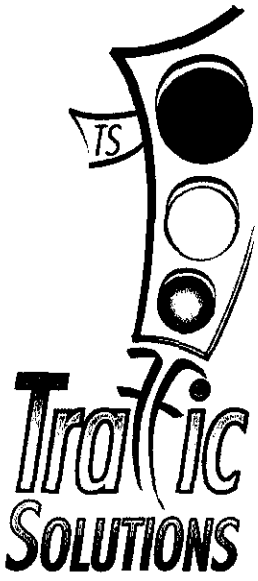


Traffic Solutions Pty Ltd

PROPOSED RETAIL AND RESIDENTIAL DEVELOPMENT, 171 – 189 PARRAMATTA ROAD, GRANVILLE

TRAFFIC AND PARKING ASSESSMENT

December 2009

REF: 09.10.076

P.O Box Springwood NSW 2777 Phone/Fax: (02) 4751 6354 Email: trafficsolutions@ozemail.com.au

CONTENTS

1. INTRODUCTION

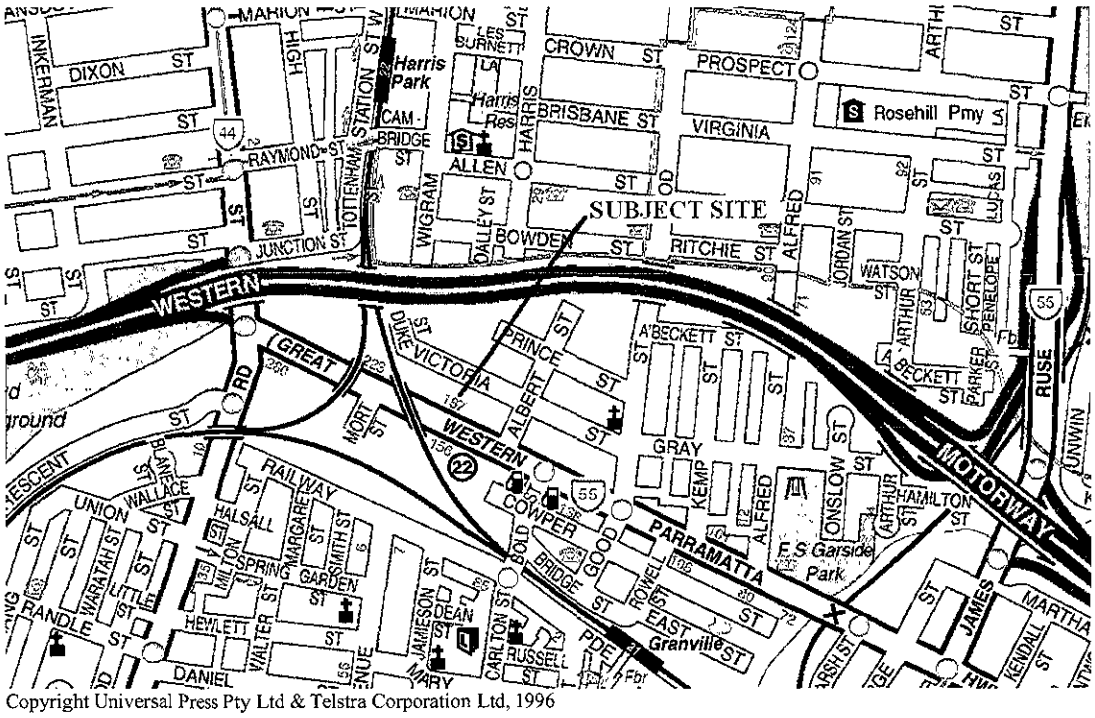
This report has been prepared to accompany a development application for a proposed residential and retail development at 171 – 189 Parramatta Road, Granville. (Figure 1) This report supersedes two previous Traffic and Parking Assessment report prepared by this firm dated October 2005 (Ref No. 04.05.075), March 2007 (Ref No. 04.05.075A) and October 2007 (Ref No. 04.05.075B).

The development now proposes a ground floor retail area of 1,806m^2, with 108 residential units above and 8 x 3 bedroom duplexes facing Victoria Street at the rear of the site. Parking for 180 cars is proposed in two basement levels with vehicle access via an entry/exit off Parramatta Road preceded by a slip lane and a shared entry/exit driveway to the rear of the site onto Victoria Street via Duke Street (to be constructed).

The existing use and owner of this site operates the Living in Style Furniture Showroom. The applicant is proposing to reopen the furniture showroom in the same location.

This report examines the traffic implications of the proposed development and will assess the:

- The proposed access arrangements.
- The off-street parking provision.
- Estimated traffic generation of the proposal.
- Impacts on the existing road network of the estimated traffic generation.
- Adequacy of the proposed loading and manoeuvring areas.



LOCATION

Fig 1

2. PROPOSED DEVELOPMENT

SITE

The proposed development is located on the northern side of Parramatta Road between Albert Street and the main western rail line, Granville. Currently the site contains 2 furniture showrooms with an approximate Net Floor Area 3850m^2.

DEVELOPMENT PROPOSAL

The development proposes ground floor retail area with a total of 1,8066m^2 Gross Floor Area, 108 residential units above (comprising 13 x 1, 79 x 2 and 16 x 3 bedrooms units) and 8 x 3 bedroom duplexes facing Victoria Street at the rear of the site.

The existing use and owner of this site operates the Living in Style Furniture Showroom. The applicant is proposing to reopen the furniture showroom in the same location.

Parking for 180 cars is proposed in basement levels with vehicle access via an entry off Parramatta Road preceded by a slip lane, an exit onto Parramatta Road and a shared entry/exit driveway to the rear of the site onto Victoria Street via the construction of Duke Street. The only vehicle access to Victoria Street is via 4 double driveways serving the 8 duplexes and for the residential component of the development off Duke Street.

The basement car parking areas are physically separated so that only the residential vehicles can gain access to the basement from Duke Street via Victoria Street. Resident's visitors and the retail shopper's vehicles will only be able to access the site via the slip lane off Parramatta Road. The slip lane is 45m long including 15m taper and proposed for cars only whilst the Driveway onto Duke Street is 7.8m wide at the boundary.

The retail loading area is provided in the basement of the building with heavy vehicle access via Parramatta Road and the adequacy of this area is assessed in section 4 of this report.

This report has been prepared utilising revised plans prepared by Zhinar Architects.

3. EXISTING CONDITIONS

Parramatta Road is classified a State Road under the Roads and Traffic Authority's *"Sydney and Surrounding State and Regional Roads plan – 1993"* and provides access for all vehicles with no weight restrictions. Parramatta Road is two lanes in each direction separated by a central median island adjacent the subject site.

Good Street is considered to serve a major collector road in this area whilst Victoria Street and Albert Road serve a local road function.

The main features of the existing traffic controls in the vicinity of the site are:

- Traffic signal control at the intersections of Parramatta Road with Bold and Good streets.
- No Right Turn restrictions on Parramatta Road at Good Street. (both directions)
- No Right Turn 6.00am – 10.00am and 3.00pm – 7.00pm from Good Street turning into Parramatta Road. (both directions)
- Give Way restrictions in Victoria Street at its intersection with Good Street.
- A pedestrian refuge has been provided in Victoria Street at its intersection with Good Street.

