

VARGA TRAFFIC PLANNING Pty Ltd

Transport, Traffic and Parking Consultants



ACN 071 762 537 ABN 88 071 762 537

15 February 2011

Ref 10088

Canterbury City Council
137 Beamish Street
CAMPSIE NSW 2194

Attn: Mr Allan Shooter

Dear Allan,

**PROPOSED MIXED USE DEVELOPMENT
172-186 THE BOULEVARDE, PUNCHBOWL
(FOR PUNCHBOWL RSL CLUB SITE)**

I refer to Council's letter dated 15 October 2010 and the subsequent letter from the Roads and Traffic Authority's *Sydney Regional Development Advisory Committee* dated 11 October 2010 requesting additional traffic modelling be undertaken at the following intersections:

- Punchbowl Road/The Boulevarde
- Punchbowl Road/South Terrace/Rossmore Avenue
- The Boulevarde/Arthur Street, and
- King Georges Road/The Boulevarde.

Following discussions with the RTA's Mr James Hall, it was agreed that the traffic modelling could be undertaken using the SCATES capacity analysis program for coordinated traffic signals.

The results of the traffic modelling are summarised in the tables below.

Punchbowl Road & South Terrace				
	Existing		Proposed	
	AM	PM	AM	PM
LOS	B	B	B	B
D/S	0.63	0.72	0.63	0.71
AVD	22.3	19.9	24.6	23.0

Punchbowl Road & Rossmore Avenue				
	Existing		Proposed	
	AM	PM	AM	PM
LOS	A	A	A	A
D/S	0.0	0.0	0.0	0.0
AVD	3.6	3.6	3.6	3.6

Punchbowl Road & The Boulevarde				
	Existing		Proposed	
	AM	PM	AM	PM
LOS	D	C	D	D
D/S	0.90	0.85	0.92	0.91
AVD	42.9	33.4	50.5	44.6

The Boulevarde & Arthur Street				
	Existing		Proposed	
	AM	PM	AM	PM
LOS	A	A	A	A
D/S	0.43	0.46	0.48	0.51
AVD	17.2	13.0	19.5	13.8

Punchbowl Road & King Georges Road				
	Existing		Proposed	
	AM	PM	AM	PM
LOS	D	D	D	D
D/S	0.96	0.97	0.98	1.00
AVD	42.6	42.8	47.7	51.3

LOS - Level of Service; D/S - Degree of Saturation; AVD - Average Vehicle Delays

The analysis reveals that each of the intersections will continue to operate at much the same *Level of Service*, with minimal changes in total average vehicle delays.

In particular, it is noted that the proposed development will not have any adverse traffic implications on the performance of the coordinated traffic signal system that operates on this section of Punchbowl Road.

Electronic copies of the input/output data used in this SCATES analysis can be forwarded by email upon request.

Please do not hesitate to contact me on telephone 9904 3224 should you have any enquiries.

Yours sincerely



Robert Varga
Director
Varga Traffic Planning Pty Ltd

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- 1 NOV 2010

RECEIVED

COUNCIL

Rezoning Application
Proposed Mixed-Use Development

**1 The Broadway,
Punchbowl**

TRAFFIC AND PARKING ASSESSMENT REPORT

21 October 2010

Ref 10088

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants 

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Figure 5	Existing Parking Controls

1. INTRODUCTION

This report has been prepared to accompany a Rezoning Application to Canterbury City Council for a proposal to establish a mixed-use residential and retail development to be located at 1 The Broadway, Punchbowl (Figures 1 and 2).

The proposed development will involve the rezoning of the site and the consequent demolition of the existing club building and dwelling houses on the site to facilitate the construction of a new mixed-use residential and retail development, with carparking to be provided in two new separate (ie. residential and non-residential) carparking areas, in accordance with Council's requirements.

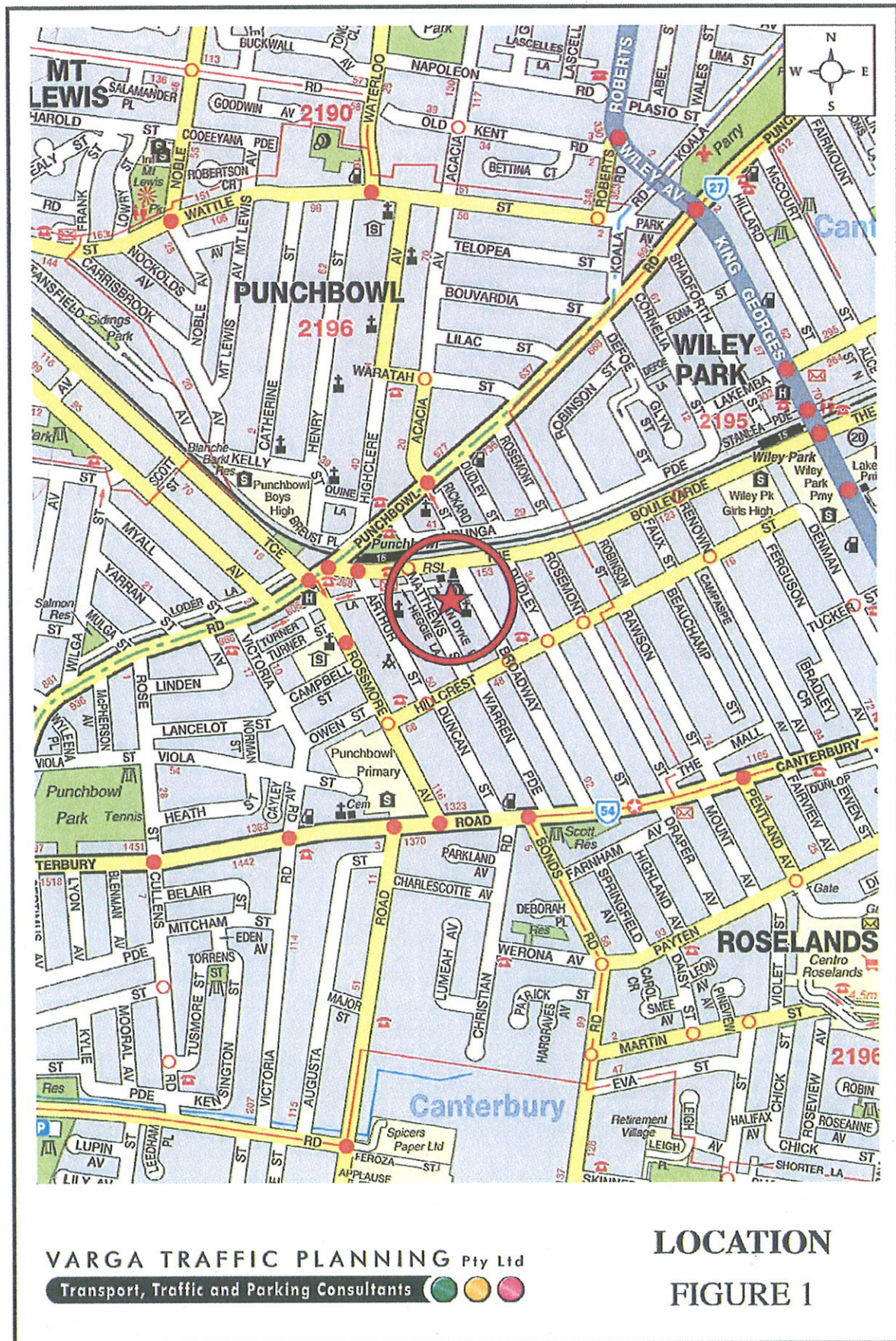
Included in this Application is a proposal to construct a new 6.0m wide, two-way road, which is to connect Matthews Street and The Broadway. The new road reserve is to be located along the northern property boundary of No.28 Matthews Street and the Uniting Church in The Broadway, and will occupy part of the subject site.

Following discussions with Council the traffic assessment includes the traffic volumes expected to be generated by the mosque and school development proposed at No. 25-33 Matthews Street, using traffic volume data contained in the school/mosque traffic report.

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

- describes the site and provides details of the development proposal
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network
- estimates the traffic generation potential of the development proposal, and assigns that traffic generation to the road network serving the site
- assesses the traffic implications of the development proposal in terms of road network capacity

- reviews the geometric design features of the proposed carparking facilities for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street carparking provided on the site.





2. PROPOSED DEVELOPMENT

Site

The subject site is located on the south-western corner of The Boulevard and The Broadway, with a secondary frontage to Matthews Street. The site has street frontages approximately 42m, 115m and 76m in length to The Boulevard, The Broadway and Matthews Street respectively. The site occupies an area of approximately 9344m².

The subject site was previously occupied by the *Punchbowl & District Returned Servicemen and Ex-Servicemen Social Club*. The club consisted of the main building (with an estimated licensed floor area of 1,200m²), a single bowling green and an outdoor carparking area with vehicular access via Matthews Street. Also on the site are two dwelling houses located at No's 18 and 20 Matthews Street.

Proposed Development

The proposed development will involve the demolition of the existing club and dwelling houses on the site to facilitate the construction of a new mixed-use residential and retail development.

