Proposed Place of Worship

1650 The Horsley Drive
Horsley Park

REVISED TRAFFIC AND PARKING ASSESSMENT REPORT

30 March 2017

Ref 14341

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

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Job Number:	14341				
Location:	1650 The Horsley Drive, Horsley Park				
Revision	**Details**	**Prepared**		**Approved**	
		By	**Date**	**By**	**Date**
Final	Final	CP	12/07/15	RV	12/07/16
Final 2	Shifting deceleration lane	CP	28/07/16	RV	28/07/16
Final 3	Deceleration lane lengthened	CP	30/03/17	CP	30/03/17

1. INTRODUCTION

This report has been prepared on behalf of the *Bethel Mar Thoma Church Sydney* to accompany a development application to Fairfield City Council for a proposal to establish a place of worship located at 1650 The Horsley Drive, Horsley Park (Figures 1 and 2).

The revised report and revised plans have been prepared to address the comments received from Council and the RMS after the initial DA submission regarding the quantity of parking provided on the site, the provision of a 70m long deceleration lane for vehicles entering the site, and the provision of a new raised central median island in The Horsley Drive opposite the site entry.

The proposed development involves the staged construction of a new purpose-built place of worship (i.e. a church) on the site. The proposed church is a relocation of an existing congregation currently operating at St Paul's Anglican Church at Harris Park.

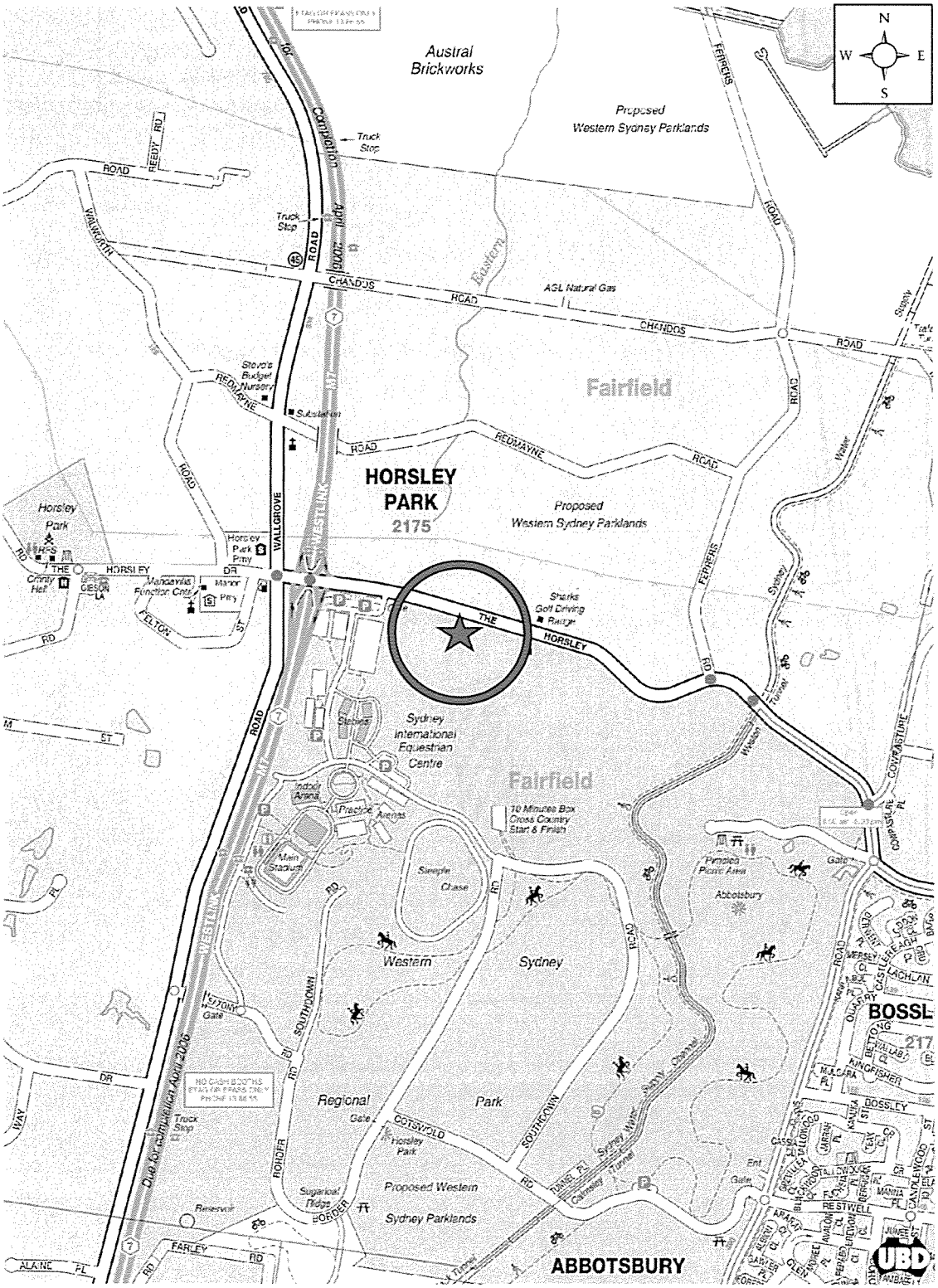
Off-street parking is to be provided in a new outdoor car parking area located on the western and southern sides of the proposed church building.