The existing parking restrictions on Parramatta Road are:

- Clearway restrictions 6.00am – 10.00am and 3.00pm – 6.00pm Monday to Friday both sides of Parramatta Road.
- Full time No Stopping restrictions both sides of Parramatta Road.

An indication of the current traffic volumes on Parramatta Road in the vicinity of the subject site are provided by the Roads and Traffic Authority publication *'Traffic Volume Data 2002, Sydney Region – volume 1'*. This document provides a daily and hourly volume for both directions on Parramatta Road at the Clyde railway crossing. The Average Daily Traffic (ADT) volumes eastbound at this location is 28,033 vehicles per day, 1856 vehicles on average in the morning peak between 6.00am – 7.00am and 1795 vehicles in the evening peak between 5.00pm – 6.00pm.

The RTA publication also provides an Annual Average Daily Traffic (AADT) volume for Parramatta Road at the Clyde railway crossing since 1989 (combined direction) which provides details of traffic volume trends at this location. The following provides details of traffic volumes at this location:

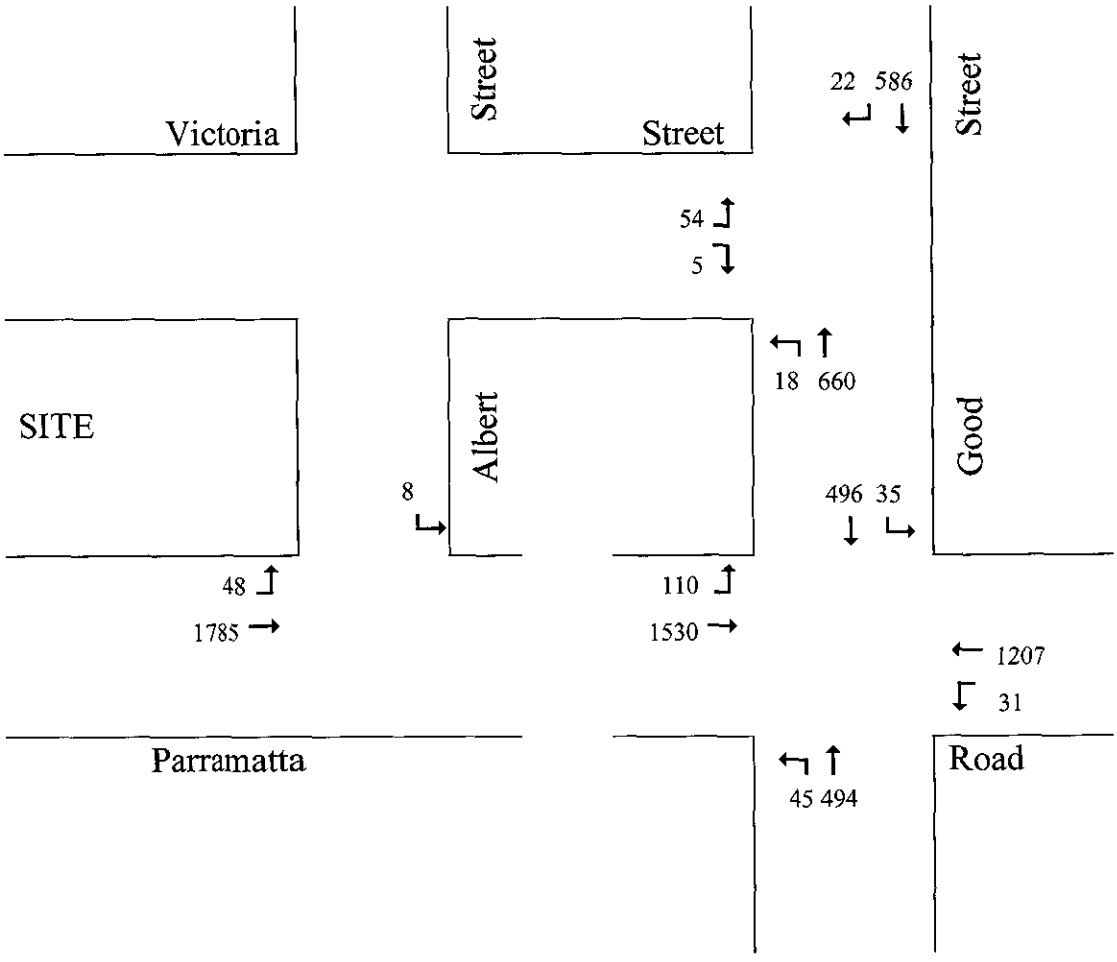
Year	AADT
1989	45843
1991	43458
1993	57012
1996	55360
1999	54905
2002	55348
2005	52279

This data reveals that the traffic volumes on Parramatta Road have been static since 1993.

Data on the traffic movements in the vicinity of the subject site have been collected by surveys undertaken as part of the previous studies from 6.30am - 9.30am and 3.30pm - 6.30pm on Wednesday 21st September 2005 at the following intersections.

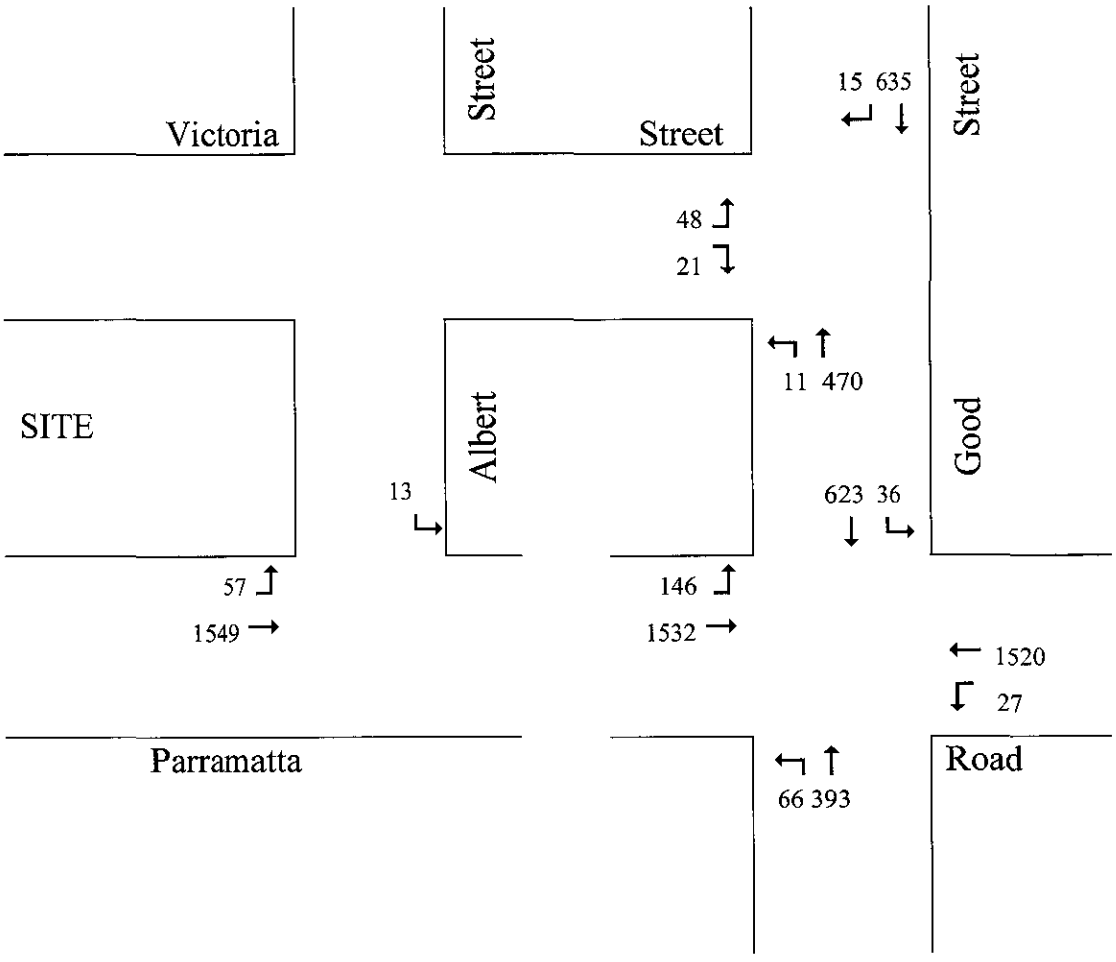
- Parramatta Road and Albert Street.
- Parramatta Road and Good Street.
- Good Street and Victoria Street

