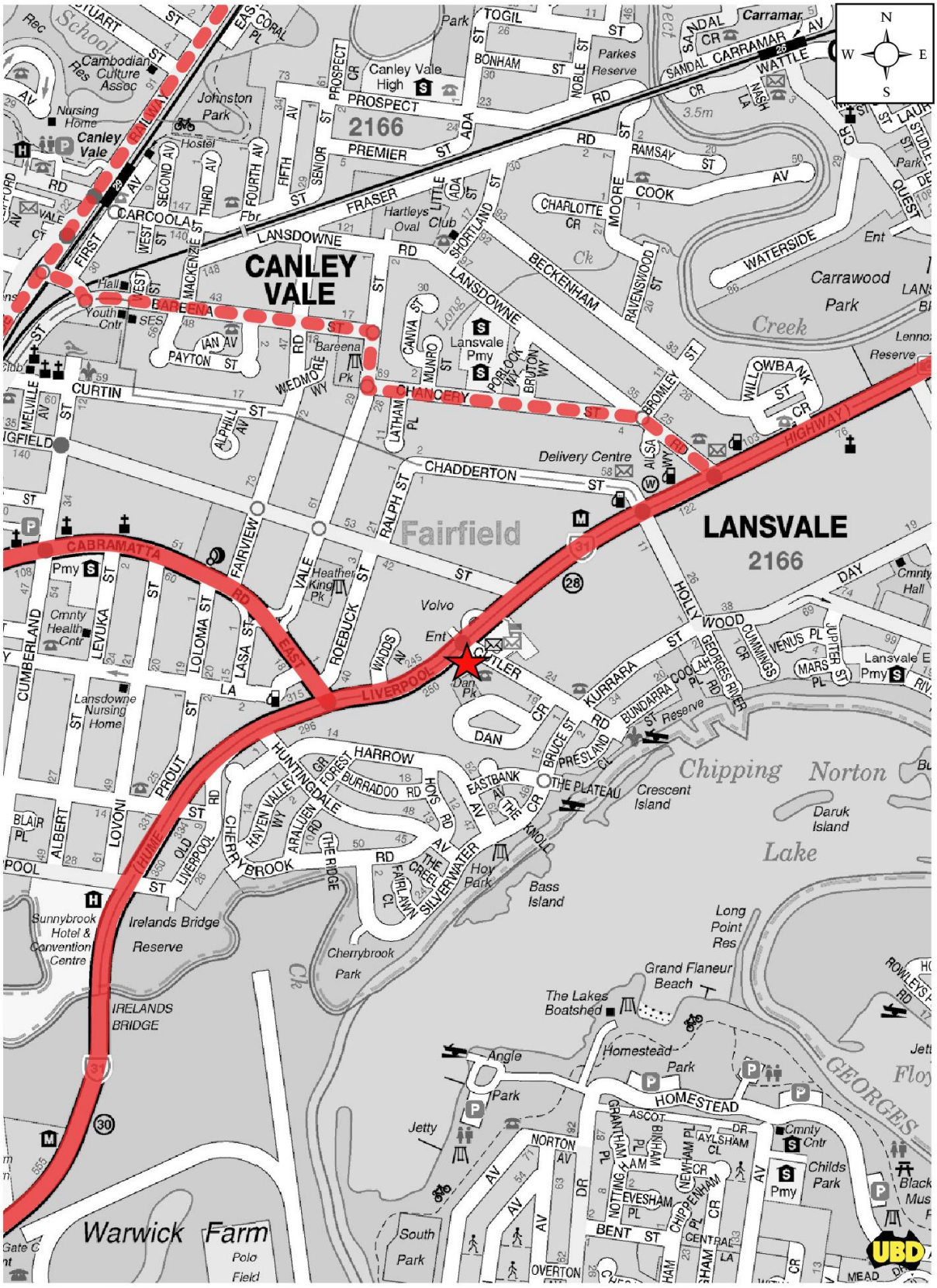
Chancery Street and Bareena Street are classified by TfNSW as *Regional Roads* which perform the function of a *collector route* through the local area, linking Hume Highway and Railway Parade. They typically carry one traffic lane in each direction, and allow on-street kerbside parking on both sides of the road.

Cutler Road is a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of this road.