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 car parking facilities and vehicular access arrangements for compliance with the relevant codes and standards

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



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LOCATION
FIGURE 1

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SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject site is located on the southern side of The Horsley Drive, approximately 650m east of the M7 Motorway interchange. The site has a street frontage of approximately 99 metres in length to The Horsley Drive and occupies an area of approximately 2.98ha.

The subject site is currently occupied by a single residential dwelling house as well as a number of associated outbuildings. Vehicular access to the site is provided via a single driveway located midway along The Horsley Drive site frontage.

Proposed Development

The proposed development involves the staged construction of a new purpose-built church building on the site. The worship area of the church has a seating capacity of 400 seats with a floor area of approximately 400m^2.

The proposed new building will include a number of other *ancillary* areas such as administration/office/meeting rooms, a small library, a kitchen and a church hall with a floor area of approximately 660m^2.

The church and church hall are proposed for the sole use of the congregation. The church hall will *not* be made available for any external groups or users.

The church hall may only be used by the church congregation, and only for church related activities.

The church hall will primarily be used on Sunday afternoons, immediately after the main church service, by the same people who attended the church service. As such, the proposed church hall will not generate a need for any additional car parking.

The church currently operates a minibus service on Sundays to pick-up and drop-off members of the church congregation. It is proposed that the minibus service will be retained

at the proposed new location which will assist in reducing the number of cars driven to/from the site on Sundays.

The existing dwelling house on the site is to be retained.

Off-street car parking is proposed for a total of 102 cars in a formal, paved car parking area. In addition, provision has been made to provide an overflow parking and for an additional 55 cars adjacent to the formal car park, yielding a total car parking capacity of up to 157 cars, should the need ever arise.

In essence, it is intended that all parking demands generated by the proposed development will be *fully accommodated* within the site, noting that kerbside parking is *not* available anywhere in the vicinity of the subject site.

Vehicular access to the new car parking facilities is to be provided via a new entry/exit driveway located at the western end of The Horsley Drive site frontage.

The entry driveway will be preceded by a deceleration lane as requested by the RMS. The deceleration lane will extend to the eastern boundary of the site and will have a length of 70m. The deceleration lane will be contained entirely within the site frontage and will have no effect on the adjacent service station's existing vehicular access driveway.