As Parramatta Road volumes have remained the same it is suggested that there would be little to no changes to the traffic volumes in Albert, Good and Victoria Streets since 2005. The detailed results of the surveys are attached as appendix A. The peak hour flows at the intersection is depicted in Figure 2 and 3 on the following pages.



Existing Morning Peak Hour Flows

Fig 2



Existing Evening Peak Hour Flows

Fig 3

4. KEY ISSUES

ACCESS AND PARKING

Vehicular access to the development is proposed via a driveway off Duke Street (to be constructed) and left turn slip lane from Parramatta Road (and an exit driveway onto Parramatta Road). The driveway off Duke Street is 7.8m wide at the boundary and is proposed as car access for the residential component of the development only.

The slip lane is 45m long including 15m taper and provides access to the retail and visitor parking on the site as well as heavy vehicle access to the loading area (up to 12.5m heavy rigid vehicles). A total of 180 basement car parking spaces, the retail area includes the loading dock and has 41 parking spaces whilst the residential parking provides 139 parking spaces on 2 basement levels.

The geometric design requirements for car park layouts such as ramp gradients, ramp widths, aisle widths, and parking bay sizes are specified in the '*Australian Standards, Parking Facilities Part 1; Off Street Car Parking (AS/NZS 2890.1)* of 2004. The following table provides information on the key requirements of AS/NZS 2890.1.

FEATURE	AS/NZS 2890.1 REQUIREMENT	PROPOSED	CONFORMS TO AS/NZS 2890.1
Parking Space dimensions	5.4m x 2.4m Standard space clear of columns plus 300mm clearance adjacent walls 5.4m x 3.2m Disabled (2.7m if adjacent a walkway or aisle min 1m wide)	5.5m x 2.4m min clear of columns plus 300mm clearances were appropriate 5.5m x 2.7m min	**YES** **YES**
Aisle widths	5.8m	6.2m min	**YES**
Blind aisle	1m	1m min	**YES**
Ramp Grades	• 5% or 1 in 20 for the 1st 6m • > 20m 1 in 6 (16.7%) max • < 20m 1 in 5 (25%) max. Transition required if grade change in excess of 1 in 8 (12.5%)	5% for 1st 6m Main ramp > 20m max 1 in 6 with grade transitions. Other ramps 1 in 5 max with transitions	**YES** **YES**
Ramp widths	For straight ramps • One way ramps = 2.9m min • Two way ramps = 5.5m min For curved ramps • One way ramps = 3.6m min • Two way ramps = 7.8 min	Main two way curved ramps 6.2m each carriageways with median separators. Two way straight ramps 6.1m min	**YES** **YES**

Accordingly this development proposal adheres to the above Australian Standard requirements with the exception of the ramps to the residential basement.

In addition to the standards for off street car parking the Australian Standards, AS 2890.2:2002 provides the design requirements for varying size heavy vehicles. In this regard, the maximum vehicle to be catered for on site is the Heavy Rigid Vehicle (12.5m long). The following table provides a comparison on the key requirements of AS 2890.2 applicable to the proposal.

FEATURE	AS 2890.2 REQUIREMENT	PROPOSED	CONFORMS TO AS 2890.2
Loading dock dimensions	12.5m x 3.5m.	Large open area 20m x 15m minimum with truck turntable	**YES**
Aisle widths	6.5m for two way	9.4m min	**YES**
Driveway width	Heavy Rigid = 10m entry and exit with 1.5m separation island.	12m entry, 4m exit with 2.6m separation	**NO (see note)**
Ramp widths	< 40m radius to be determined by turning path templates 40 – 49m radii 5.2m single lane	6.2m	**See section 4 of this report**

Note: Application of the heavy rigid turning template indicates that this size vehicle will be able to egress from the narrow driveway with crossing into the median lane.

Accordingly this development proposal adheres to the above Australian Standard requirements with the exception of the driveway width, however, the driveway indicated is considered satisfactory. The truck path egress path is discussed further in section 4 of this report.

Parramatta Council's *"Sydney Regional Environmental Plan No 28"* specifies the following **maximum** parking requirements applicable to this development being out side the City Centre Precinct and greater than 400m from a railway Station or transit corridor (this section of Parramatta Road is not considered to be a transit corridor because the only service past the site is Baxter's Route 904 which is a limited 5 day service):

Residential

- 1 space per 1 bedroom units.
- 1.25 spaces per 2 bedroom units.
- 1.5 spaces per 3 or more bedroom units.
- 0.25 space per dwelling for visitors.

Commercial/Shop

- Commercial 1 space/50m^2
- Shop 1 space/30m^2

(To be rounded down to the nearest whole number)

The following table provides the off-street parking required for the retail and unit component of this development under the SREP:

Parramatta City Council SREP	
13 x 1 bed units @ 1 space per dwelling =	13 spaces
79 x 2 bed units @ 1.25 space per dwelling =	98.8 spaces
16 x 3 bed units @ 1.5 spaces per dwelling =	24 spaces
108 units @ 0.25 spaces dwellings for visitors =	27 spaces
1,806m^2 GFA of retail floor space @ 1 space/30m^2	60.2 spaces
TOTAL	**223 (max)**

The duplexes propose 1 single garage for each of the 3 bedroom dwellings and therefore also complies with the requirement.

Accordingly, the proposed residential unit and retail component this development satisfies Parramatta City Council's **maximum** parking requirements with the provision of **180** off-street parking spaces.