A total of 125 residential apartments are proposed in the new building as follows:

2 bedroom apartments:	107
3 bedroom apartments:	18
TOTAL APARTMENTS:	125

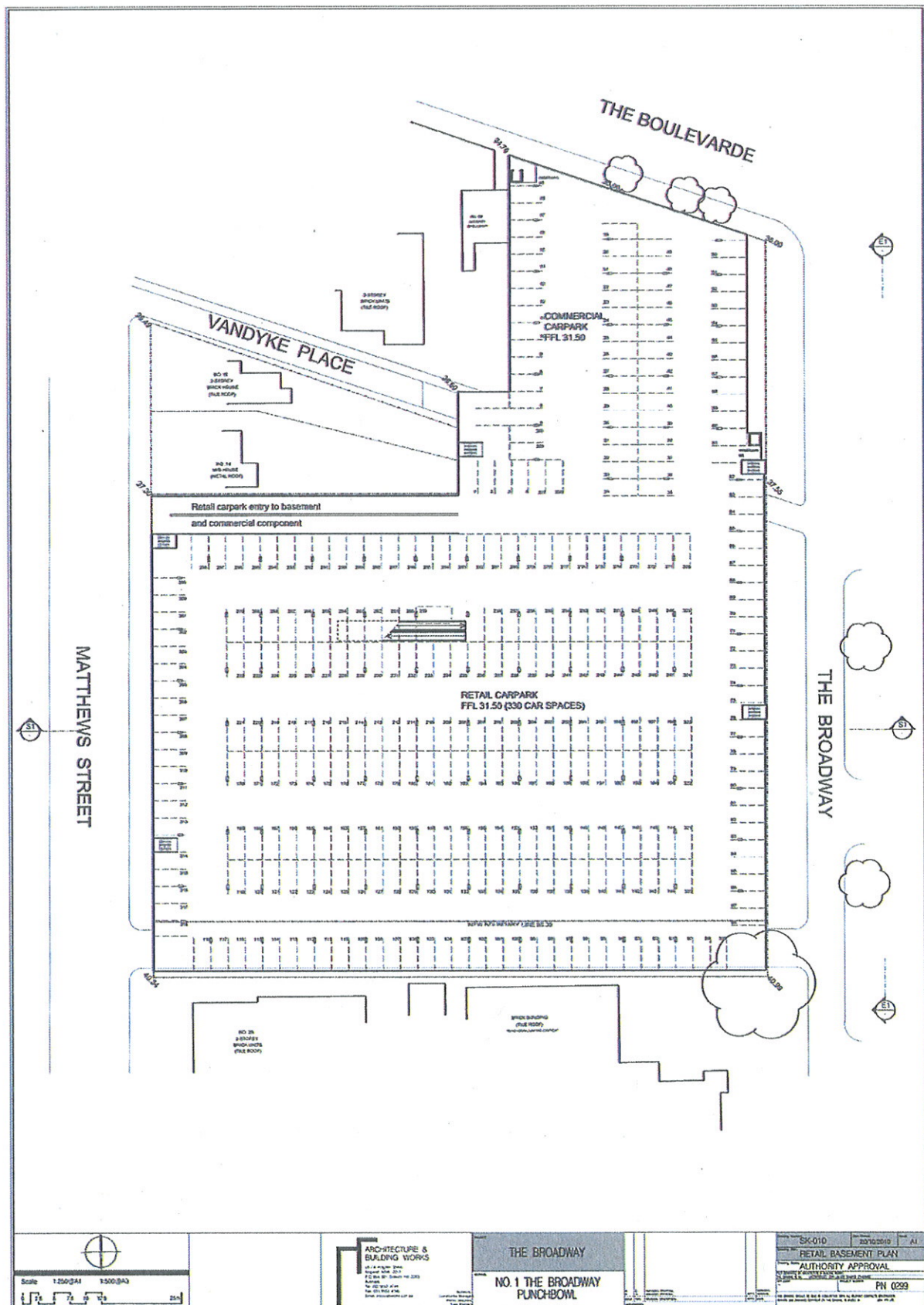
The retail component is located on the ground floor level and comprises a 4,000m² supermarket and 2,580m² of specialty stores. The commercial/retail component of the development also makes provision for a number of small cafes (with a cumulative floor area of 230m²) which are to be located along The Broadway frontage of the site, a medical practice with 5 consulting rooms and a restaurant with a floor area of 300m². The restaurant also makes provision for an ancillary play gym with a floor area of 200m² which will be used by used by the children of parents attending the restaurant.

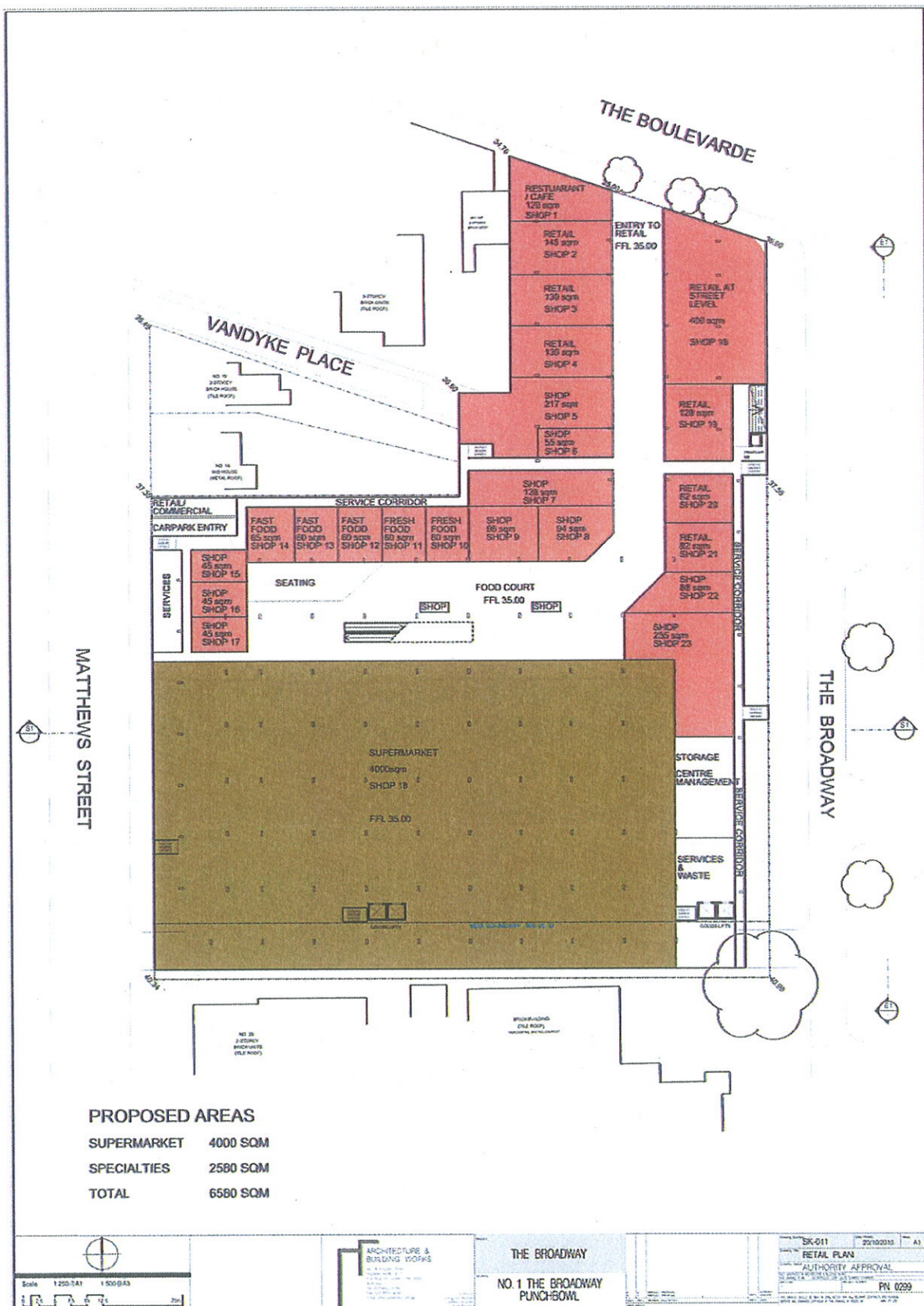
Off-street carparking is proposed for a total of 520 cars in two new separate residential and non-residential carparking areas, generally in accordance with Council's requirements. The retail/commercial centre carparking area is to comprise 330 spaces, with vehicular access to be provided via a new entry/exit driveway located at the northern end of the Matthews Street site frontage. The remaining 190 spaces are to be located in the residential carparking area which is to be located above the retail level. Vehicular access to the resident carparking area is to be provided via a new entry/exit driveway off The Broadway and Van Dyke Place.

Loading/servicing for the component is to be undertaken by a variety of commercial vehicles up to and including semi-trailers. Entry to the loading dock is to be provided via a left-turn only from The Broadway, with exit to Matthews Street also via a left-turn. The loading dock will have the capacity to accommodate several trucks and light commercial vehicles simultaneously.

Plans of the proposed development have been prepared by *Architecture & Building Works* and are reproduced in the following pages.

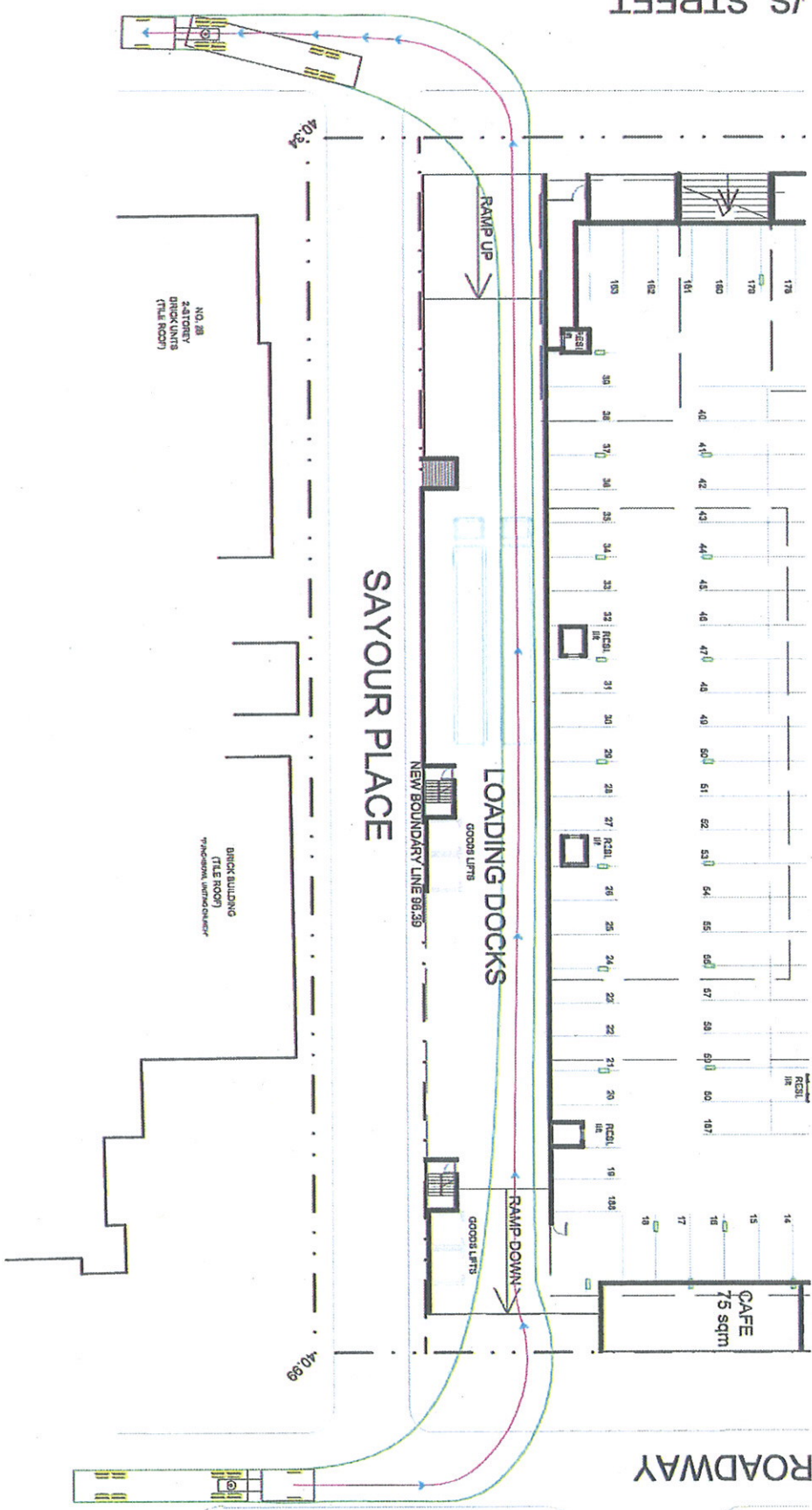
Also reproduced in the following pages are swept turning path diagrams illustrating a 19m long semi-trailer entering the proposed loading dock from The Broadway, and exiting the proposed loading dock into Matthews Street.