Existing Traffic Controls

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

- a 70 km/h SPEED LIMIT which applies to Hume Highway



Key: State Road

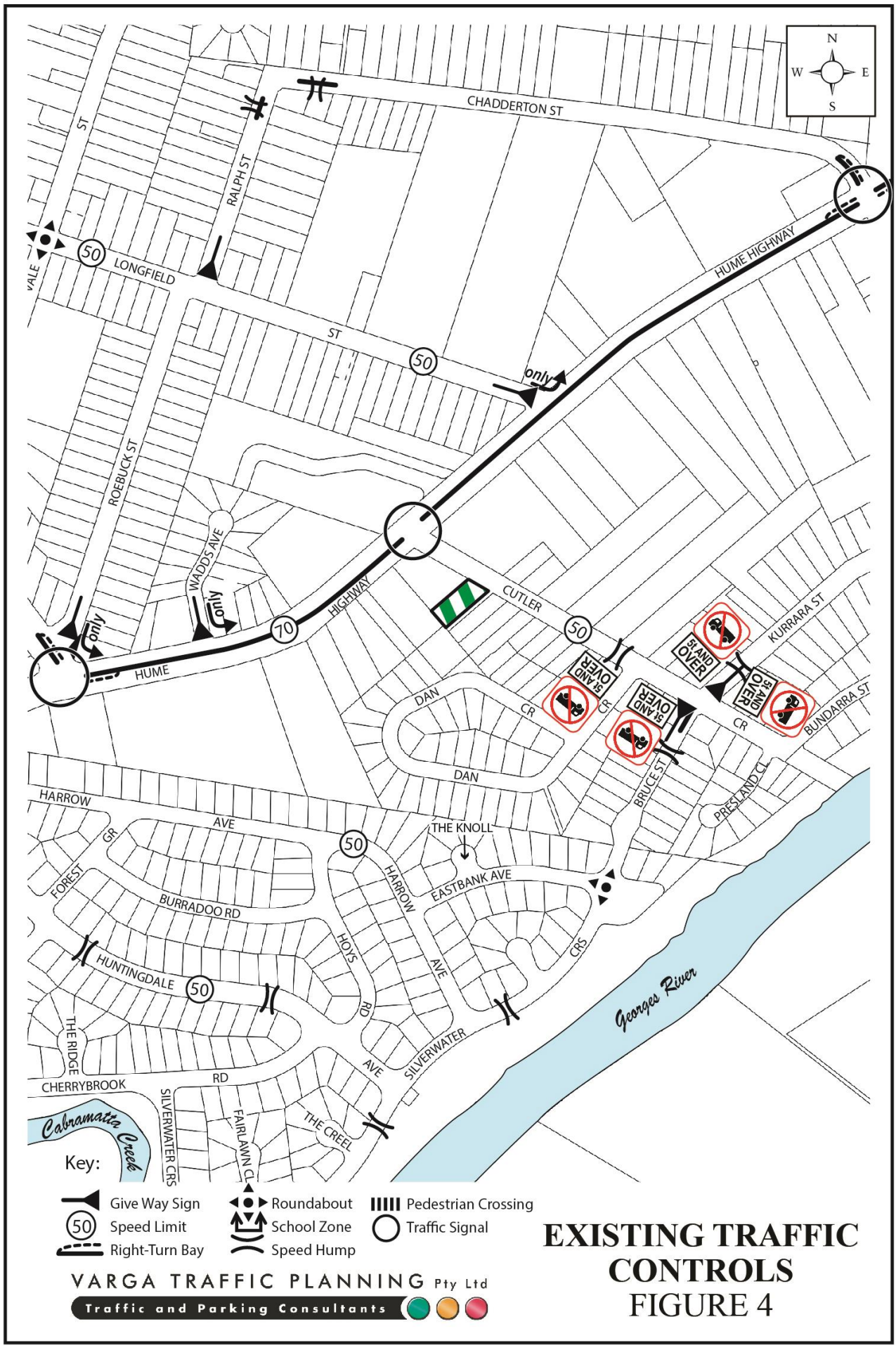
Regional Road

VARGA TRAFFIC PLANNING Pty Ltd

Traffic and Parking Consultants

ROAD HIERARCHY

FIGURE 3


N
W
E
S
CHADDERTON ST
RALPH ST
LONGFIELD
ST
50
HUME HIGHWAY
only
ROEBUCK ST
WADDS AVE
only
only
HIGHWAY
70
HUME
CUTLER
50
5m AND OVER
KURRARA ST
DAN
CR
BUNDARRA ST
BRUCE ST
PRESLAND CL
HARROW
AVE
GR
THE KNOLL
50
FOREST
BURRADOO RD
HARROW
EASTBANK AVE
CRS
HUNTINGDALE
50
HOYS
RD
AVE
THE RIDGE
CHERRYBROOK
RD
SILVERWATER
AVE
SILVERWATER CRS
FAIRLAWN CL
THE CREEL
Georges River
Cabramatta Creek
Key:
Give Way Sign
Speed Limit
Right-Turn Bay
Roundabout
School Zone
Speed Hump
Pedestrian Crossing
Traffic Signal
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING TRAFFIC CONTROLS
FIGURE 4

- a 50 km/h SPEED LIMIT which applies to Cutler Road and all other local roads in the area

- TRAFFIC SIGNALS in Hume Highway at its intersections with Cabramatta Road E, Cutler Road, and Chadderton Street

- a CENTRAL MEDIAN ISLAND in Hume Highway which precludes right-turn movements into and out of Longfield Street

- SPEED HUMPS in some local roads in the residential area to the south of the site

- ROUNDABOUTS in Vale Street at its intersection with Longfield Street, and in Bruce Street at its intersection with Eastbank Avenue

- a 5 TONNES LOAD LIMIT which applies to local roads in the residential area to the south of the site.

Existing Traffic Conditions

In order to gain an accurate appreciation of the existing traffic conditions on the road network in the vicinity of the site, peak period traffic surveys were undertaken as part of this traffic study on Wednesday 3rd April 2024, at the Hume Highway & Cutler Road.

The results of the traffic surveys are reproduced in full in Appendix A, revealing that:

- two-way traffic flows in Hume Highway are typically in the order of 3,970-4,450 vehicles per hour (vph) in the AM and PM peak hours

- two-way traffic flows in Cutler Road are typically in the order of 410-550 vph in the AM and PM peak hours.

Projected Traffic Generation

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Service's publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002).*

The RMS *Guidelines* are based on extensive surveys of a wide range of land uses and nominates the following traffic generation rates which are applicable to the development proposal:

> **Motor Showrooms**
> 0.7 peak hour vehicle trips per 100m^2 of site area
>
> **Definition**
> A *motor showroom* is a building or place used for the display and sale of motor vehicles, caravans or boats, and where accessories for these items are sold or displayed. Vehicle servicing facilities may be included as part of the development
>
> **Factors**
> Traffic generation rates for motor showrooms vary widely. The above rate is based generally on showrooms with both new and used car sales as well as servicing facilities.

Application of the above traffic generation rate to the development's site area of 1,113m^2 yields a traffic generation potential of approximately 8 vehicle trips per hour during the weekday morning and afternoon commuter peak periods.

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

Traffic Implications - Road Network Capacity

The traffic implications of development proposals primarily concern the effects that any *additional* traffic flows may have on the operational performance of the nearby road network.

Those effects can be assessed using the SIDRA program which is widely used by the TfNSW and many LGA's for this purpose. Criteria for evaluating the results of SIDRA analysis are reproduced in the following pages.