TRAFFIC

An estimation of the traffic generation of the proposed development can be calculated by reference to the Roads and Traffic Authority's *'Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation'* of October 2002. The guide specifies the following generation rates applicable to the development proposal:

Metropolitan Regional (CBD) Centres

Peak Hour Vehicle Trips = 0.24 trips per unit

Metropolitan Sub-Regional Centres

Peak Hour Vehicle Trips = 0.29 trips per unit

Smaller units and flats (up to two bedrooms):

Daily vehicle trips = 4-5 per dwelling
Weekday peak hour vehicle trips = 0.4-0.5 per dwelling

Larger units and town houses (three or more bedrooms):

Daily vehicle trips = 5.0-6.5 per dwelling
Weekday peak hour vehicle trips = 0.5-0.65 per dwelling

Bulky Goods Retail Stores

2.5 veh/hr/100m^2 gross leasable floor area (Thursday evening peak hours)

Considering that this site is not located within 400m of a rail station and Parramatta Road is not currently considered to be a Transit Corridor this assessment will utilise the higher traffic generation rate of 0.29 peak hour trips per unit for the 1 and 2 bedroom units and 0.5 vehicle trips for the 3 bedroom townhouses.

Accordingly, the estimated traffic generation of this development calculates as:

13 x 1 & 79 x 2 bedroom units @ 0.29 trips/unit		=	26.7 peak hour trips
16 x 3 bedroom units @ 0.5 trips/unit		=	8 peak hour trips
8 x 3 bedroom duplexes @ 0.5 trips/unit		=	4 peak hour trips
1,806m^2 retail @ 2.5 trips/100m^2		=	45.2 peak hour trips (AM assumed)
	Total	=	83.9peak hour trips

However, the existing Living in Style Showroom is proposing to reopen in the same location and as stated previously the floor area of the existing retail buildings is in the order of 3850m^2. Therefore the existing retail floor area exceeds the proposed retail

floor areas of this application and subsequently the traffic generation of the retail component of the proposal is already approved and using the road network.

However for the purposes of evaluating the impact of the development on the surrounding road network the total estimated traffic generation of the unit/retail components of the site will be modelled. For the purposes of this assessment it is assumed that the retail component will approach the site and the residential will depart the site in the morning peak hour (45 in and 39 out) and that this situation will reverse in the evening peak hour. Figure 4 and 5 depicts the potential additional morning and afternoon peak hour traffic volumes modeled.

The estimated peak hour approach and departure vehicle trips have been assigned proportionally to the adjacent road system. Figure 4 and 5 depicts the potential additional morning and afternoon peak hour traffic volumes modeled in tables 1 and 2.

Using INTANAL a software programme developed by Sims Harding Pty Ltd for the purpose of analysing signalised, roundabout and sign controlled intersections, the effect of the estimated traffic generation of this development on the adjacent road system has been assessed. A comparison of intersection performance between the existing and projected traffic demands during the morning and evening peak hours upon the critical intersections around the site is provided in the tables below.

Table 1	**Good Street and Victoria Street – Sign Control**			
	Existing		**Proposed**	
	AM	**PM**	**AM**	**PM**
Level of Service	A	A	A	A
Degree of Saturation	0.13	0.09	0.17	0.09
Total Average Delay	7.1	6.5	8.3	5.8

In addition, the operation of the proposed slip lane arrangement has been assessed to determine its operation.

Table 2	**Parramatta Road and proposed slip lane to subject site – Sign Control.**	
	PM	**PM**
Level of Service	A	A
Degree of Saturation	0.00	0.14
Total Average Delay	4.3	9.6

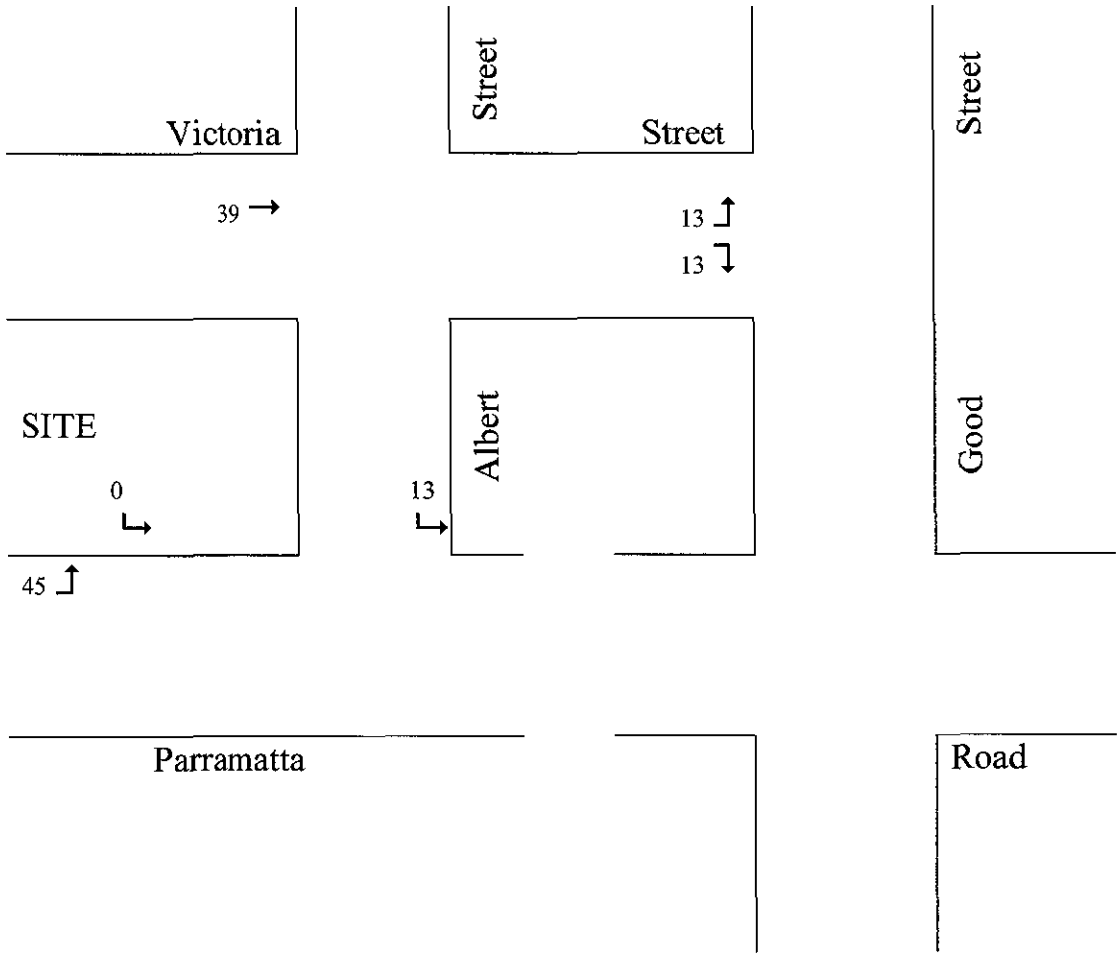
The results of the INTANAL analysis reveals that:

- The Level of Service at the intersection of Good and Victoria Streets

will not change with the estimated additional traffic generation of the proposed development.