In addition, a raised concrete median island is proposed in The Horsley Drive opposite the site access driveway, as requested by the RMS. The proposed central concrete median island will restrict turning movements in/out of the site to *left-turn only* movements.

Plans of the revised development proposal have been prepared by *NBRS + Partners* and are reproduced in the following pages.

Expected Church Operational Characteristics

As mentioned in the foregoing, the proposed church is a relocation of an existing congregation currently operating at St Paul's Anglican Church at Harris Park. The existing congregation has outgrown the Harris Park premises, hence the reason for the relocation.

The typical activities expected to be held at the church on a regular weekly basis are detailed in the table below as follows:

Activity	Number of Participants	Day	Time
Church Service	150-300	Sunday	9:00am-12:00pm
Sunday School	100-125	Sunday	12:30pm-2:00pm
Kids' Craft Sessions	20-30	Sunday	12:30pm-1:30pm
Language Classes (Malayalam)	50-100	Sunday	2:00pm-3:00pm
Women's Bible Studies	25-50	Sunday	12:30pm-2:00pm
Youth Bible Studies	20-30	Sunday	12:30pm-2:00pm
Various Committee Meetings	20-30	Any Day	Varies

The church conducts two church services per day on Sundays: a smaller service at 7:00am which is typically attended by 60 to 80 people, and a larger service at 9:00am which is typically attended by approximately 150 people. A special Sunday church service is held at 9:00am *once per month* which is typically attended by 300 people (i.e. which all family members attend).

A travel mode survey of these Sunday services has been undertaken and the results are summarised in the table below:

	Number of People in Attendance	Number of Cars/Drivers	Vehicle Occupancy
Early Sunday Service 7am	63	21	3.0/vehicle
Regular Sunday Service 9am	158	62	2.5/vehicle
Special (Monthly) Sunday Service 9am	317	61	5.2/vehicle

The results of the travel mode surveys indicate that:

- the typical peak parking demand on Sundays is approximately 60 vehicles, and
- larger church attendances result in higher vehicle occupancies rather than increased parking demands.

The church also conducts a number of mid-week activities on the site such as committee meetings with up to 20 attendees. The church employs a small number of administrative staff who will be present on the site during regular business hours on weekdays.

The largest church event is Easter with up to 350 people expected. In addition, the church will conduct a number of recurring activities such as baptisms, funerals and weddings. These events will not be held every week, but on average may occur once per month.

Stage 1 of the project will be the construction of the new church building plus the car parking area. A playing court will be painted on the car park surface which will only be used *outside* of peak periods. Any basketball/netball rings associated with the playing court will be on wheels – i.e. *not* permanent – such that they can be moved.

Stage 2 of the project will be the construction of the new church hall area and kitchen. The church hall will be used by the congregations for a variety of church program activities, primarily on Sunday afternoons after the church service. It is pertinent to note that it will *not* be used during church services and will *not* attract additional patronage over and above the abovementioned expected number of church participants.