Hume Highway / Cutler Road Intersection

- the intersection currently operates at *Level of Service "A"* under the existing traffic demands during the weekday AM peak hour with total average vehicle delays in the order of 11.6 seconds/vehicle

- under the projected future traffic demands expected to be generated by the development proposal, the intersection is expected to continue to operate at *Level of Service "A"* during the weekday AM peak hour, with increases in total average vehicle delays of ***less than*** 1 seconds/vehicle

- the intersection currently operates at *Level of Service "B"* under the existing traffic demands during the weekday PM peak hour with total average vehicle delays in the order of 22.7 seconds/vehicle

- under the projected future traffic demands expected to be generated by the development proposal, the intersection is expected to continue to operate at *Level of Service "B"* during the weekday PM peak hour, with increases in total average vehicle delays of ***less than*** 1 seconds/vehicle.

The results of the SIDRA analysis of the surrounding intersections are also summarised on the table reproduced on the following page.

SIDRA Modelling Results

Intersection	Key Indicators	Existing AM Traffic Demand	Projected AM Traffic Demand	Existing PM Traffic Demand	Projected PM Traffic Demand
Hume Highway & Cutler Road	LoS	A	A	B	B
	DoS	0.712	0.724	0.921	0.921
	Delay	11.6	12.1	22.7	23.2

LoS = Levels of Service
DoS = Degree of Saturation
Delay = Total average vehicle delay (seconds per vehicle)

The detailed SIDRA *movements summaries* are reproduced in full in Appendix B, with criteria for evaluating the results of the analysis reproduced in the following pages.

In essence, the SIDRA capacity analysis has found that all intersections in the vicinity of the site will continue to operate at current *Levels of Service*, with *negligible* increases in average vehicle delays and that no road improvements or intersection upgrades will be required as a consequence of the planning proposal.

Criteria for Interpreting Results of Sidra Analysis

1. Level of Service (LOS)

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

2. Average Vehicle Delay (AVD)

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

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

3. Degree of Saturation (DS)

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

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

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

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

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 5 and comprise:

- CLEARWAY restrictions during AM and PM commuter peak hours along both sides of Hume Highway

- NO PARKING restrictions along the northern side of Hume Highway and southern side of Hume Highway to the east of the site

- NO STOPPING restrictions along the southern side of Hume Highway to the west of the site

- NO STOPPING restrictions along a 30m long section of Cutler Road immediately southeast of the site

- UNRESTRICTED kerbside parking along both sides of Cutler Road to the south of the site and throughout the local area

- BUS ZONES on both sides of Cutler Road in the immediate vicinity of the site.

Off-Street Parking Provisions

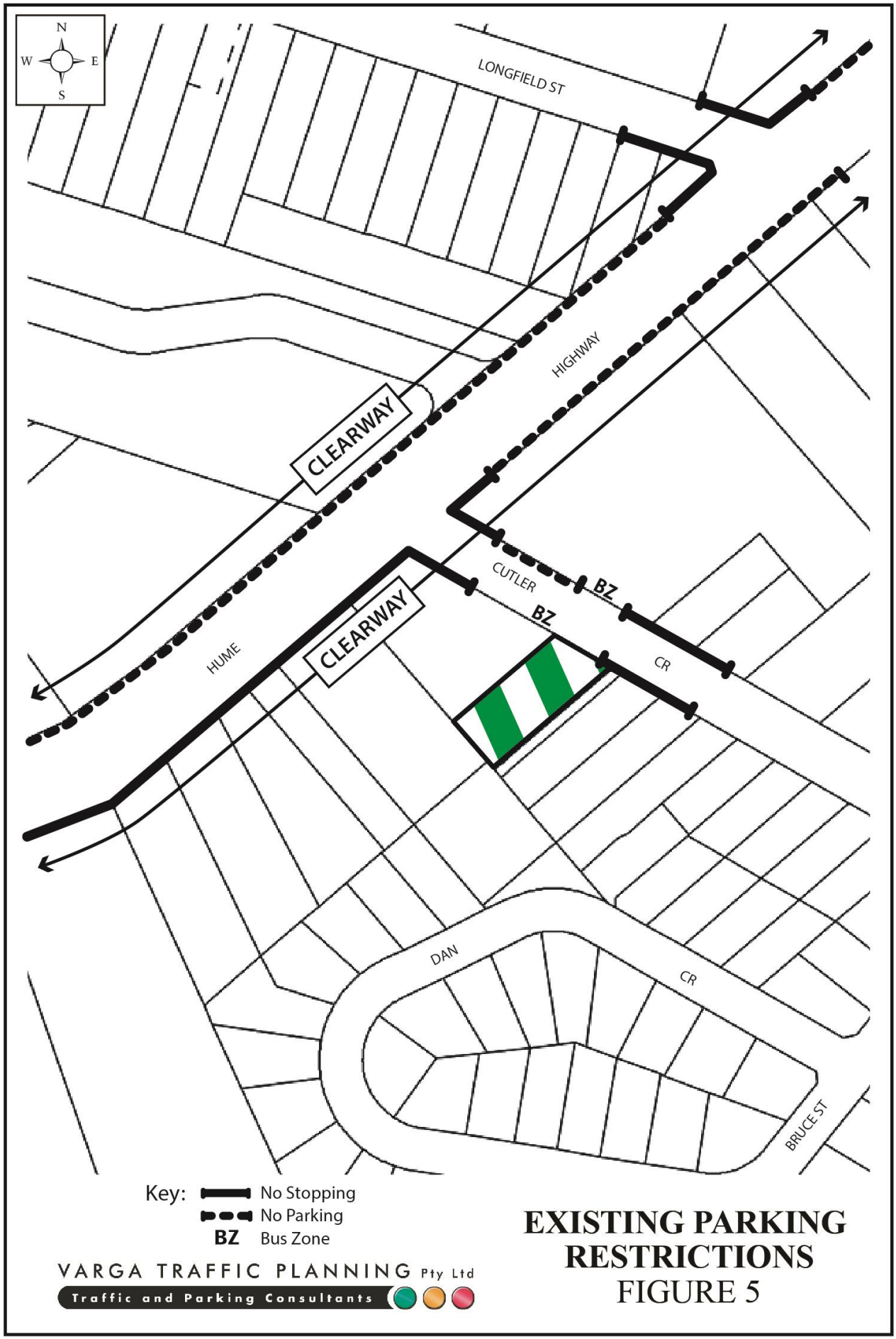
The *minimum* off-street car parking requirement applicable to the planning proposal is specified in the *Fairfield Citywide Development Control Plan 2013, Chapter 12 – Car Parking, Vehicle and Access Management* document as set out below:

Table 1

Vehicle sales or hire premises

1 space per 130m^2 site area plus

6 spaces per work bay servicing area (if applicable)


N
W
E
S
LONGFIELD ST
HIGHWAY
CLEARWAY
CLEARWAY
HUME
CUTLER
BZ
BZ
CR
DAN
CR
BRUCE ST
Key:
No Stopping
No Parking
BZ Bus Zone
VARGA TRAFFIC PLANNING Pty Ltd
Traffic and Parking Consultants
EXISTING PARKING RESTRICTIONS
FIGURE 5

Application of the above parking rates to the planning proposal's site area of 1,113m^2 yields an off-street parking requirement of 9 parking spaces.

The above requirements are satisfied by the proposed provision of 9 car parking spaces as part of the planning proposal.

The geometric design layout of the future car parking facilities will ultimately be designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1* in respect of parking bay dimensions, ramp grades and aisle widths.

The new vehicular access driveway will be designed to accommodate the swept turning path requirements of the B99 design vehicle, as specified in *AS2890.1:2004,* allowing them to enter and exit the site in a forward direction at all times.

Loading/Servicing Provisions

As mentioned in the foregoing, all cars to be displayed for sale at the subject site will be driven individually to the subject site *after pre-delivery* work being undertaken at another location.

Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- the planning proposal seeks approval to rezone the subject site, which has a site area of 1,113m^2, to *E4 - General Industrial*, resulting in the potential for the construction of a new car sale or hire premise with a cumulative GFA of 524.28m^2

- analysis based on the traffic generation rates published by TfNSW indicates that the proposed development will result in a traffic generation potential of the site of approximately 8 vph

- the SIDRA capacity analysis of the public road intersections in the vicinity of the site indicates that:

  - the projected "additional" traffic flows expected to be generated by the planning proposal (i.e. assuming that the site is currently vacant) indicates that there will be *no change* in current *Levels of Service* to any of the intersections located around the perimeter of the site, and

  - no road improvements or intersection upgrades would be required as a consequence of the planning proposal

- the future car parking facilities will be provided in accordance with Council's requirements and the relevant Australian Standards

- the future vehicular access arrangements will be via a new access driveway located at the same location as the existing access driveway off Cutler Road site frontage.

It is therefore reasonable to conclude that the planning proposal will not have any unacceptable implications in terms of road network capacity or off-street parking/access requirements.

APPENDIX A

TRAFFIC SURVEY DATA

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Cutler Rd and Hume Hwy, Lansvale

GPS -33.897337, 150.952828

Date:	Wed 03/04/24
Weather:	Fine
Suburban:	Lansvale
Customer:	Varga

North:	Hume Hwy
East:	Cutler Rd
South:	Hume Hwy
West:	Parking Access

Survey Period	AM:	6:30 AM-9:30 AM
	PM:	3:30 PM-6:30 PM
Traffic Peak	AM:	7:45 AM-8:45 AM
	PM:	4:15 PM-5:15 PM

All Vehicles

Time		North Approach Hume Hwy				East Approach Cutler Rd				South Approach Hume Hwy				West Approach Parking Access				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
6:30	6:45	0	0	328	9	0	8	0	4	0	20	518	0	0	0	0	0	3597	
6:45	7:00	0	0	295	13	0	17	2	19	0	27	520	0	0	0	0	0	3710	
7:00	7:15	0	0	323	9	0	11	2	11	0	22	517	3	0	0	0	0	3805	
7:15	7:30	0	0	328	7	0	23	2	23	0	28	505	3	0	0	0	0	3963	
7:30	7:45	0	0	359	13	0	21	2	18	0	25	555	7	0	0	0	0	3920	
7:45	8:00	0	0	416	20	0	20	4	17	0	36	465	10	0	0	0	0	3981	Peak
8:00	8:15	0	0	413	12	0	19	5	24	0	32	548	3	0	0	0	0	3904	
8:15	8:30	0	0	343	14	0	30	3	22	0	30	428	6	0	0	0	0	3890	
8:30	8:45	0	0	403	18	0	27	1	21	0	28	557	6	0	0	0	0	3856	
8:45	9:00	0	0	387	17	0	21	0	28	0	33	418	7	0	0	0	0		
9:00	9:15	0	0	430	24	0	19	0	23	0	44	497	5	0	0	0	0		
9:15	9:30	0	0	293	9	0	20	2	24	0	39	451	4	0	0	0	0		
15:30	15:45	0	0	519	25	0	23	2	41	0	35	362	1	0	0	0	0	4208	
15:45	16:00	0	0	451	20	0	33	0	51	0	41	458	3	0	0	0	0	4268	
16:00	16:15	0	0	495	15	0	30	1	46	0	25	432	3	0	0	0	1	4366	
16:15	16:30	0	0	531	14	0	20	0	41	0	47	441	1	0	0	0	0	4450	Peak
16:30	16:45	0	0	509	17	0	31	0	34	0	50	427	0	0	0	0	0	4409	
16:45	17:00	0	0	538	20	0	24	0	47	0	34	491	1	0	0	0	0	4443	
17:00	17:15	0	0	512	28	0	41	1	60	0	34	455	1	0	0	0	0	4406	
17:15	17:30	0	0	543	24	0	23	0	40	0	19	403	2	0	0	0	0	4295	
17:30	17:45	0	0	497	26	0	35	0	36	0	30	478	0	0	0	0	0	4271	
17:45	18:00	0	0	526	12	0	19	0	24	0	34	503	0	0	0	0	0		
18:00	18:15	0	0	510	14	0	25	0	32	0	49	391	0	0	0	0	0		
18:15	18:30	0	0	543	22	0	20	0	26	0	33	386	0	0	0	0	0		