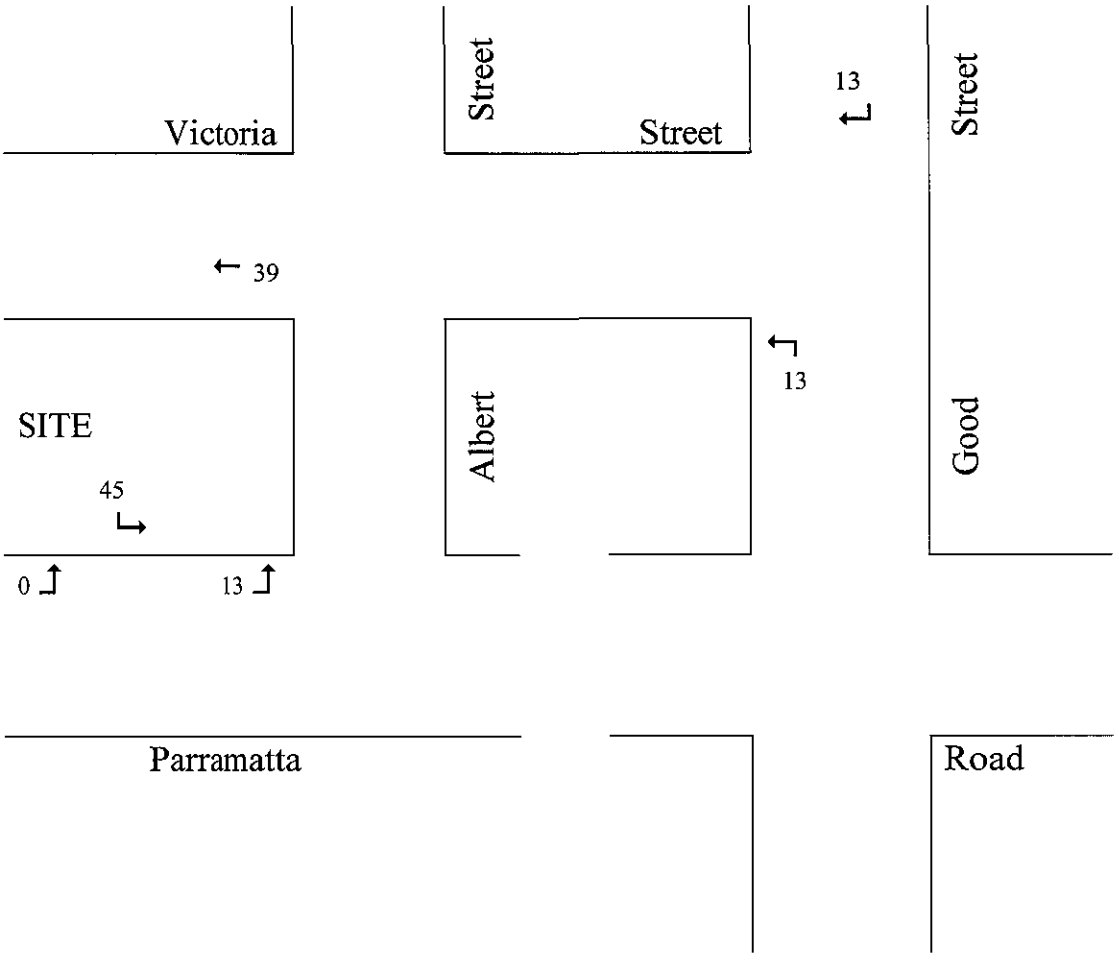
- The additional traffic demand on the existing Good and Victoria Streets intersection modelled as a consequence of the proposed development will only alter the Degree of Saturation and Total Average Delays minutely.

- The proposed intersection of Parramatta Road and the slip lane will operate at a very good level of service will ample spare capacity



Potential Additional Morning Peak Hour Flows

Fig 4



Potential Additional Evening Peak Hour Flows

Fig 5

TRAFFIC RELATED ENVIRONMENTAL EFFECTS

As stated previously Victoria Street is considered to perform a local road function in this area. The Roads and Traffic Authority provides a guide to the Environmental Capacity of residential streets in the *'Guide to Traffic Generating Developments, Section 4 – Interpretation of Traffic Impacts'* of October 2002. This guide suggests a maximum environmental goal of 300 vehicles/hour for local roads.

The existing peak hour traffic volumes in Victoria Street are known from the traffic counts undertaken as part of this study. The following table provides a comparison of the existing peak hour volumes and the RTA's suggested Environmental Capacity value:

Location	Classification	Existing Peak Hour Volumes		RTA Guide Environmental Capacity value
		AM	PM	
Victoria Street	Local Road	99	95	200 300 (max)

Consequently, the estimated potential 39 additional traffic trips generated by the residential component of the subject development will not increase the peak hour traffic volumes beyond the RTA's suggested desirable environmental goal for Victoria Street, Granville.

HEAVY VEHICLE MANOEUVRING

The development proposes a loading area in the basement level. This space has the minimum dimensions of 20m x 15m exceeding the minimum requirements for a heavy rigid truck suggested by the Australian Standard AS 2890.2 of 2002 (12.5m x 3.5m).

Due to the restricted area in the basement the applicant proposes a turntable to assist in the manoeuvring of this size truck.

To determine if the loading area is sufficient to cater for the AS 2890.2, 12.5m heavy rigid truck the AUTOTRACK computer programme has been used. The architectural plans indicate the AUTOTRACK swept paths of this vehicle entering the site, manoeuvring into the loading area and exiting the site in a forward direction from the truck turntable.

A heavy rigid truck is all that is required to service the major retail component of this proposal because there are no deliveries to customers undertaken from this site. Receiving and dispatch is undertaken from a warehouse at 170 Adderley Street, Auburn, where deliveries are received from the docks and other suppliers by articulated vehicle and new stock is transported to the showroom from this point by rigid vehicles.

5. CONCLUSIONS

The preceding analysis has demonstrated that:

- The vehicle access points proposed to serve the development are suitably located and will provide good sight lines in both directions along the respective street frontage.
- The off-street parking in the proposed residential development satisfies Parramatta City Council's **maximum** parking requirements with the provision of **180** off-street parking spaces.
- The proposed development satisfies the related geometric design specifications contained in the Australian Standards for off - street parking and vehicular access.
- The Level of Service at the intersection of Good and Victoria Streets will not change with the estimated additional traffic generation of the proposed development.
- The additional traffic demand on the existing Good and Victoria Streets intersection modelled as a consequence of the proposed development will only alter the Degree of Saturation and Total Average Delays minutely.
- The proposed intersection of Parramatta Road and the slip lane will operate at a very good level of service will ample spare capacity
- The proposed loading area complies with the dimensional requirements of AS 2890.2 for a heavy rigid truck and there is sufficient manoeuvring area to enable this vehicle to enter the site reverse into the loading area and exit the site in a forward direction.