VS STREET

ROADWAY



SAYOUR PLACE



Scale: 1:2500A1 1:5000A3

0 2.5 5 7.5 10 12.5 25m

Authority Approval

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Traffic Authority is illustrated on Figure 3.

Punchbowl Road is classified by the RTA as a *State Road* and provides a key north-south road link in the area, linking Canterbury Road and Georges River Road. It typically carries two traffic lanes in each direction in the vicinity of the site, with kerbside parking generally permitted outside of commuter peak periods.

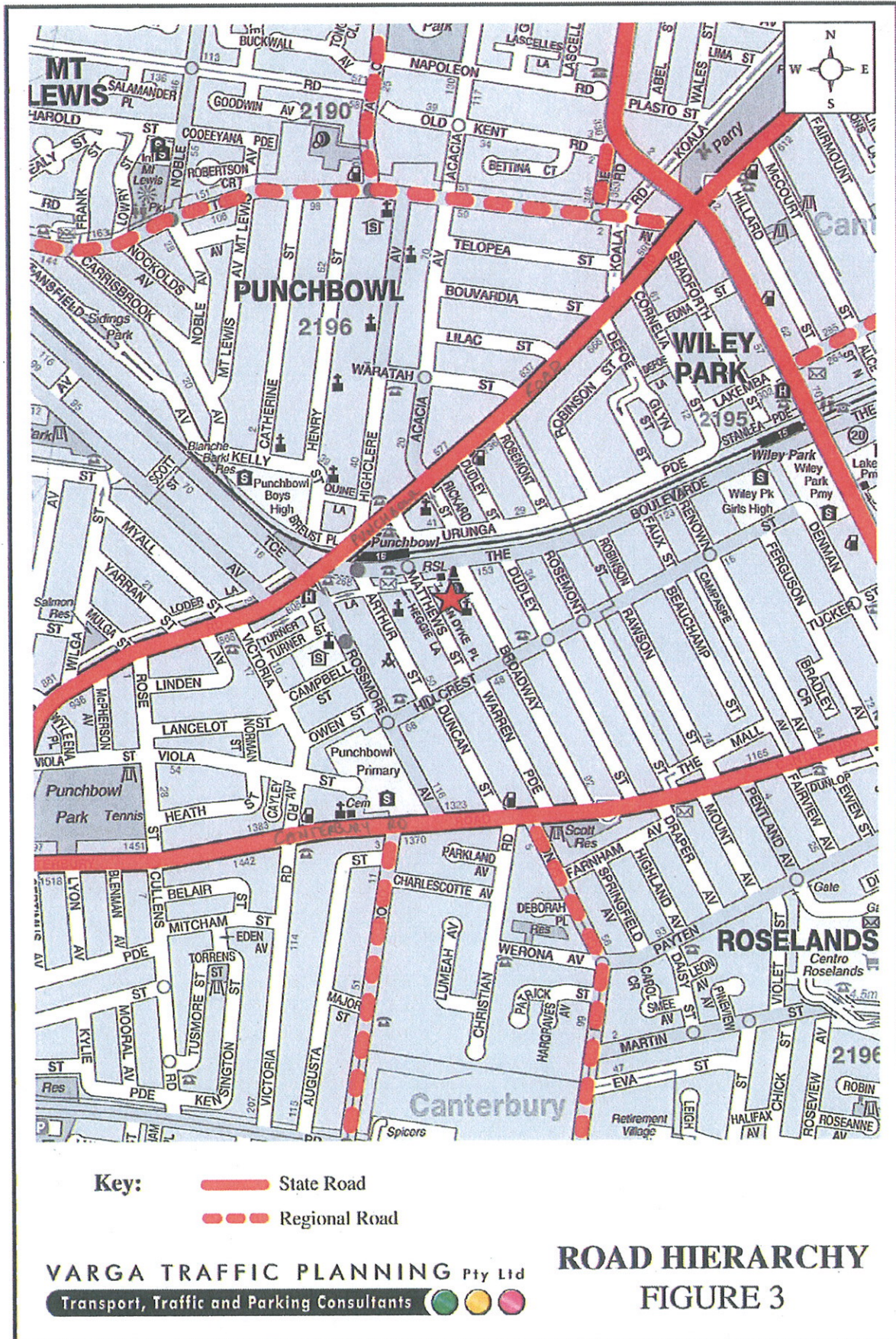
Canterbury Road is also classified by the RTA as a *State Road* and provides a key east-west road link in the area, linking Milperra Road to Old Canterbury Road. It also typically carries two traffic lanes in each direction in the vicinity of the site. Kerbside parking is not permitted along either side of the road.

The Boulevarde, The Broadway and Matthews Street are local, unclassified roads which are primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of all three roads. The Boulevarde also performs the function of a *collector route*, providing a link between local streets and the classified RTA road network.

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 60 km/h SPEED LIMIT which applies to Punchbowl Road
- a 50 km/h SPEED LIMIT which applies to The Boulevarde, The Broadway and Matthews Street and all other local roads in the area
- TRAFFIC SIGNALS in The Boulevarde where it intersects with Punchbowl Road and also Arthur Street





- a ROUNDABOUT in The Boulevarde where it intersects with Matthews Street.

Existing Traffic Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the site is provided by peak period traffic surveys undertaken as part of this traffic study. The traffic surveys were undertaken in The Boulevarde where it intersects with The Broadway and also Matthews Street. The results of the traffic surveys are reproduced in full in Appendix A and reveal that:

- two-way traffic flows in The Boulevarde along the site frontage are typically in the order of 750 vehicles per hour (vph) during the *morning* peak period, increasing to 1,050 vph during the *afternoon* peak period
- two-way traffic flows in The Broadway past the site frontage are lower, typically in the order of 160-180 vph during peak periods
- two-way traffic flows in Matthews Street are typically in the order of 150-190 vph during peak periods.

Projected Traffic Generation

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

The RTA *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:

Shopping Centres (vehicle trips per 1,000m²)

$$V(P) = 155 A(SM) + 46 A(SS) + 22 A(OM)$$

where A(SM) = Supermarket, A(SS) = Specialty Shops, and A(OM) = Medical Centres & Offices

High Density Residential Flat Buildings in Sub-Regional Centres

0.29 peak hour vehicle trips/dwelling

Restaurants5.0 peak hour vehicle trips/100m² GFA

The RTA Guidelines also make the following observation in respect of high density residential flat buildings:

Definition

A *high density residential flat building* refers to a building containing 20 or more dwellings. This does not include aged or disabled persons housing. *High density residential flat buildings* are usually more than 5 levels, have basement level carparking and are located in close proximity to public transport services. The building may contain a component of commercial use.

Factors

The above rates include visitors, staff, service/delivery and on-street movements such as taxis and pick-up/set-down activities.

Application of the above traffic generation rates to the residential and retail components of the development proposal yields a traffic generation potential of approximately 810 vehicle trips per hour during commuter peak periods as set out below:

Projected Future Traffic Generation Potential

Residential Apartments (125 Apartments):	36.2 peak hour vehicle trips
Supermarket, Specialty, Medical Practice & Cafes (7,260m ²):	759.2 peak hour vehicle trips
Restaurant (300m ²):	15.0 peak hour vehicle trips
TOTAL TRAFFIC GENERATION POTENTIAL:	810.4 peak hour vehicle trips

That projected future level of traffic generation potential should however, be offset or *discounted* by the volume of traffic which could reasonably be expected to be generated by the existing uses of the site, in order to determine the *nett increase (or decrease)* in the peak period traffic generation potential of the site which is expected to occur as a consequence of the development proposal.

Application of the traffic generation rates nominated in the RTA *Guidelines* to the former Club and dwelling houses on the site yields a traffic generation potential of approximately 122 peak hour vehicle trips.

Accordingly, it is likely that the proposed development will result in an *increase* in the traffic generation potential the site of approximately 688 vph during commuter peak periods, as set out below:

**Projected Nett Increase in Peak Hour Traffic Generation Potential of the Site
as a consequence of the development proposal**

Projected Future Traffic Generation Potential:	810 vehicle trips
Existing Traffic Generation Potential:	-122 vehicle trips
NETT INCREASE IN TRAFFIC GENERATION POTENTIAL:	688 vehicle trips

Notwithstanding, it is noted that the site is *underutilised* at present and, for the purposes of this assessment, it has been assumed that *all* of the projected future traffic flows of 688 peak hour vehicle trips will be new or *additional* to the existing traffic flows currently using the adjacent road network.

That projected increase in traffic activity as a consequence of the development proposal will 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 INTANAL program which is widely used by the RTA and many LGA's for this purpose. Criteria for evaluating the results of INTANAL analysis are reproduced in the following pages.