Peak Time		North Approach Hume Hwy				East Approach Cutler Rd				South Approach Hume Hwy				West Approach Parking Access				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
7:45	8:45	0	0	1575	64	0	96	13	84	0	126	1998	25	0	0	0	0	3981
16:15	17:15	0	0	2090	79	0	116	1	182	0	165	1814	3	0	0	0	0	4450

Pedestrians Crossing

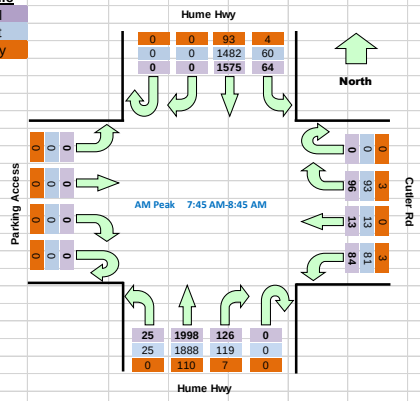
Time		h Approach Hume		t Approach Cutler		n Approach Hume		pproach Parking		Hourly Tot
Period Start	Period End	estbound	astbound	outhbound	orthbound	estbound	astbound	outhbound	orthbound	
6:30	6:45	0	0	0	0	1	0	0	0	3
6:45	7:00	0	0	0	0	0	0	0	0	2
7:00	7:15	0	0	0	0	0	0	1	1	2
7:15	7:30	0	0	0	0	0	0	0	0	7
7:30	7:45	0	0	0	0	0	0	0	0	11
7:45	8:00	0	0	0	0	0	0	0	0	12
8:00	8:15	0	3	2	0	0	0	0	2	16
8:15	8:30	1	0	0	1	2	0	0	0	12
8:30	8:45	1	0	0	0	0	0	0	0	13
8:45	9:00	0	0	1	1	0	0	0	2	
9:00	9:15	0	1	0	0	0	0	0	2	
9:15	9:30	0	0	2	1	0	0	0	2	
15:30	15:45	0	0	0	0	0	0	0	0	4
15:45	16:00	2	0	0	0	0	0	1	0	4
16:00	16:15	0	0	0	0	0	0	0	0	2
16:15	16:30	0	0	0	0	0	0	0	1	9
16:30	16:45	0	0	0	0	0	0	0	0	12
16:45	17:00	0	0	0	0	0	1	0	0	26
17:00	17:15	1	2	1	0	0	0	1	2	25
17:15	17:30	0	2	0	0	0	0	1	1	18
17:30	17:45	0	0	0	0	0	1	9	4	16
17:45	18:00	0	0	0	0	0	0	0	0	
18:00	18:15	0	0	0	0	0	0	0	0	
18:15	18:30	0	0	0	0	0	1	0	1	

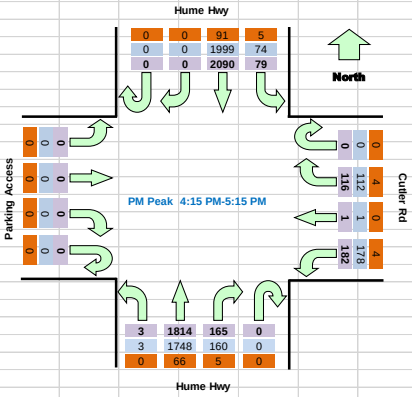
Peak Time		h Approach Hume		t Approach Cutler		n Approach Hume		pproach Parking		Peak
Period Start	Period End	estbound	astbound	outhbound	orthbound	estbound	astbound	outhbound	orthbour	hour
7:45	8:45	2	3	2	1	2	0	0	2	12
16:15	17:15	1	2	1	0	0	1	1	3	9

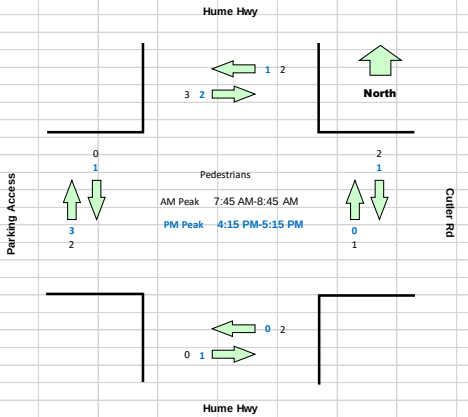
Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy







Light Vehicles

Time		North Approach Hume Hwy				East Approach Cutler Rd				South Approach Hume Hwy				West Approach Parking Access			
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
6:30	6:45	0	0	294	9	0	8	0	4	0	20	481	0	0	0	0	0
6:45	7:00	0	0	280	12	0	15	2	17	0	26	478	0	0	0	0	0
7:00	7:15	0	0	292	8	0	9	2	10	0	22	482	3	0	0	0	0
7:15	7:30	0	0	304	7	0	21	2	21	0	27	478	3	0	0	0	0
7:30	7:45	0	0	332	11	0	21	2	17	0	25	526	6	0	0	0	0
7:45	8:00	0	0	394	19	0	19	4	17	0	33	444	10	0	0	0	0
8:00	8:15	0	0	387	12	0	18	5	24	0	32	516	3	0	0	0	0
8:15	8:30	0	0	316	11	0	30	3	22	0	27	409	6	0	0	0	0
8:30	8:45	0	0	385	18	0	26	1	18	0	27	519	6	0	0	0	0
8:45	9:00	0	0	350	17	0	20	0	27	0	33	390	6	0	0	0	0
9:00	9:15	0	0	396	23	0	19	0	22	0	40	455	5	0	0	0	0
9:15	9:30	0	0	272	8	0	18	1	24	0	38	417	4	0	0	0	0
15:30	15:45	0	0	486	25	0	22	2	39	0	34	342	1	0	0	0	0
15:45	16:00	0	0	429	17	0	30	0	51	0	40	432	3	0	0	0	0
16:00	16:15	0	0	464	15	0	29	1	45	0	24	413	2	0	0	0	1
16:15	16:30	0	0	508	13	0	20	0	40	0	46	428	1	0	0	0	0
16:30	16:45	0	0	484	16	0	30	0	34	0	49	403	0	0	0	0	0
16:45	17:00	0	0	518	19	0	23	0	45	0	32	477	1	0	0	0	0
17:00	17:15	0	0	489	26	0	39	1	59	0	33	440	1	0	0	0	0
17:15	17:30	0	0	509	23	0	23	0	39	0	17	386	2	0	0	0	0
17:30	17:45	0	0	474	25	0	35	0	35	0	28	469	0	0	0	0	0
17:45	18:00	0	0	499	12	0	19	0	24	0	33	497	0	0	0	0	0
18:00	18:15	0	0	496	14	0	24	0	32	0	48	386	0	0	0	0	0
18:15	18:30	0	0	531	22	0	20	0	25	0	32	374	0	0	0	0	0