APPENDIX A

Corner Counters

A Division of Joray Enterprises Pty Ltd
ABN 80 061 513 933
Telephone and Fax: (02) 9621 1221
1 Ajax Place, Blacktown, NSW 2148

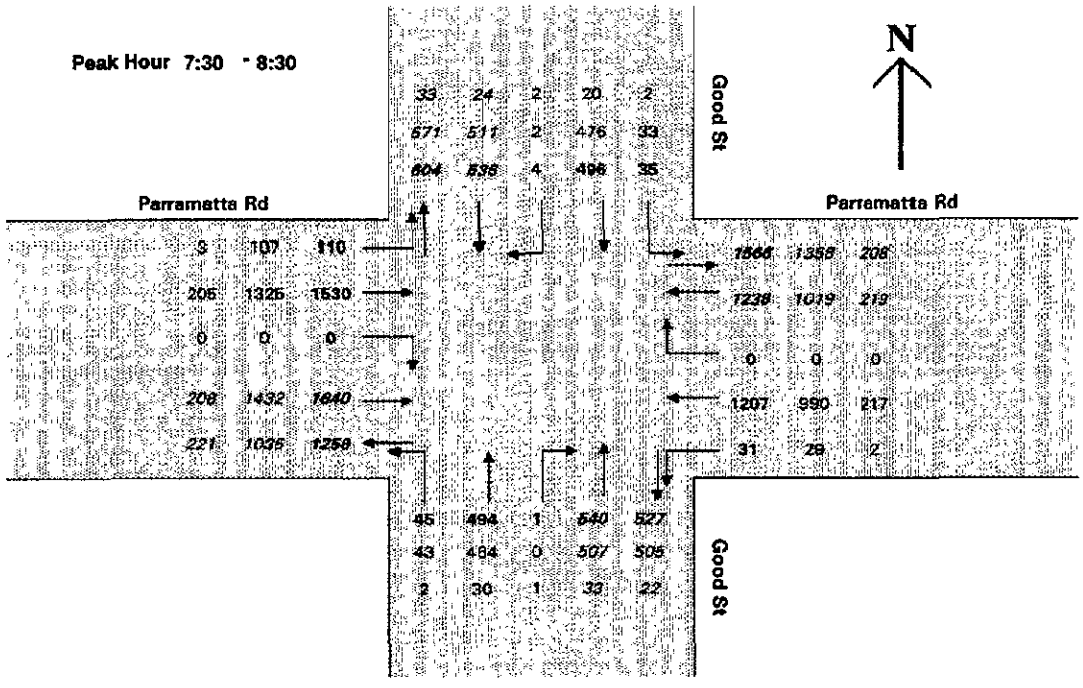
All Traffic Surveys and Traffic Supplies

Count Number	1307	Client	TRAFFIC SOLUTIONS PTY LTD	Count Date	Wednesday 21 September 2005
Location	PARRAMATTA RD / GOOD ST			Suburb	GRANVILLE
Weather	Fine			Job Number	

Comments

	Good St			Parramatta Rd			Good St			Parramatta Rd			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
Lights	33	476	2	29	990	0	43	464	0	107	1325	0	3469
Heavy	2	20	2	2	217	0	2	30	1	3	205	0	484
Total	35	496	4	31	1207	0	45	494	1	110	1530	0	3953

PEDESTRIAN	Good St	Parramatta Rd	Good St	Parramatta Rd	
All Pedestrians	61	14	0	39	114
Total	61	14	0	39	114



Corner Counters

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ABN 80 061 513 933
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1 Ajax Place, Blacktown, NSW 2148

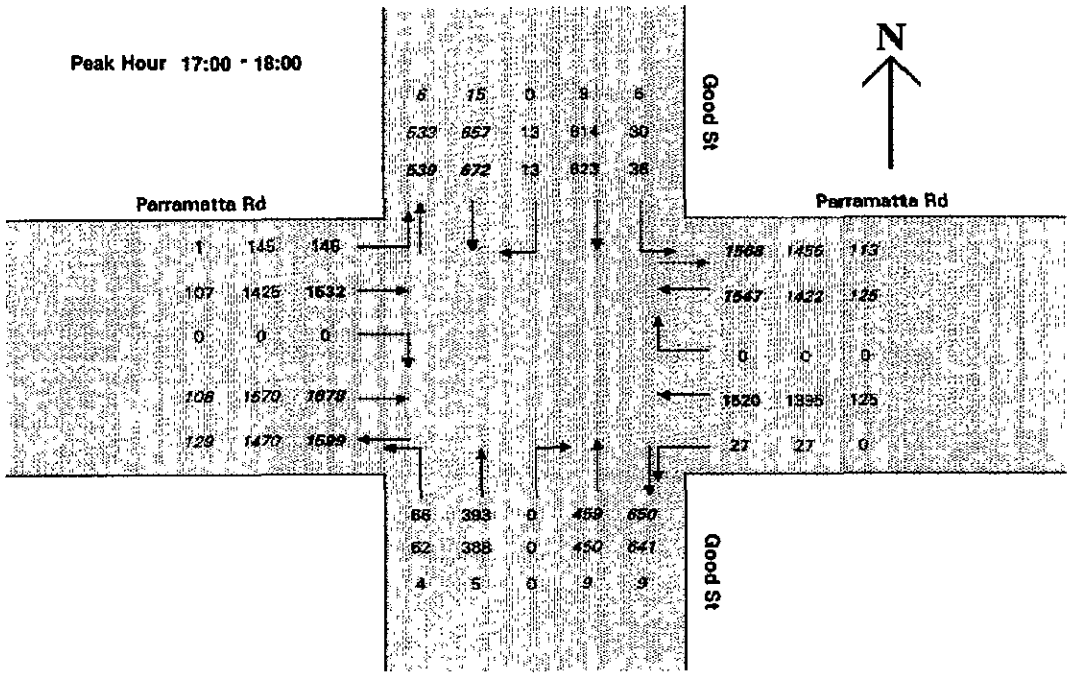
All Traffic Surveys and Traffic Supplies

Count Number 1307 Client TRAFFIC SOLUTIONS PTY LTD Count Date Wednesday 21 September 2005
Location PARRAMATTA RD / GOOD ST Suburb GRANVILLE
Weather Fine Job Number

Comments

	Good St			Parramatta Rd			Good St			Parramatta Rd			
Vehicle Class	L	T	R	L	T	R	L	T	R	L	T	R	Total
Lights	30	614	13	27	1395	0	62	388	0	145	1425	0	4099
Heavy	6	9	0	0	125	0	4	5	0	1	107	0	257
Total	36	623	13	27	1520	0	66	393	0	146	1532	0	4356

PEDESTRIAN	Good St	Parramatta Rd	Good St	Parramatta Rd	
All Pedestrians	8	78	73	23	182
Total	8	78	73	23	182