As noted in the foregoing, this assessment includes the traffic expected to be generated by the Mosque and school proposed at No. 25-33 Matthews Street, using the traffic volume data contained in the school/Mosque traffic report.

At this stage, it is not known whether the vehicular access driveway to the residential carparking area proposed via Van Dyke Place will be available for use when the development is completed, as the use of Van Dyke Place will be subject to negotiations with adjoining land

owners. The capacity analysis therefore provides an assessment of 2 access options for the residential carparking area, as follows:

- initially, access via The Broadway only, and
- ultimately, access via both Van Dyke Place and The Broadway.

The results of the INTANAL analysis of The Boulevarde & The Broadway intersection are summarised on Table 3.1 below, revealing that:

- the Boulevarde & The Broadway intersection currently operates at *Level of Service "A"* under the existing traffic demands with total average vehicle delays in the order of 3 seconds/vehicle
- under the projected future traffic demands expected to be generated by the development proposal, The Boulevarde & The Broadway intersection is expected to operate at *Level of Service "A"* during the morning peak period, and *Level of Service "B"* during the afternoon peak period, with increases in average vehicle delays of *less than 1* second/vehicle.

The results of the INTANAL analysis of The Boulevarde & Matthews Street intersection are summarised on Table 3.2 below, revealing that:

- the Boulevarde & Matthews Street intersection currently operates at *Level of Service "A"* under the existing traffic demands with total average vehicle delays in the order of 3 seconds/vehicle
- under the projected future traffic demands expected to be generated by the development proposal, The Boulevarde & Matthews Street intersection is expected to operate at *Level of Service "A"* during the morning peak period, and *Level of Service "B"* during the afternoon peak period, with increases in average vehicle delays of between 1-4 seconds/vehicle.

In particular, the analysis shows that The Boulevarde/Matthews Street intersection will continue to operate satisfactorily under roundabout control, and that the installation of traffic signals will not be required to accommodate the additional traffic volumes.

In the circumstances, it is clear that the proposed development will not have any unacceptable traffic implications in terms of road network capacity.

TABLE 3.1 - RESULTS OF INTERNAL ANALYSIS OF THE BOULEVARDE & THE BROADWAY						
Key Indicators	Existing Traffic Demand		Projected Development Traffic Demand (Residential Access via Broadway & Van Dyke Pl)		Projected Development Traffic Demand (Residential Access via Broadway Only)	
	AM	PM	AM	PM	AM	PM
Level of Service	A	A	A	B	A	B
Degree of Saturation	0.19	0.25	0.23	0.31	0.23	0.32
Average Vehicle Delay (secs/veh)						
The Boulevarde (west)						
T	0.5	0.7	0.7	0.7	0.7	0.8
R	4.8	5.6	5.0	6.1	5.0	6.1
The Broadway (south)						
L	5.9	8.7	6.5	10.3	6.6	10.4
R	8.5	12.4	9.6	15.2	9.7	15.3
The Boulevarde (east)						
L	2.9	2.9	2.9	2.9	2.9	2.9
T	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AVERAGE VEHICLE DELAY	2.4	2.7	2.9	2.9	3.1	3.0
	BOU_BROX		BOU_BROP2		BOU_BROP3	

**TABLE 3.2 - RESULTS OF INTANAL ANALYSIS OF
THE BOULEVARDE & MATTHEWS ST**

Key Indicators	Existing Traffic Demand		Projected Development Traffic Demand (Residential Access via Broadway & Van Dyke PI)		Projected Development Traffic Demand (Residential Access via Broadway Only)	
	AM	PM	AM	PM	AM	PM
Level of Service	A	A	A	B	A	B
Degree of Saturation	0.26	0.40	0.30	0.56	0.31	0.56
Average Vehicle Delay (secs/veh)						
The Boulevarde (west) T	2.4	2.6	2.9	4.0	2.9	4.0
R	4.3	4.6	4.9	5.9	4.9	5.9
Matthews Street (south) L	5.9	6.7	6.2	12.3	6.3	12.3
R	8.6	9.5	9.0	15.0	9.0	15.1
The Boulevarde (east) L	1.9	2.3	2.9	5.3	2.9	5.1
T	2.7	3.1	3.7	6.1	3.7	5.9
TOTAL AVERAGE VEHICLE DELAY	3.0	3.3	4.1	7.0	4.1	7.0

BOU_MATX

BOU_MATP2

BOU_MATP3

Criteria for Interpreting Results of Intanal 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 signals¹ 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:

- 2 HOUR PARKING restrictions along both sides of The Boulevarde, in between the site and Matthews Street
- ½ HOUR PARKING restrictions along both sides of The Boulevarde, west of Matthews Street
- 1 HOUR PARKING restrictions along both sides of Matthews Street, in between The Boulevarde and Turner Lane
- generally UNRESTRICTED kerbside parking in The Broadway, Matthew Street and throughout the local area, including the commuter carpark located on the northern side of The Boulevarde.

Off-Street Parking Provisions

The off-street parking requirements applicable to the development proposal are specified in Council's *Development Control Plan No. 20 – Car Parking* document in the following terms:

Multiple Unit Development

2 Bedroom Apartment:	1.2 spaces per unit (the 0.2 space is to remain common property)
3 Bedroom Apartment:	2.0 spaces per units

Restaurant:

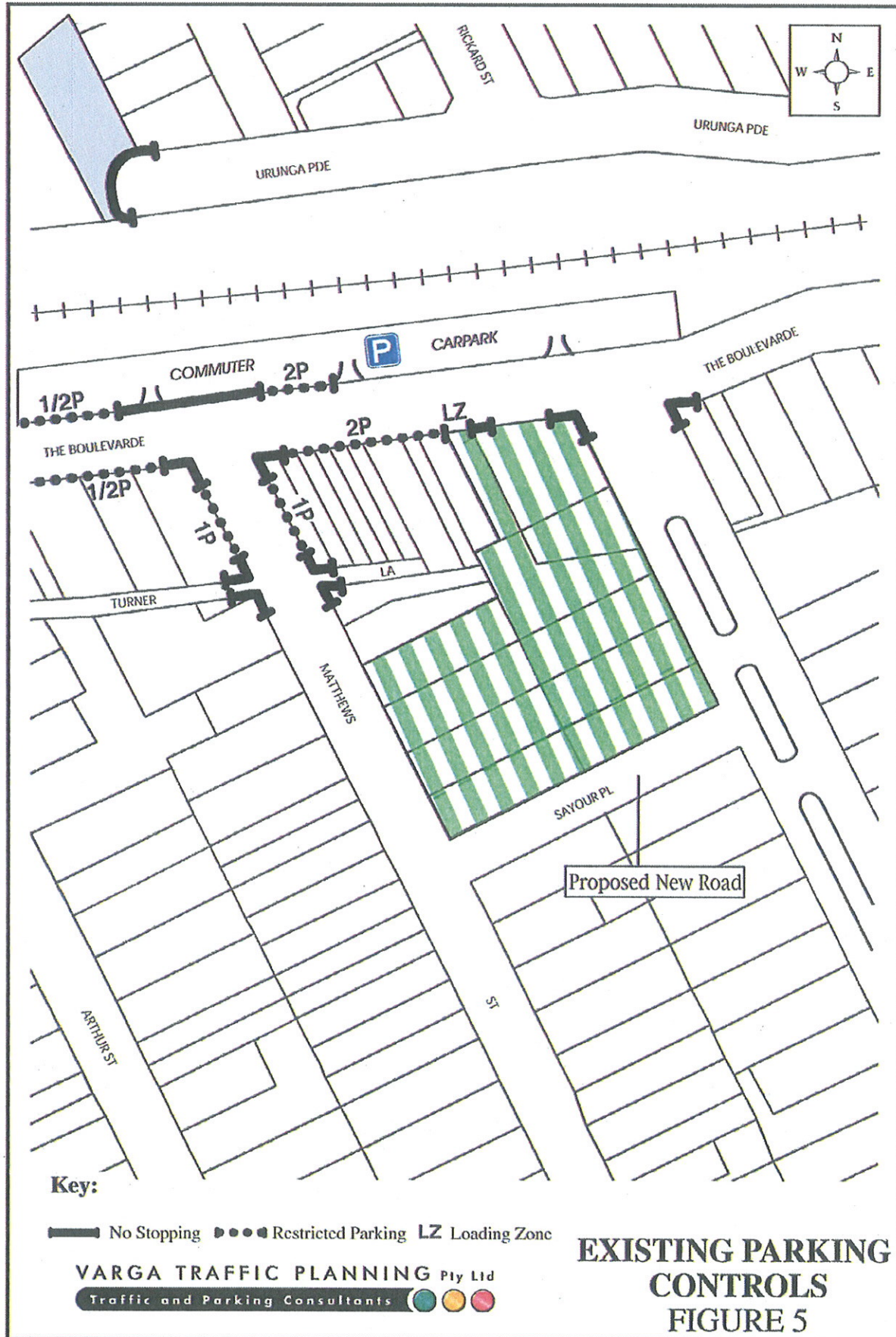
120m² - 1,000m² to be considered based on merits, as a guide, 1 space per 30m² is required

Shops

1 space per 22m² (> 1,000m²)

Health Consulting Rooms

2 spaces per health consulting room



Application of the above parking requirements to the retail/commercial components of the development proposal an off-street parking requirement of 330 parking spaces as set out below:

Retail – Supermarket, Specialty & Cafes (6,810m ²):	309.5 spaces
Restaurant (300m ²):	10.0 spaces
Medical Practice (5 Consulting Rooms):	10.0 spaces
TOTAL:	329.5 spaces

The proposed development makes provision for a total of 330 off-street carparking spaces in the commercial/retail carparking area, thereby satisfying Council's parking code requirements.

Application of the above parking requirements to the residential component of the development proposal yields an off-street carparking requirement of 164 carparking spaces comprising 143 spaces for the residential apartments plus a further 21 spaces for visitor carparking (ie. on common property).

Accordingly, the proposed provision of 190 carparking spaces in the residential carparking area satisfies Council's parking code requirements.

In the circumstances, the proposed provision of a total of 520 parking spaces will satisfy Council's parking code requirements, and it is therefore concluded that the proposed development will not have any unacceptable parking implications.