Peak Time		North Approach Hume Hwy				East Approach Cutler Rd				South Approach Hume Hwy				West Approach Parking Access				Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
7:45	8:45	0	0	1482	60	0	93	13	81	0	119	1888	25	0	0	0	0	3761
16:15	17:15	0	0	1999	74	0	112	1	178	0	160	1748	3	0	0	0	0	4275

Heavy Vehicles

Time		North Approach Hume Hwy				East Approach Cutler Rd				South Approach Hume Hwy				West Approach Parking Access			
Period Start	**Period End**	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
6:30	6:45	0	0	34	0	0	0	0	0	0	0	37	0	0	0	0	0
6:45	7:00	0	0	15	1	0	2	0	2	0	1	42	0	0	0	0	0
7:00	7:15	0	0	31	1	0	2	0	1	0	0	35	0	0	0	0	0
7:15	7:30	0	0	24	0	0	2	0	2	0	1	27	0	0	0	0	0
7:30	7:45	0	0	27	2	0	0	0	1	0	0	29	1	0	0	0	0
7:45	8:00	0	0	22	1	0	1	0	0	0	3	21	0	0	0	0	0
8:00	8:15	0	0	26	0	0	1	0	0	0	0	32	0	0	0	0	0
8:15	8:30	0	0	27	3	0	0	0	0	0	3	19	0	0	0	0	0
8:30	8:45	0	0	18	0	0	1	0	3	0	1	38	0	0	0	0	0
8:45	9:00	0	0	37	0	0	1	0	1	0	0	28	1	0	0	0	0
9:00	9:15	0	0	34	1	0	0	0	1	0	4	42	0	0	0	0	0
9:15	9:30	0	0	21	1	0	2	1	0	0	1	34	0	0	0	0	0
15:30	15:45	0	0	33	0	0	1	0	2	0	1	20	0	0	0	0	0
15:45	16:00	0	0	22	3	0	3	0	0	0	1	26	0	0	0	0	0
16:00	16:15	0	0	31	0	0	1	0	1	0	1	19	1	0	0	0	0
16:15	16:30	0	0	23	1	0	0	0	1	0	1	13	0	0	0	0	0
16:30	16:45	0	0	25	1	0	1	0	0	0	1	24	0	0	0	0	0
16:45	17:00	0	0	20	1	0	1	0	2	0	2	14	0	0	0	0	0
17:00	17:15	0	0	23	2	0	2	0	1	0	1	15	0	0	0	0	0
17:15	17:30	0	0	34	1	0	0	0	1	0	2	17	0	0	0	0	0
17:30	17:45	0	0	23	1	0	0	0	1	0	2	9	0	0	0	0	0
17:45	18:00	0	0	27	0	0	0	0	0	0	1	6	0	0	0	0	0
18:00	18:15	0	0	14	0	0	1	0	0	0	1	5	0	0	0	0	0
18:15	18:30	0	0	12	0	0	0	0	1	0	1	12	0	0	0	0	0

Peak Time		North Approach Hume Hwy				East Approach Cutler Rd				South Approach Hume Hwy				West Approach Parking Access				Peak
Period Start	**Period End**	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	**total**
7:45	8:45	0	0	93	4	0	3	0	3	0	7	110	0	0	0	0	0	220
16:15	17:15	0	0	91	5	0	4	0	4	0	5	66	0	0	0	0	0	175