Corner Counters

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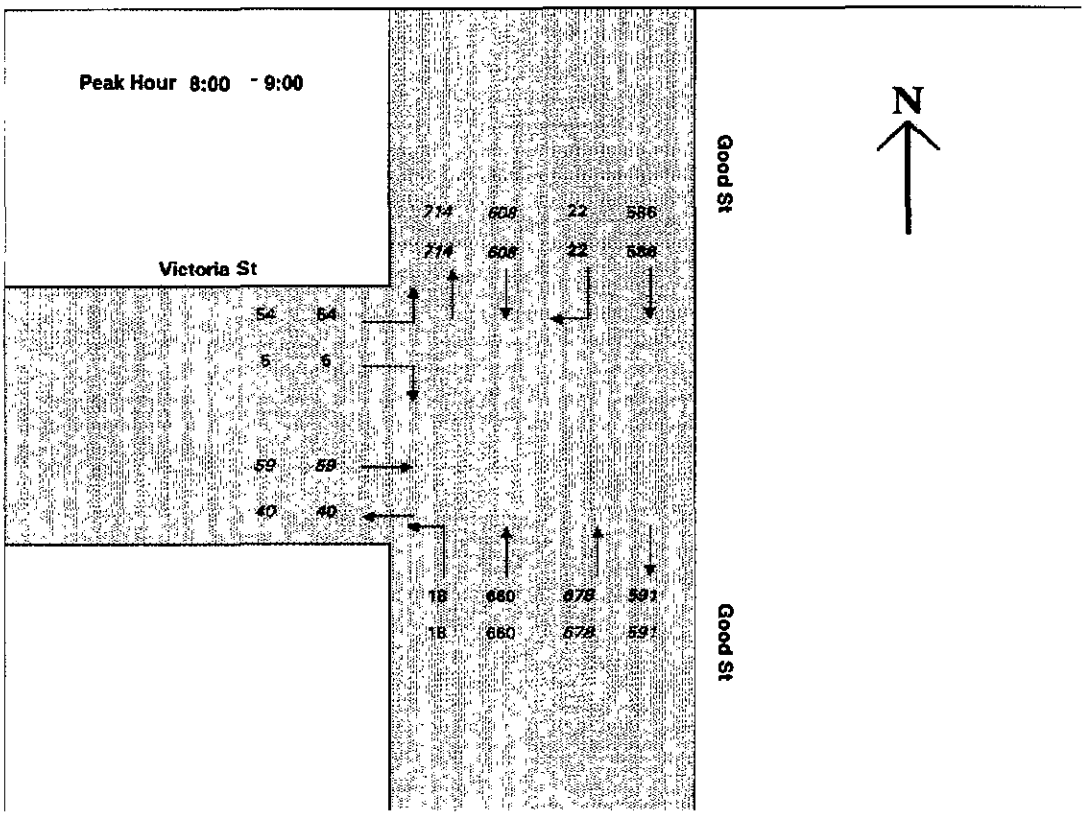
1 Ajax Place, Blacktown, NSW 2148

All Traffic Surveys
and
Traffic Supplies

Count Number 1309 Client TRAFFIC SOLUTIONS PTY LTD Count Date Wednesday 21 September 2005
Location GOOD ST / VICTORIA ST Suburb GRANVILLE
Weather Fine Job Number
Comments

	NORTH		SOUTH		WEST		
	Good St		Good St		Victoria St		
VEHICLES	T	R	L	T	L	R	Total
All Vehicles	586	22	18	660	54	5	1345
Total	586	22	18	660	54	5	1345



Corner Counters

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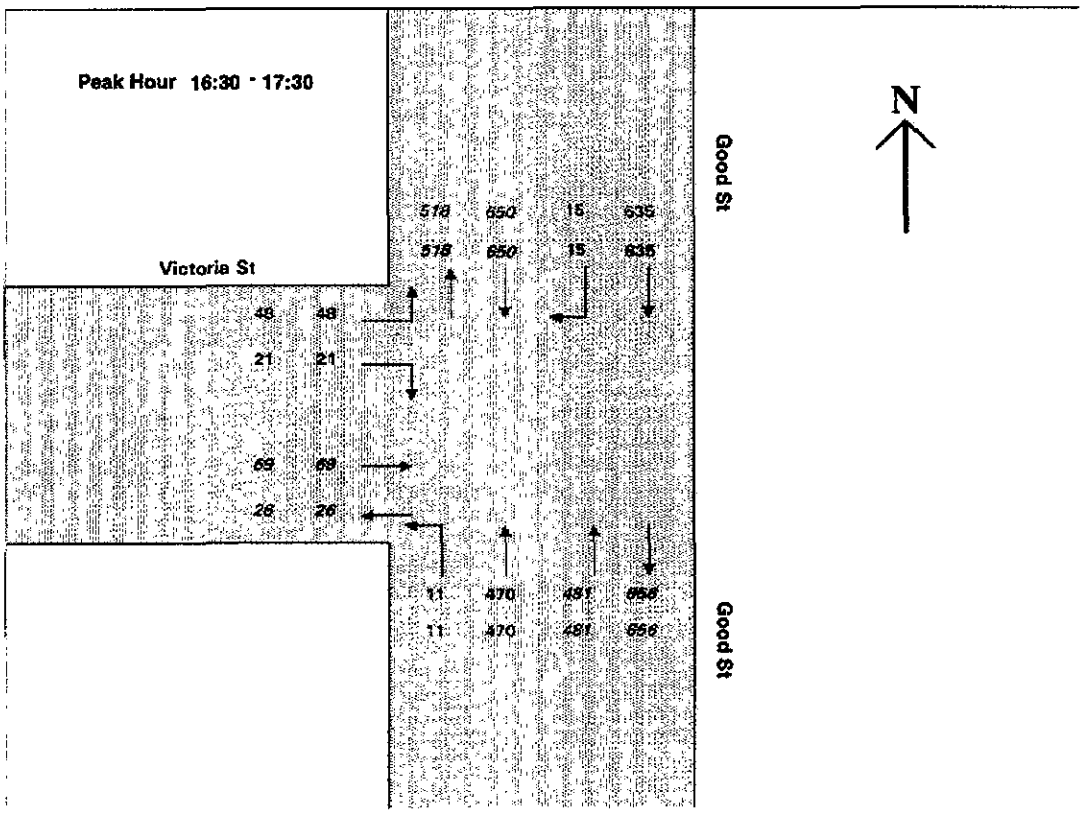
1 Ajax Place, Blacktown, NSW 2148

All Traffic Surveys
and
Traffic Supplies

Count Number	1309	Client	TRAFFIC SOLUTIONS PTY LTD	Count Date	Wednesday 21 September 2005
Location	GOOD ST / VICTORIA ST			Suburb	GRANVILLE
Weather	Fine			Job Number	

Comments

	NORTH		SOUTH		WEST		
	Good St		Good St		Victoria St		
VEHICLES	T	R	L	T	L	R	Total
All Vehicles	635	15	11	470	48	21	1200
Total	635	15	11	470	48	21	1200



APPENDIX B

VOLUME DATA SCREEN

	AM PEAK					PM PEAK					BUSINESS				
AM	Vol	Sat	Phse	Yval	Utrn	Vol	Sat	Phse	Yval	Utrn	Vol	Sat	Phse	Yval	Utrn
1L															
1T	586	1900	AB	0.31		635	1900	AB	0.33		427	1900	AB	0.22	
1R	25	1850	B	0.01		25	1850	B	0.01		17	1850	B	0.01	
2L	65	1557	BC	0.04		52	1750	BC	0.03		41	1750	BC	0.02	
2T															
2R	15	347	C	0.04		24	1850	C	0.01		14	1850	C	0.01	
3L	22	62	A	0.35		22	78	A	0.28		15	64	A	0.23	
3T	660	1694	A	0.39		470	1672	A	0.28		395	1686	A	0.23	
3R															
4L															
4T															
4R															