APPENDIX A

TRAFFIC SURVEY DATA



R.O.A.R. DATA

Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849,
Mobile.0418239019

Client : Varga Traffic Planning
Job No/Name : 3082 Punchbowl The Boulevarde
Day/Date : Friday 23rd April 2010

PEDS		WEST		SOUTH		EAST		WEST		SOUTH		EAST	
Time Per		The		Matthews St		The		The		Matthews St		The	
Peak Per		Boulevarde		Boulevarde		Boulevarde		Boulevarde		Boulevarde		Boulevarde	
0630 - 0730		1		2		3		9		8		10	
0645 - 0745		2		1		2		12		8		10	
0700 - 0800		3		2		3		15		10		11	
0715 - 0730		3		3		2		14		11		13	
0730 - 0745		4		2		3		21		15		17	
0745 - 0800		5		3		3		22		21		19	
0800 - 0815		2		3		5		25		23		19	
0815 - 0830		10		7		6		34		34		19	
0830 - 0845		5		8		5		34		37		19	
0845 - 0900		8		5		3		27		32		16	
0900 - 0915		11		14		5		27		32		16	
0915 - 0930		3		5		3		27		32		16	
Per End		57		55		43		27		32		16	
PEAK HR													

PEAK HR		27		32		16		75	
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Lights		WEST		SOUTH		EAST	
Time Per		The		Matthews St		The	
Peak Per		I		L		I	
0630 - 0645		66		11		1	
0645 - 0700		59		10		4	
0700 - 0715		73		14		1	
0715 - 0730		64		10		0	
0730 - 0745		61		1		64	
0745 - 0800		75		0		1	
0800 - 0815		90		3		4	
0815 - 0830		64		7		4	
0830 - 0845		78		6		5	
0845 - 0900		62		8		5	
0900 - 0915		77		9		4	
0915 - 0930		85		8		6	
Per End		854		64		897	

Heavies		WEST		SOUTH		EAST	
Time Per		The		Matthews St		The	
Peak Per		I		L		I	
0630 - 0645		2		0		0	
0645 - 0700		1		0		0	
0700 - 0715		1		0		0	
0715 - 0730		0		0		0	
0730 - 0745		2		0		0	
0745 - 0800		0		0		1	
0800 - 0815		2		0		0	
0815 - 0830		2		0		0	
0830 - 0845		1		0		0	
0845 - 0900		2		0		0	
0900 - 0915		2		0		0	
0915 - 0930		0		0		0	
Per End		15		0		16	

Combined		WEST		SOUTH		EAST	
Time Per		The		Matthews St		The	
Peak Per		I		L		I	
0630 - 0645		68		11		1	
0645 - 0700		60		10		4	
0700 - 0715		74		14		1	
0715 - 0730		64		5		0	
0730 - 0745		63		1		64	
0745 - 0800		75		0		2	
0800 - 0815		92		3		4	
0815 - 0830		66		7		4	
0830 - 0845		79		6		5	
0845 - 0900		64		8		5	
0900 - 0915		79		9		4	
0915 - 0930		85		8		6	
Per End		869		64		913	

Lights		WEST		SOUTH		EAST	
Time Per		The		Matthews St		The	
Peak Per		I		L		I	
0630 - 0730		262		22		6	
0645 - 0745		257		17		6	
0700 - 0800		273		16		3	
0715 - 0815		290		9		6	
0730 - 0830		290		11		10	
0745 - 0845		307		16		14	
0800 - 0900		294		24		15	
0815 - 0915		281		30		13	
0830 - 0930		302		31		20	
PEAK HR		302		31		20	

Heavies		WEST		SOUTH		EAST	
Time Per		The		Matthews St		The	
Peak Per		I		L		I	
0630 - 0730		4		0		0	
0645 - 0745		4		0		0	
0700 - 0800		3		0		1	
0715 - 0815		4		0		1	
0730 - 0830		6		0		1	
0745 - 0845		5		0		1	
0800 - 0900		7		0		0	
0815 - 0915		7		0		0	
0830 - 0930		5		0		0	
PEAK HR		5		0		6	

Combined	WEST		SOUTH		EAST		TOT
	The		Matthews St		The		
	I	R	L	R	L	I	
Peak Per							
0630 - 0730	266	22	45	8	6	189	536
0645 - 0745	261	17	49	6	6	203	542
0700 - 0800	276	16	60	9	4	227	592
0715 - 0815	294	9	80	12	7	292	694
0730 - 0830	296	11	90	14	11	314	736
0745 - 0845	312	16	97	16	15	367	823
0800 - 0900	301	24	102	15	18	398	858
0815 - 0915	288	30	83	13	18	386	818
0830 - 0930	307	31	83	11	20	410	862
PEAK HR	307	31	83	11	20	410	862



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

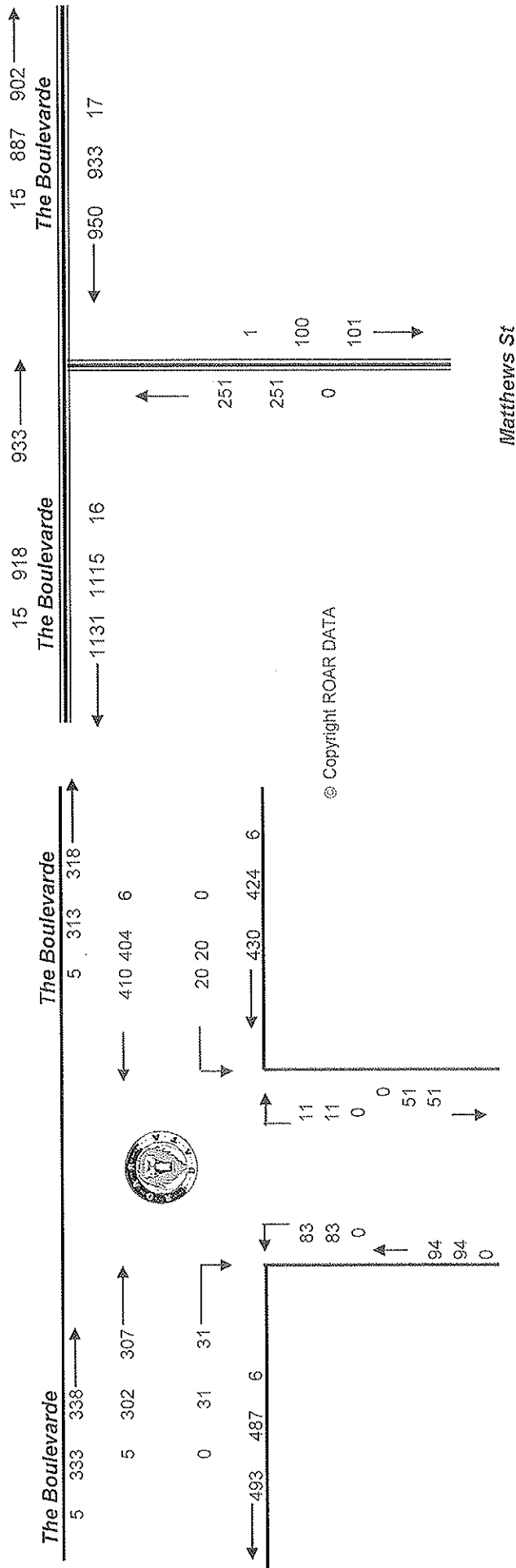
Client : Varga Traffic Planning

Job No/Name : 3082 Punchbowl The Boulevard

Day/Date : Friday 23rd April 2010

AM PEAK
0830 - 0930

TOTAL VOLUMES
FOR COUNT
PERIOD





R.O.A.R. DATA

Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849.
Mobile.0418239019

Client : Varga Traffic Planning
Job No/Name : 3082 Punchbowl The Boulevarde
Day/Date : Friday 23rd April 2010

PEDS		WEST The		SOUTH Matthews St		EAST The		TOTAL	
Time Per	Peak Per	I	R	L	R	L	R	I	TOT
1530 - 1630	1530 - 1630	25	29					27	81
1545 - 1645	1545 - 1645	28	27					29	84
1600 - 1700	1600 - 1700	17	19					23	59
1615 - 1715	1615 - 1715	17	16					20	53
1630 - 1730	1630 - 1730	13	12					14	39
1645 - 1745	1645 - 1745	13	16					11	40
1700 - 1800	1700 - 1800	18	20					13	51
1715 - 1815	1715 - 1815	22	18					13	53
1730 - 1830	1730 - 1830	22	17					14	53
PEAK HR		13		16		11		40	

PEDS		WEST The		SOUTH Matthews St		EAST The		TOTAL	
Time Per	Peak Per	I	R	L	R	L	R	I	TOT
1530 - 1545	1530 - 1545	2	5			3		3	10
1545 - 1600	1545 - 1600	14	9			11		11	34
1600 - 1615	1600 - 1615	3	8			5		5	16
1615 - 1630	1615 - 1630	6	7			8		8	21
1630 - 1645	1630 - 1645	5	3			5		5	13
1645 - 1700	1645 - 1700	3	1			5		5	9
1700 - 1715	1700 - 1715	3	5			2		2	10
1715 - 1730	1715 - 1730	2	3			2		2	7
1730 - 1745	1730 - 1745	5	7			2		2	14
1745 - 1800	1745 - 1800	8	5			7		7	20
1800 - 1815	1800 - 1815	7	3			2		2	12
1815 - 1830	1815 - 1830	2	2			3		3	7
Per End		60		58		55		173	

Lights		WEST The		SOUTH Matthews St		EAST The		TOTAL	
Time Per	Peak Per	I	R	L	R	L	R	I	TOT
1530 - 1545	1530 - 1545	84	9	7	2	7	107	216	
1545 - 1600	1545 - 1600	76	7	2	2	6	99	192	
1600 - 1615	1600 - 1615	81	11	17	5	12	127	253	
1615 - 1630	1615 - 1630	94	8	11	0	10	154	277	
1630 - 1645	1630 - 1645	92	13	26	5	5	125	266	
1645 - 1700	1645 - 1700	88	14	19	5	11	150	287	
1700 - 1715	1700 - 1715	102	19	18	12	11	145	307	
1715 - 1730	1715 - 1730	80	12	20	4	13	182	311	
1730 - 1745	1730 - 1745	101	17	7	2	8	153	288	
1745 - 1800	1745 - 1800	87	16	16	10	15	123	267	
1800 - 1815	1800 - 1815	102	8	7	5	8	155	285	
1815 - 1830	1815 - 1830	91	12	10	12	5	131	261	
Per End		1078		146		111		1651	