APPENDIX B

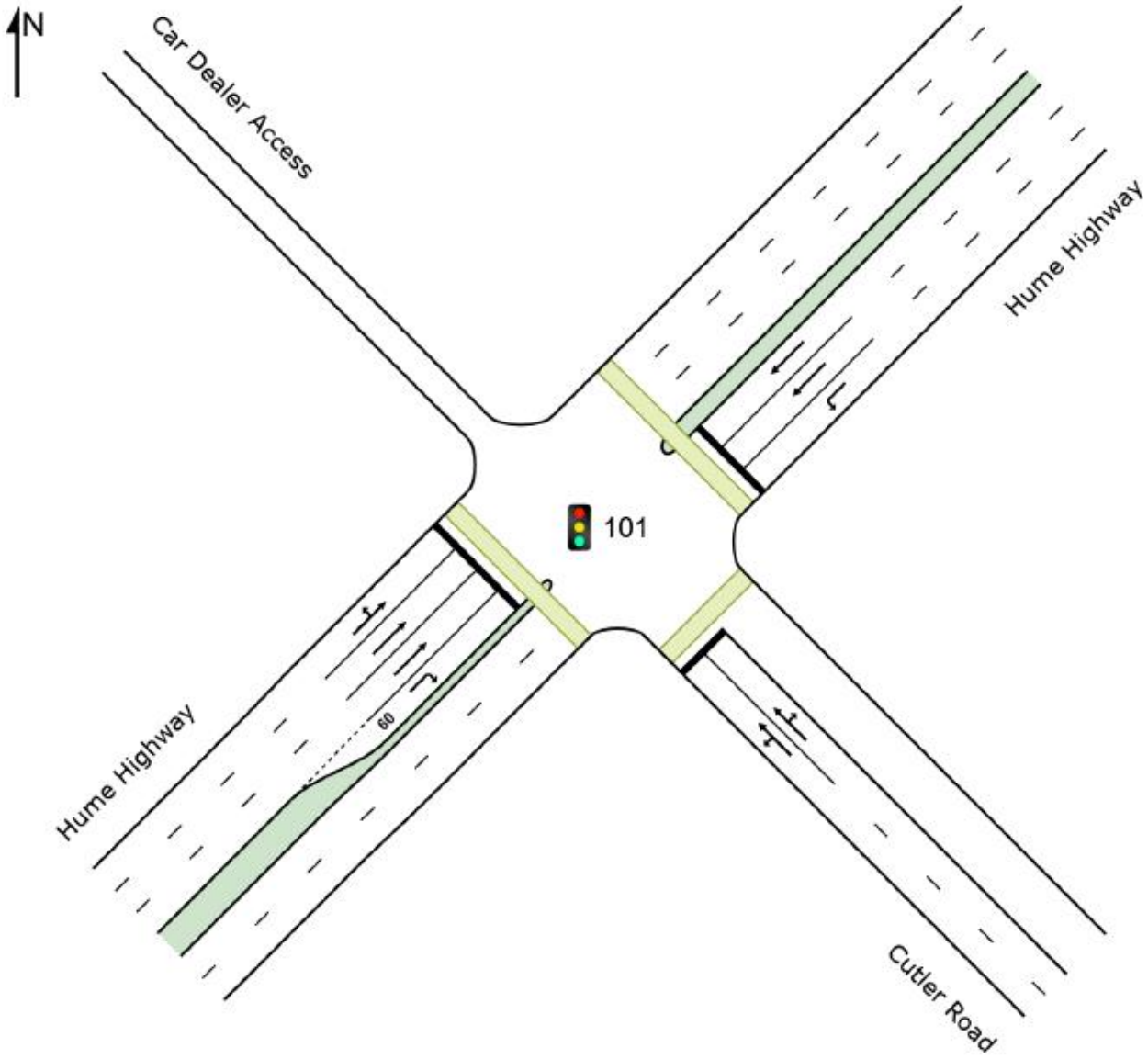
SIDRA MOVEMENT SUMMARIES

SITE LAYOUT

Site: 101 [AM Peak Hume Hwy & Cutler Rd (Site Folder: Existing)]

Cnr Cutler Rd and Hume Hwy, Lansvale
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

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



Organisation: VARGA TRAFFIC PLANNING | Licence: PLUS / 1PC | Created: Friday, 12 April 2024 9:45:22 AM
Project: Z:\DATA\Data\Jobs01\Jobs\24work\24055_CnrCutlerRdandHumeHwyLansvale\SIDRA\240411 SIDRA.sip9

MOVEMENT SUMMARY

Site: 101 [AM Peak Hume Hwy & Cutler Rd (Site Folder: Existing)]

Cnr Cutler Rd and Hume Hwy, Lansvale
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Cutler Road														
1	L2	84	3	88	3.6	0.189	35.7	LOS C	3.4	24.3	0.82	0.74	0.82	31.0
2	T1	13	0	14	0.0	*0.700	62.0	LOS E	5.9	42.2	1.00	0.85	1.14	14.9
3	R2	96	3	101	3.1	0.700	56.3	LOS D	5.9	42.2	1.00	0.85	1.14	20.3
Approach		193	6	203	3.1	0.700	47.7	LOS D	5.9	42.2	0.92	0.80	1.00	24.3
NorthEast: Hume Highway														
4	L2	64	0	67	0.0	0.047	9.2	LOS A	0.8	5.3	0.25	0.66	0.25	43.2
5	T1	1575	93	1658	5.9	*0.712	13.8	LOS A	27.2	200.2	0.74	0.68	0.74	47.5
Approach		1639	93	1725	5.7	0.712	13.6	LOS A	27.2	200.2	0.72	0.68	0.72	47.3
SouthWest: Hume Highway														
10	L2	25	0	26	0.0	0.478	13.2	LOS A	11.5	84.5	0.37	0.36	0.37	46.9
11	T1	1998	110	2103	5.5	0.478	3.7	LOS A	11.5	84.5	0.37	0.34	0.37	61.8
12	R2	126	7	133	5.6	*0.689	56.2	LOS D	6.7	49.1	1.00	0.84	1.11	25.7
Approach		2149	117	2262	5.4	0.689	6.9	LOS A	11.5	84.5	0.40	0.37	0.41	55.9
All Vehicles		3981	216	4191	5.4	0.712	11.6	LOS A	27.2	200.2	0.56	0.52	0.57	49.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Cutler Road												
P1	Full	3	3	44.2	LOS E	0.0	0.0	0.94	0.94	209.1	214.4	1.03
NorthEast: Hume Highway												
P2	Full	5	5	44.2	LOS E	0.0	0.0	0.94	0.94	216.3	223.8	1.03
SouthWest: Hume Highway												
P4	Full	2	2	44.2	LOS E	0.0	0.0	0.94	0.94	215.2	222.3	1.03
All Pedestrians		10	11	44.2	LOS E	0.0	0.0	0.94	0.94	213.9	220.7	1.03

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Peak Hume Hwy & Cutler Rd (Site Folder: Existing)]