A	Min	ELT	H%AM	H%PM	H%B	L/S	PD-L	PD-R	Sign	Hold	LKph
1	5	4.0	0	0	0	0'		0			
2	5	4.0	0	0	0		0	0	G	N	25
3	5	4.0	0	0	0	0'	0				25
4											

File = GOOVICPR
Type = T2

PLATOON DATA				PEDESTRIAN VOLUME			WALK-CLEARANCE	
App	P%AM	P%PM	P%B	P#AM	P#PM	P#B	Walk	Clear
1	R0	R0	R0	0	0	0	0	0
2	R0	R0	R0	0	0	0	0	0
3	R0	R0	R0	0	0	0	0	0
4	R0	R0	R0	0	0	0	0	0

LANES DATA SCREEN

	Approach 1			Approach 2			Approach 3			Approach 4		
	Down	Lanes	Grade	Down	Lanes	Grade	Down	Lanes	Grade	Down	Lanes	Grade
Type T2	0	2	0		2	0	0	1	0			

Lane	Type	Lngth	Sat	Type	Lngth	Sat	Type	Lngth	Sat	Type	Lngth	Sat
1	T	9999	1900	L	10	1750	LT	9999	1750			
2	R	10	1850	R	9999	1850						
3												
4												
5												
6												
7												
8												

	No Parking			No Parking			No Parking			No Parking		
	AM	PM	BUS	AM	PM	BUS	AM	PM	BUS	AM	PM	BUS
Apprch	0	0	0	0	0	0	0	0	0			
Depart	0	0	0	0	0	0	0	0	0			

	Roundabout			Roundabout			Roundabout			Roundabout		
TCS#	Ent	Cir	Wdth	Ent	Cir	Wdth	Ent	Cir	Wdth	Ent	Cir	Wdth
0	1	1	4	1	1	4	1	1	4			

File = GOOVICPR

DELAY - STOPS - CYCLE LENGTH - PHASE SPLITS DATA SCREEN

	AM PEAK					PM PEAK					BUSINESS				
Phse	PT%o	CLo	Yo			PT%o	CLo	Yo			PT%o	CLo	Yo		
A	75.5	78	0.47			77.5	80	0.33			81.4	97	0.27		
B	11.5					11.3					9.3				
C	12.9					11.3					9.3				
D		Peds	@ CLm=	140			Peds	@ CLm=	140			Peds	@ CLm=	140	
E		Delo	DSm=	0.49			Delo	DSm=	0.40			Delo	DSm=	0.30	
F		0	Ym=	0.45			0	Ym=	0.37			0	Ym=	0.27	
G			Delaym=	3.54				Delaym=	3.26				Delaym=	2.23	
Seq	ABC					ABC					ABC				
	Signals		Signs		Round	Signals		Signs		Round	Signals		Signs		Round
Delo	3.0		0.3		1.1	2.3		0.2		1.0	1.6		0.1		0.7
Stpo	519		11		51	391		7		39	235		3		21

D/So	0.55	0.16	0.43	0.40	0.10	0.47	0.30	0.07	0.32
L/So	A	A	A	A	A	A	A	A	A

File = GOOVICPR

Required Bays

A	RHT Lanes Length	No.	LHT Lanes Length	No.
1	10	1		
2	10	1	15	1
3			10	1
4				

VOLUME DATA SCREEN

	AM PEAK					PM PEAK					BUSINESS				
AM	Vol	Sat	Phse	Yval	Utrn	Vol	Sat	Phse	Yval	Utrn	Vol	Sat	Phse	Yval	Utrn
1L	62	1722	A	0.04		0		A			22	1728	A	0.01	
1T	1833	5609	A	0.36		1606	5700	A	0.31		1204	5630	A	0.21	
1R															
2L															
2T															
2R															
3L															
3T	1583	5609	A	0.31		1583	5700	A	0.31		1108	5630	A	0.20	
3R	0		S			0		S			0		S		
4L	0		B			62	1750	B	0.04		22	1750	B	0.01	
4T															
4R	0		B			0		B			0		B		

A	Min	ELT	H%AM	H%PM	H%B	L/S	PD-L	PD-R	Sign	Hold	LKph
1	5	4.0	10	10	0	0'	0				25
2											
3	5	4.0	10	10	0	0'		0			
4	5	4.0	0	0	0		0	0	G	N	25

File = PARDW
Type = T4

PLATOON DATA			PEDESTRIAN VOLUME			WALK-CLEARANCE	
App	P%AM	P%PM	P%B	P#AM	P#PM	P#B	Walk	Clear
1	R0	R0	R0	0	0	0	0	0
2	R0	R0	R0	0	0	0	0	0
3	R0	R0	R0	0	0	0	0	0
4	R0	R0	R0	0	0	0	0	0

LANES DATA SCREEN

	Approach 1			Approach 2			Approach 3			Approach 4		
	Down	Lanes	Grade	Down	Lanes	Grade	Down	Lanes	Grade	Down	Lanes	Grade
Type	0	4	0				0	3	0		1	0
T4												

Lane	Type	Lngth	Sat	Type	Lngth	Sat	Type	Lngth	Sat	Type	Lngth	Sat
1	L	30	1750				T	9999	1900	L	9999	1750
2	T	9999	1900				T	9999	1900			
3	T	9999	1900				T	9999	1900			
4	T	9999	1900									
5												
6												
7												
8												

	No Parking			No Parking			No Parking			No Parking		
	AM	PM	BUS	AM	PM	BUS	AM	PM	BUS	AM	PM	BUS
Apprch	0	0	0				0	0	0	0	0	0
Depart	0	0	0				0	0	0	0	0	0

	Roundabout			Roundabout			Roundabout			Roundabout		
TCS#	Ent	Cir	Wdth	Ent	Cir	Wdth	Ent	Cir	Wdth	Ent	Cir	Wdth
0	1	1	4				1	1	4	1	1	4

File = PARDW

DELAY - STOPS - CYCLE LENGTH - PHASE SPLITS DATA SCREEN

	AM PEAK				PM PEAK				BUSINESS			
Phse	PT%o	CLo	Yo		PT%o	CLo	Yo		PT%o	CLo	Yo	
A	97.1	140	0.36		86.3	93	0.35		91.9	140	0.23	
B	2.9				13.7				8.1			

```
  C
  D       Peds  @ CLm=    140       Peds  @ CLm=    140       Peds  @ CLm=    140
  E       Delo    DSm=   0.38       Delo    DSm=   0.37       Delo    DSm=   0.24
  F          0     Ym=   0.36          0     Ym=   0.35          0     Ym=   0.23
  G             Delaym=  0.95             Delaym=  4.65             Delaym=  1.63
Seq  AB                        AB                        AB
     Signals    Signs   Round  Signals    Signs   Round  Signals    Signs   Round
Delo     0.9      0.1    88.9      4.3      0.2    77.1      1.6      0.1     1.7
Stpo     295               5229      872        8    4830      308        1      11
D/So    0.38     0.00    1.16     0.38     0.14    3.19     0.24     0.04    0.68
L/So       A        A       F        A        A       F        A        A       A
File = PARDW                          Required Bays       Check Roundabout Data.
                                    A RHT Lanes LHT Lanes
                                      Length No.Length No.
                                    1               10  1
                                    2
                                    3
                                    4               13  1
```