Heavies		WEST The		SOUTH Matthews St		EAST The		TOTAL	
Time Per	Peak Per	I	R	L	R	L	R	I	TOT
1530 - 1545	1530 - 1545	1	0	0	0	1	1	1	3
1545 - 1600	1545 - 1600	0	0	0	0	0	2	2	2
1600 - 1615	1600 - 1615	2	0	0	0	0	2	2	4
1615 - 1630	1615 - 1630	0	0	0	0	0	2	2	2
1630 - 1645	1630 - 1645	1	0	0	0	0	0	1	1
1645 - 1700	1645 - 1700	3	0	0	0	0	2	5	5
1700 - 1715	1700 - 1715	0	0	0	0	0	1	1	1
1715 - 1730	1715 - 1730	0	0	0	0	0	2	2	2
1730 - 1745	1730 - 1745	2	0	0	0	0	1	3	3
1745 - 1800	1745 - 1800	2	0	0	0	0	1	3	3
1800 - 1815	1800 - 1815	1	0	0	0	0	2	3	3
1815 - 1830	1815 - 1830	0	0	0	0	0	1	1	1
Per End		12		0		1		17	

Combined		WEST The		SOUTH Matthews St		EAST The		TOTAL	
Time Per	Peak Per	I	R	L	R	L	R	I	TOT
1530 - 1545	1530 - 1545	85	9	7	2	8	108	219	
1545 - 1600	1545 - 1600	76	7	2	2	6	101	194	
1600 - 1615	1600 - 1615	83	11	17	5	12	128	257	
1615 - 1630	1615 - 1630	94	8	11	0	10	156	279	
1630 - 1645	1630 - 1645	93	13	26	5	5	125	267	
1645 - 1700	1645 - 1700	91	14	19	5	11	152	292	
1700 - 1715	1700 - 1715	102	19	18	12	11	146	308	
1715 - 1730	1715 - 1730	80	12	20	4	13	184	313	
1730 - 1745	1730 - 1745	103	17	7	2	8	154	291	
1745 - 1800	1745 - 1800	89	16	16	10	15	124	270	
1800 - 1815	1800 - 1815	103	8	7	5	8	157	288	
1815 - 1830	1815 - 1830	91	12	10	12	5	132	262	
Per End		1090		146		112		1668	

Lights		WEST The		SOUTH Matthews St		EAST The		TOTAL	
Time Per	Peak Per	I	R	L	R	L	R	I	TOT
1530 - 1630	1530 - 1630	335	35	37	9	35	487	938	
1545 - 1645	1545 - 1645	343	39	56	12	33	505	988	
1600 - 1700	1600 - 1700	355	46	73	15	38	556	1083	
1615 - 1715	1615 - 1715	376	54	74	22	37	574	1137	
1630 - 1730	1630 - 1730	362	58	83	26	40	602	1171	
1645 - 1745	1645 - 1745	371	62	64	23	43	630	1193	
1700 - 1800	1700 - 1800	370	64	61	28	47	603	1173	
1715 - 1815	1715 - 1815	370	53	50	21	44	613	1151	
1730 - 1830	1730 - 1830	381	53	40	29	36	562	1101	
PEAK HR		371		62		43		630	

Heavies		WEST The		SOUTH Matthews St		EAST The		TOTAL	
Time Per	Peak Per	I	R	L	R	L	R	I	TOT
1530 - 1630	1530 - 1630	3	0	0	0	1	7	11	
1545 - 1645	1545 - 1645	3	0	0	0	0	6	9	
1600 - 1700	1600 - 1700	6	0	0	0	0	6	12	
1615 - 1715	1615 - 1715	4	0	0	0	0	5	9	
1630 - 1730	1630 - 1730	4	0	0	0	0	5	9	
1645 - 1745	1645 - 1745	5	0	0	0	0	6	11	
1700 - 1800	1700 - 1800	4	0	0	0	0	5	9	
1715 - 1815	1715 - 1815	5	0	0	0	0	6	11	
1730 - 1830	1730 - 1830	5	0	0	0	0	5	10	
PEAK HR		5		0		0		6	

Combined		WEST The		SOUTH Matthews St		EAST The		TOTAL	
Time Per	Peak Per	I	R	L	R	L	R	I	TOT
1530 - 1630	1530 - 1630	338	35	37	9	36	494	949	
1545 - 1645	1545 - 1645	346	39	56	12	33	511	997	
1600 - 1700	1600 - 1700	361	46	73	15	38	562	1095	
1615 - 1715	1615 - 1715	380	54	74	22	37	579	1146	
1630 - 1730	1630 - 1730	366	58	83	26	40	607	1180	
1645 - 1745	1645 - 1745	376	62	64	23	43	636	1204	
1700 - 1800	1700 - 1800	374	64	61	28	47	608	1182	
1715 - 1815	1715 - 1815	375	53	50	21	44	619	1162	
1730 - 1830	1730 - 1830	386	53	40	29	36	567	1111	
PEAK HR		376		62		43		636	



R.O.A.R. DATA

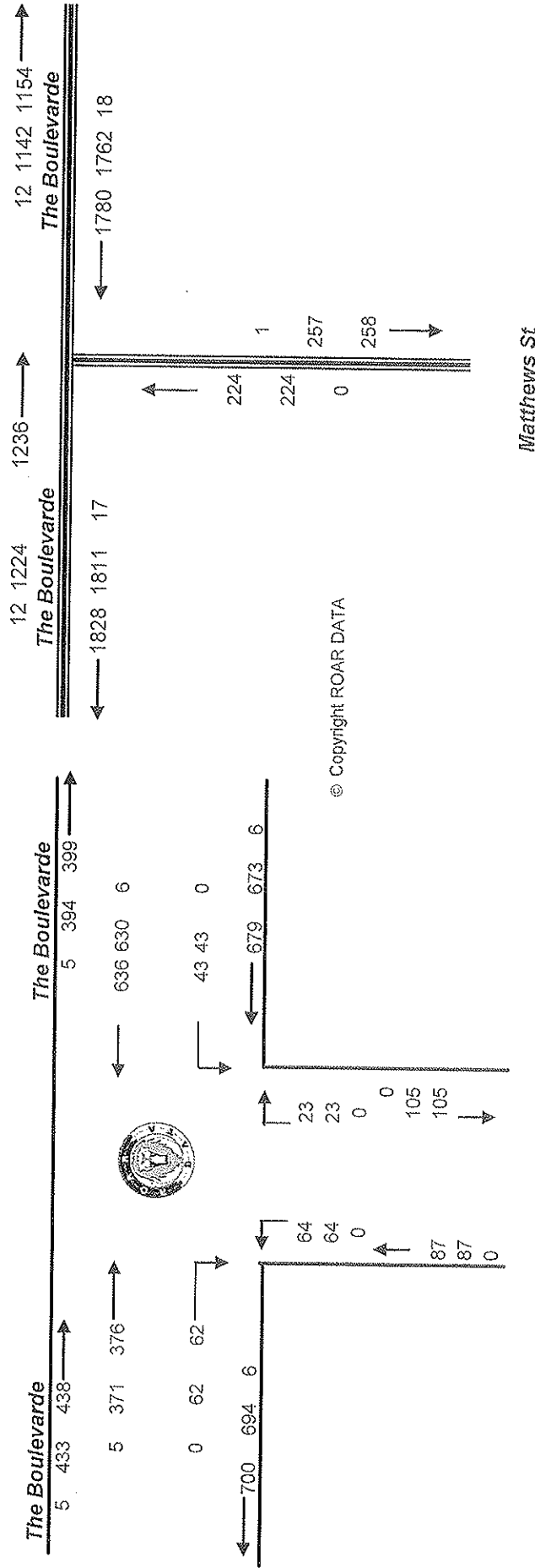
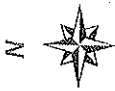
Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client : Varga Traffic Planning
Job No/Name : 3082 Punchbowl The Boulevard
Day/Date : Friday 23rd April 2010

PM PEAK
1645 - 1745

TOTAL VOLUMES
FOR COUNT
PERIOD





R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph. 88196847, Fax 88196849, Mob. 0418-239019

Client : Varga Traffic Planning
Job No/Name : 3082 Punchbowl The Boulevard
Day/Date : Friday 23rd April 2010