Cnr Cutler Rd and Hume Hwy, Lansvale
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Cutler Road														
1	L2	182	4	192	2.2	0.421	38.8	LOS C	7.9	56.6	0.89	0.79	0.89	30.0
2	T1	1	0	1	0.0	*0.853	68.3	LOS E	6.8	49.0	1.00	0.99	1.41	14.0
3	R2	116	4	122	3.4	0.853	62.6	LOS E	6.8	49.0	1.00	0.99	1.41	19.2
Approach		299	8	315	2.7	0.853	48.1	LOS D	7.9	56.6	0.93	0.87	1.09	25.4
NorthEast: Hume Highway														
4	L2	79	0	83	0.0	0.058	9.3	LOS A	0.9	6.6	0.25	0.66	0.25	43.2
5	T1	2090	91	2200	4.4	*0.921	33.2	LOS C	60.0	435.6	0.96	1.03	1.13	32.7
Approach		2169	91	2283	4.2	0.921	32.3	LOS C	60.0	435.6	0.93	1.02	1.10	33.0
SouthWest: Hume Highway														
10	L2	3	0	3	0.0	0.419	12.6	LOS A	9.2	66.7	0.33	0.30	0.33	48.3
11	T1	1814	66	1909	3.6	0.419	3.2	LOS A	9.2	66.7	0.33	0.30	0.33	63.1
12	R2	165	5	174	3.0	*0.887	65.6	LOS E	9.9	70.8	1.00	0.98	1.45	23.5
Approach		1982	71	2086	3.6	0.887	8.4	LOS A	9.9	70.8	0.38	0.35	0.42	53.7
All Vehicles		4450	170	4684	3.8	0.921	22.7	LOS B	60.0	435.6	0.69	0.71	0.80	38.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Cutler Road												
P1	Full	1	1	44.2	LOS E	0.0	0.0	0.94	0.94	209.1	214.4	1.03
NorthEast: Hume Highway												
P2	Full	3	3	44.2	LOS E	0.0	0.0	0.94	0.94	216.3	223.8	1.03
SouthWest: Hume Highway												
P4	Full	1	1	44.2	LOS E	0.0	0.0	0.94	0.94	215.2	222.3	1.03
All Pedestrians		5	5	44.2	LOS E	0.0	0.0	0.94	0.94	214.7	221.6	1.03

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Peak Hume Hwy & Cutler Rd (Site Folder: Proposed)]

Cnr Cutler Rd and Hume Hwy, Lansvale
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Cutler Road														
1	L2	87	3	92	3.4	0.188	34.9	LOS C	3.5	24.9	0.81	0.74	0.81	31.3
2	T1	13	0	14	0.0	*0.719	62.4	LOS E	6.1	43.6	1.00	0.86	1.16	14.9
3	R2	99	3	104	3.0	0.719	56.7	LOS E	6.1	43.6	1.00	0.86	1.16	20.2
Approach		199	6	209	3.0	0.719	47.5	LOS D	6.1	43.6	0.92	0.81	1.01	24.4
NorthEast: Hume Highway														
4	L2	72	0	76	0.0	0.054	9.5	LOS A	0.9	6.3	0.26	0.66	0.26	43.0
5	T1	1575	93	1658	5.9	*0.724	14.5	LOS B	28.0	205.6	0.76	0.70	0.76	46.7
Approach		1647	93	1734	5.6	0.724	14.3	LOS A	28.0	205.6	0.74	0.69	0.74	46.5
SouthWest: Hume Highway														
10	L2	25	0	26	0.0	0.478	13.2	LOS A	11.5	84.5	0.37	0.36	0.37	46.9
11	T1	1998	110	2103	5.5	0.478	3.7	LOS A	11.5	84.5	0.37	0.34	0.37	61.8
12	R2	142	7	149	4.9	*0.709	55.7	LOS D	7.5	55.0	1.00	0.85	1.12	25.8
Approach		2165	117	2279	5.4	0.709	7.3	LOS A	11.5	84.5	0.41	0.38	0.42	55.3
All Vehicles		4011	216	4222	5.4	0.724	12.1	LOS A	28.0	205.6	0.57	0.53	0.58	48.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Cutler Road												
P1	Full	3	3	44.2	LOS E	0.0	0.0	0.94	0.94	209.1	214.4	1.03
NorthEast: Hume Highway												
P2	Full	5	5	44.2	LOS E	0.0	0.0	0.94	0.94	216.3	223.8	1.03
SouthWest: Hume Highway												
P4	Full	2	2	44.2	LOS E	0.0	0.0	0.94	0.94	215.2	222.3	1.03
All Pedestrians		10	11	44.2	LOS E	0.0	0.0	0.94	0.94	213.9	220.7	1.03

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Peak Hume Hwy & Cutler Rd (Site Folder: Proposed)]

Cnr Cutler Rd and Hume Hwy, Lansvale
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Cutler Road														
1	L2	197	4	207	2.0	0.455	39.2	LOS C	8.7	61.8	0.90	0.80	0.90	29.9
2	T1	1	0	1	0.0	*0.917	74.6	LOS F	7.8	56.1	1.00	1.08	1.60	13.1
3	R2	125	4	132	3.2	0.917	68.9	LOS E	7.8	56.1	1.00	1.08	1.60	18.0
Approach		323	8	340	2.5	0.917	50.8	LOS D	8.7	61.8	0.94	0.91	1.17	24.7
NorthEast: Hume Highway														
4	L2	81	0	85	0.0	0.060	9.3	LOS A	1.0	6.8	0.25	0.66	0.25	43.2
5	T1	2090	91	2200	4.4	*0.921	33.2	LOS C	60.0	435.6	0.96	1.03	1.13	32.7
Approach		2171	91	2285	4.2	0.921	32.3	LOS C	60.0	435.6	0.93	1.02	1.10	33.0
SouthWest: Hume Highway														
10	L2	3	0	3	0.0	0.419	12.6	LOS A	9.2	66.7	0.33	0.30	0.33	48.3
11	T1	1814	66	1909	3.6	0.419	3.2	LOS A	9.2	66.7	0.33	0.30	0.33	63.1
12	R2	169	5	178	3.0	*0.908	68.3	LOS E	10.4	74.5	1.00	1.00	1.51	23.0
Approach		1986	71	2091	3.6	0.908	8.7	LOS A	10.4	74.5	0.38	0.36	0.43	53.2
All Vehicles		4480	170	4716	3.8	0.921	23.2	LOS B	60.0	435.6	0.69	0.72	0.81	38.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Cutler Road												
P1	Full	1	1	44.2	LOS E	0.0	0.0	0.94	0.94	209.1	214.4	1.03
NorthEast: Hume Highway												
P2	Full	3	3	44.2	LOS E	0.0	0.0	0.94	0.94	216.3	223.8	1.03
SouthWest: Hume Highway												
P4	Full	1	1	44.2	LOS E	0.0	0.0	0.94	0.94	215.2	222.3	1.03
All Pedestrians		5	5	44.2	LOS E	0.0	0.0	0.94	0.94	214.7	221.6	1.03

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.