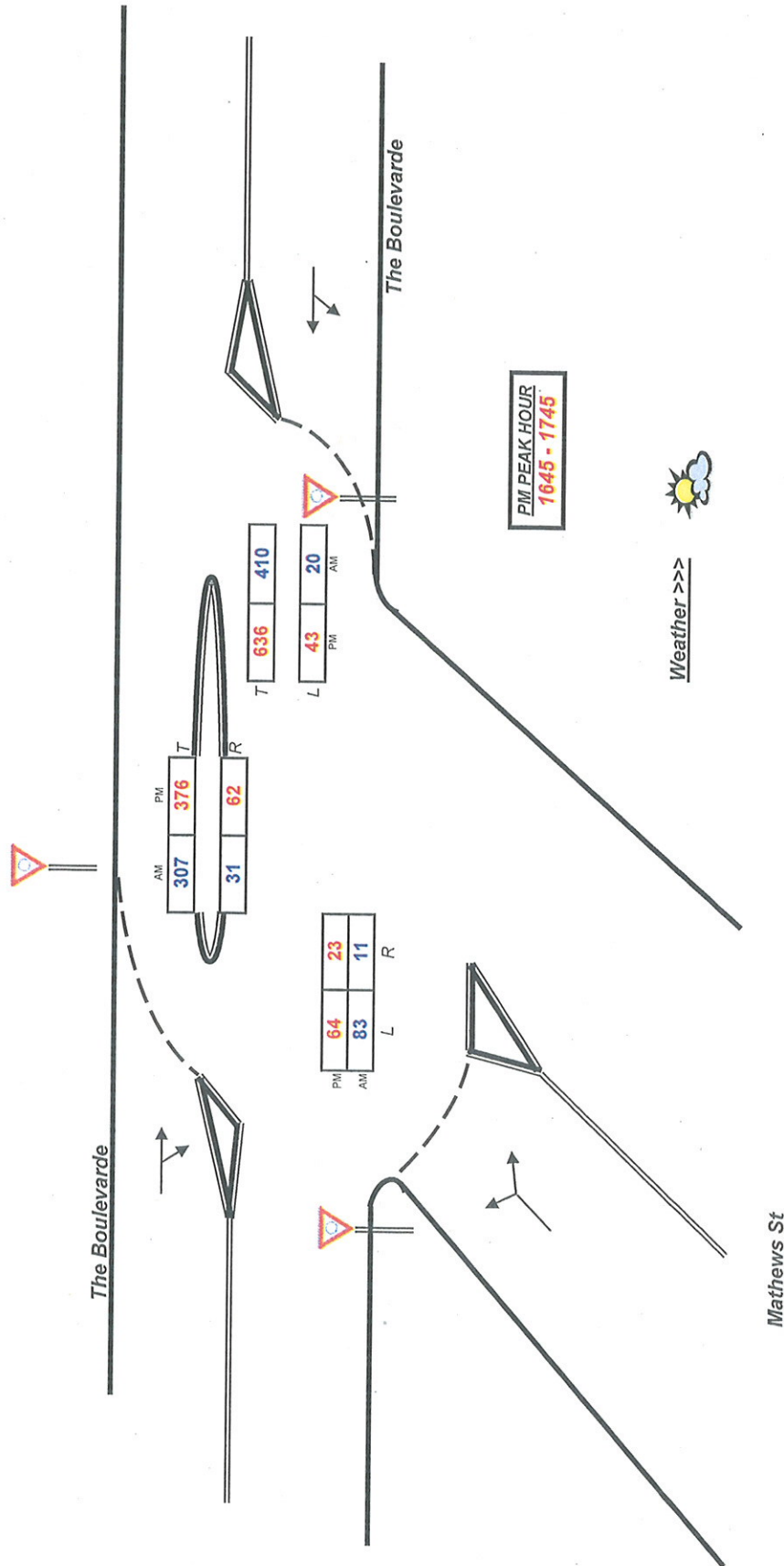


Intersection Details

Obtained via satellite

May be incorrect

AM PEAK HOUR
0830 - 0930





R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849.

Mobile.0418239019

Client : Varga Traffic Planning
Job No/Name : 3082 Punchbowl The Boulevard
Day/Date : Friday 23rd April 2010

PEDS		WEST	SOUTH	EAST	TOT
Time Per		The Boulevard	The Broadway	The Boulevard	
0630 - 0645		2	1	1	4
0645 - 0700		2	4	1	7
0700 - 0715		1	0	0	1
0715 - 0730		0	2	0	2
0730 - 0745		0	3	0	3
0745 - 0800		0	0	1	1
0800 - 0815		0	2	1	3
0815 - 0830		1	1	1	3
0830 - 0845		1	2	0	3
0845 - 0900		0	0	0	0
0900 - 0915		0	0	0	0
0915 - 0930		2	3	1	6
Per End		9	18	6	33



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

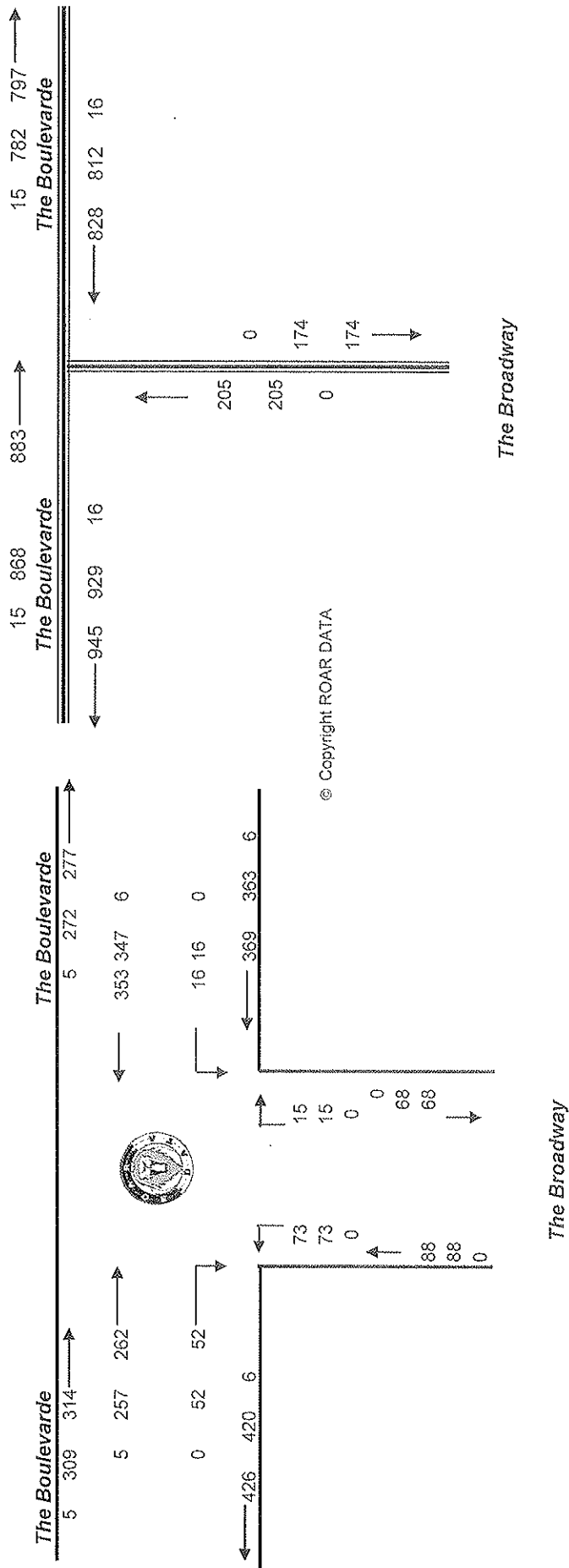
Client : Varga Traffic Planning

Job No/Name : 3082 Punchbowl The Boulevard

Day/Date : Friday 23rd April 2010

AM PEAK
0830 - 0930

TOTAL VOLUMES
FOR COUNT
PERIOD





R.O.A.R. DATA
Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849.
Mobile.0418239019

Client : Varga Traffic Planning
Job No/Name : 3082 Punchbowl The Boulevard
Day/Date : Friday 23rd April 2010

PEDS				PEDS			
Time Per		WEST The	SOUTH The	Time Per		WEST The	SOUTH The
1530 - 1545	1	1	2	1530 - 1630	2	2	4
1545 - 1600	1	2	3	1545 - 1645	2	4	3
1600 - 1615	0	0	0	1600 - 1700	1	2	0
1615 - 1630	0	0	0	1615 - 1715	1	4	0
1630 - 1645	1	2	0	1630 - 1730	1	4	0
1645 - 1700	0	0	0	1645 - 1745	0	2	0
1700 - 1715	0	2	0	1700 - 1800	0	2	0
1715 - 1730	0	0	0	1715 - 1815	0	0	0
1730 - 1745	0	0	0	1730 - 1830	0	0	0
1745 - 1800	0	0	0	PEAK HR			
1800 - 1815	0	0	0	0		2	
1815 - 1830	0	0	0	0		0	
Per End	3	8	4	0		0	

Lights				Lights			
Time Per		WEST The	SOUTH The	Time Per		WEST The	SOUTH The
1530 - 1545	70	16	9	1530 - 1545	71	16	9
1545 - 1600	65	12	8	1545 - 1600	65	12	8
1600 - 1615	74	10	18	1600 - 1615	76	10	18
1615 - 1630	77	20	17	1615 - 1630	77	20	17
1630 - 1645	80	11	10	1630 - 1645	81	11	10
1645 - 1700	87	12	18	1645 - 1700	90	12	18
1700 - 1715	97	17	24	1700 - 1715	97	17	24
1715 - 1730	67	13	12	1715 - 1730	67	13	12
1730 - 1745	86	16	21	1730 - 1745	88	16	21
1745 - 1800	75	18	10	1745 - 1800	77	18	10
1800 - 1815	96	10	21	1800 - 1815	97	10	21
1815 - 1830	79	17	15	1815 - 1830	79	17	15
Per End	953	172	183	Per End	965	172	183

Heavies				Heavies			
Time Per		WEST The	SOUTH The	Time Per		WEST The	SOUTH The
1530 - 1545	1	0	0	1530 - 1545	1	0	0
1545 - 1600	0	0	0	1545 - 1600	0	0	0
1600 - 1615	2	0	0	1600 - 1615	2	0	0
1615 - 1630	0	0	0	1615 - 1630	0	0	0
1630 - 1645	1	0	0	1630 - 1645	1	0	0
1645 - 1700	3	0	0	1645 - 1700	3	0	0
1700 - 1715	0	0	0	1700 - 1715	0	0	0
1715 - 1730	0	0	0	1715 - 1730	0	0	0
1730 - 1745	2	0	0	1730 - 1745	2	0	0
1745 - 1800	2	0	0	1745 - 1800	2	0	0
1800 - 1815	1	0	0	1800 - 1815	1	0	0
1815 - 1830	0	0	0	1815 - 1830	0	0	0
Per End	12	0	0	Per End	12	0	0

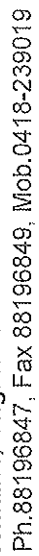
Combined				Combined			
Time Per		WEST The	SOUTH The	Time Per		WEST The	SOUTH The
1530 - 1545	71	16	9	1530 - 1545	71	16	9
1545 - 1600	65	12	8	1545 - 1600	65	12	8
1600 - 1615	76	10	18	1600 - 1615	76	10	18
1615 - 1630	77	20	17	1615 - 1630	77	20	17
1630 - 1645	81	11	10	1630 - 1645	81	11	10
1645 - 1700	90	12	18	1645 - 1700	90	12	18
1700 - 1715	97	17	24	1700 - 1715	97	17	24
1715 - 1730	67	13	12	1715 - 1730	67	13	12
1730 - 1745	88	16	21	1730 - 1745	88	16	21
1745 - 1800	77	18	10	1745 - 1800	77	18	10
1800 - 1815	97	10	21	1800 - 1815	97	10	21
1815 - 1830	79	17	15	1815 - 1830	79	17	15
Per End	965	172	183	Per End	965	172	183

Peak Per				Peak Per			
Time Per		WEST The	SOUTH The	Time Per		WEST The	SOUTH The
1530 - 1630	289	58	52	1530 - 1630	289	58	52
1545 - 1645	299	53	53	1545 - 1645	299	53	53
1600 - 1700	324	53	63	1600 - 1700	324	53	63
1615 - 1715	345	60	69	1615 - 1715	345	60	69
1630 - 1730	335	53	64	1630 - 1730	335	53	64
1645 - 1745	342	58	75	1645 - 1745	342	58	75
1700 - 1800	329	64	67	1700 - 1800	329	64	67
1715 - 1815	329	57	64	1715 - 1815	329	57	64
1730 - 1830	341	61	67	1730 - 1830	341	61	67
PEAK HR	342	58	75	PEAK HR	342	58	75

Peak Per				Peak Per			
Time Per		WEST The	SOUTH The	Time Per		WEST The	SOUTH The
1530 - 1630	289	58	52	1530 - 1630	289	58	52
1545 - 1645	299	53	53	1545 - 1645	299	53	53
1600 - 1700	324	53	63	1600 - 1700	324	53	63
1615 - 1715	345	60	69	1615 - 1715	345	60	69
1630 - 1730	335	53	64	1630 - 1730	335	53	64
1645 - 1745	342	58	75	1645 - 1745	342	58	75
1700 - 1800	329	64	67	1700 - 1800	329	64	67
1715 - 1815	329	57	64	1715 - 1815	329	57	64
1730 - 1830	341	61	67	1730 - 1830	341	61	67
PEAK HR	342	58	75	PEAK HR	342	58	75

Peak Per				Peak Per			
Time Per		WEST The	SOUTH The	Time Per		WEST The	SOUTH The
1530 - 1630	286	58	52	1530 - 1630	286	58	52
1545 - 1645	296	53	53	1545 - 1645	296	53	53
1600 - 1700	318	53	63	1600 - 1700	318	53	63
1615 - 1715	341	60	68	1615 - 1715	341	60	68
1630 - 1730	331	53	64	1630 - 1730	331	53	64
1645 - 1745	337	58	75	1645 - 1745	337	58	75
1700 - 1800	325	64	67	1700 - 1800	325	64	67
1715 - 1815	324	57	64	1715 - 1815	324	57	64
1730 - 1830	336	61	67	1730 - 1830	336	61	67
PEAK HR	337	58	75	PEAK HR	337	58	75

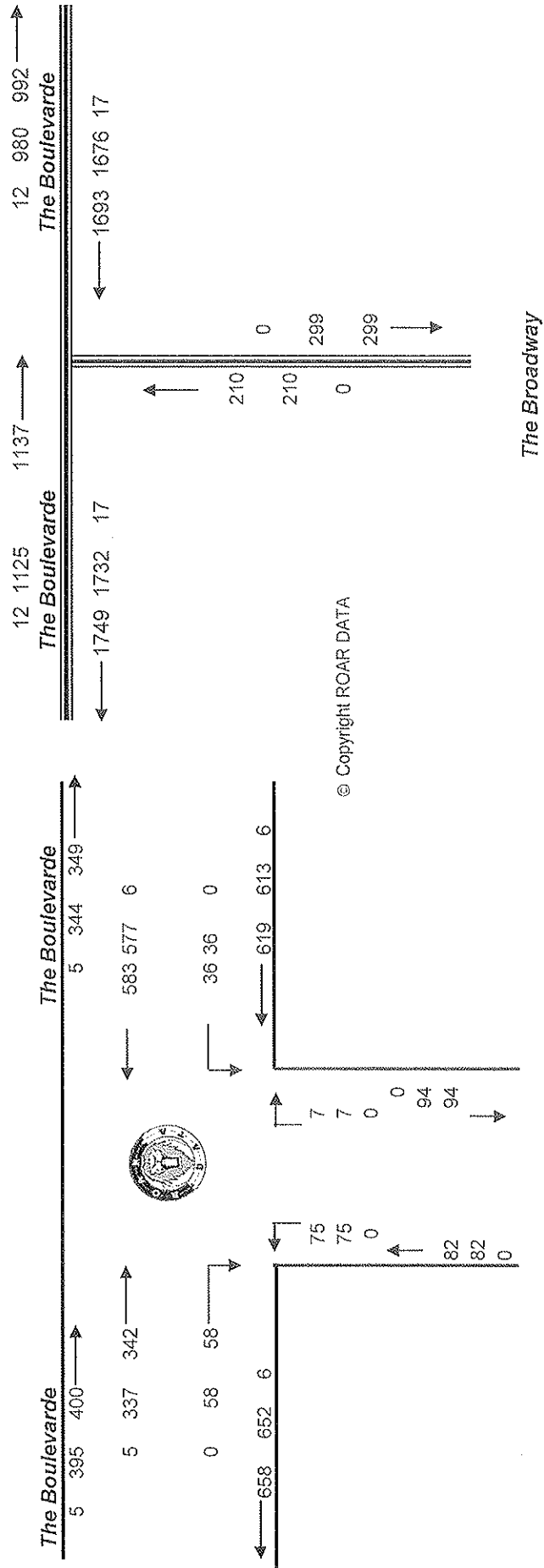
Peak Per				Peak Per			
Time Per		WEST The	SOUTH The	Time Per		WEST The	SOUTH The
1530 - 1630	286	58	52	1530 - 1630	286	58	52
1545 - 1645	296	53	53	1545 - 1645	296	53	53
1600 - 1700	318	53	63	1600 - 1700	318	53	63
1615 - 1715	341	60	68	1615 - 1715	341	60	68
1630 - 1730	331	53	64	1630 - 1730	331	53	64
1645 - 1745	337	58	75	1645 - 1745	337	58	75
1700 - 1800	325	64	67	1700 - 1800	325	64	67
1715 - 1815	324	57	64	1715 - 1815	324	57	64
1730 - 1830	336	61	67	1730 - 1830	336	61	67
PEAK HR	337	58	75	PEAK HR	337	58	75



Day/Date : Friday 23rd April 2010



TOTAL VOLUMES FOR COUNT PERIOD	PERCENTAGE OF TOTAL COUNT	PERCENTAGE OF TOTAL COUNT	PERCENTAGE OF TOTAL COUNT
1	100	100	100



The Broadway



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client : Varga Traffic Planning
Job No/Name : 3082 Punchbowl The Boulevard
Day/Date : Friday 23rd April 2010



Intersection Details

Obtained via satellite

May be incorrect

AM PEAK HOUR
0830 - 0930

Combined figures only

The Boulevard

262	342	T
AM	PM	
52	58	R



75	7	R
AM	PM	
73	15	L

583	353	T
PM	AM	
36	16	L



The Boulevard

PM PEAK HOUR
1645 - 1745



Weather

The Broadway

Our Reference:

RDC 10M1813 SYD10/00677

Contact:

Stella Qu

Telephone

8849 2520

SRDAC

**SYDNEY
REGIONAL
DEVELOPMENT
ADVISORY
COMMITTEE**

The General Manager
Canterbury City Council
DX 3813
CAMPSIE NSW 2194

Attention: Sri Sritharan

**RE-ZONING APPLICATION – PROPOSED MIXED USE DEVELOPMENT
AT 1 THE BROADWAY PUNCHBOWL**

Dear Sir/Madam,

Please see below minutes for Item RDC 10M1813 - SYD10/00677 discussed at the Sydney Regional Development Advisory Committee (SRDAC) meeting held on 22 September 2010.

The Committee raises the following safety and traffic concerns with regard to the proposed development:

1. The submitted traffic report lacks sufficient details regarding trip distribution and traffic assignment of the additional 780 vph into the existing road network. In this regard, details shall be submitted to the RTA and Council for review.
2. A number of signalised intersections in the vicinity of subject site are operating at capacity. In this regard, the traffic report shall address the impact of the proposed development on the following intersections:
 - Punchbowl Road/The Boulevarde Intersection
 - Punchbowl Road/South TCE/Rossmore Avenue intersection
 - King Georges Road/The Boulevarde Intersection
 - The Boulevarde/Arthur Street Intersection

In this regard, traffic modelling shall be undertaken to analyse the performance of the intersections. Given that the following intersections are located in close proximity to each other, it will be desirable to use LINSIG or TRANSYT modelling to analyse these intersections:

- Punchbowl Road/The Boulevarde Intersection
- Punchbowl Road/South TCE/Rossmore Avenue intersection
- The Boulevarde/Arthur Street Intersection

Roads and Traffic Authority
ABN 64 480 155 255



27-31 Argyle Street,
Parramatta NSW 2150

PO Box 973 Parramatta CBD NSW 2124
DX 28555 Parramatta

T 131 782

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subject In the largest
3. Concern is raised with regard to the largest vehicles accessing the surrounding area and manoeuvrability in and out of the loading dock. analysis shall be submitted to Council and RTA, which illustrates the following manoeuvres:

- a) Turning at the intersections in the vicinity of the subject site, particularly Punchbowl Road and The Boulevard
- b) Entering and exiting the site in a forward direction
- c) Manoeuvring into and out of the loading dock

A plan shall be submitted to Council for approval, which illustrates that the development complies with AUSTROADS.

4. The proposed development will generate an increase in pedestrian movements Street, which currently has a high level of pedestrian activity. In this regard, the address pedestrian safety issues to the satisfaction of Council.
5. The provision of off-street car parking and bicycle storage should be provided to satisfaction of Council.
6. The layout of the proposed car parking areas, and driveway associated with the development (including, grades, turn paths, sight distance requirements, aisle widths, lengths and parking bay dimensions) should be in accordance with AS2890.1 - 2004.
7. A Demolition and Construction Traffic Management Plan detailing construction vehicle number of trucks, hours of operation, access arrangements and traffic control should be submitted to Council, for approval, prior to the issue of a construction certificate.
8. All vehicles are to enter and leave the site in a forward direction.
9. All vehicles should be wholly contained on site before being required to stop.
10. All works/regulatory signposting associated with the proposed development are to be at cost to the RTA.

Any inquiries in relation to this development application can be directed to Stella Qu on telephone 8849 2520.

Yours faithfully



James Hall
A/Chairman, Sydney Regional Development Advisory Committee
11 October 2010