NBRS+PARTNERS

3. TRAFFIC ASSESSMENT

Road Hierarchy

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

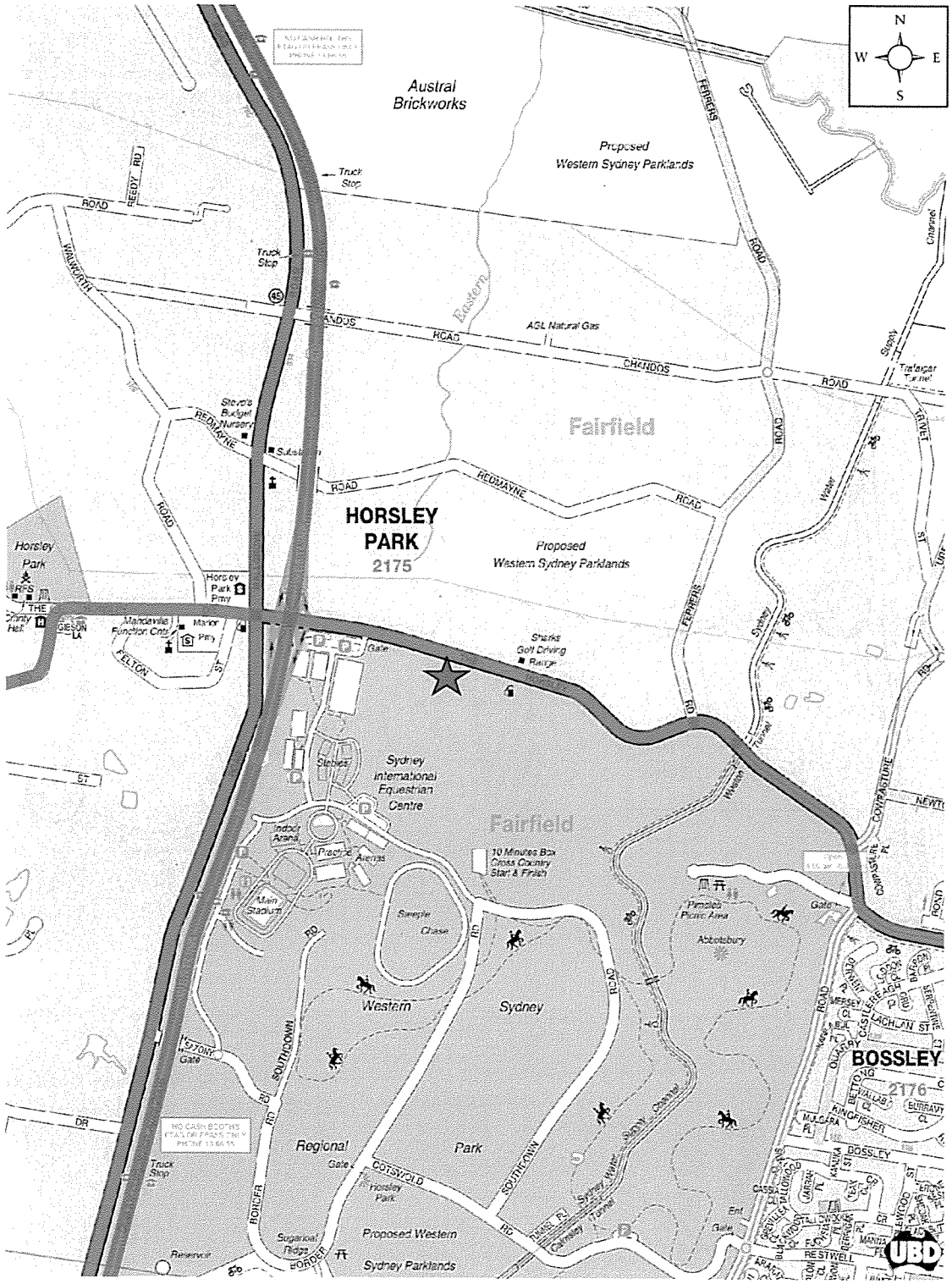
The M7 Motorway is classified by the RMS as a *State Road* and provides the key north-south east-west road link in the area. It typically carries two traffic lanes in each direction in the vicinity of the site with opposing traffic flows separated by a centre median island. All intersections with the M7 Motorway are grade-separated including its intersection with The Horsley Drive.

The Horsley Drive is classified by the RMS as a *State Road* and provides the key east-west road link in the area. It typically carries two westbound traffic lanes and one eastbound traffic lanes in the immediate vicinity of the site, with opposing traffic flows separated by a 1.6m wide painted central median.

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 The Horsley Drive
- TRAFFIC SIGNALS in The Horsley Drive where it intersects with the M7 Motorway, Wallgrove Road and also Ferrers Road
- a PAINTED CENTRAL MEDIAN in The Horsley Drive directly outside the site frontage.



Key: State Road

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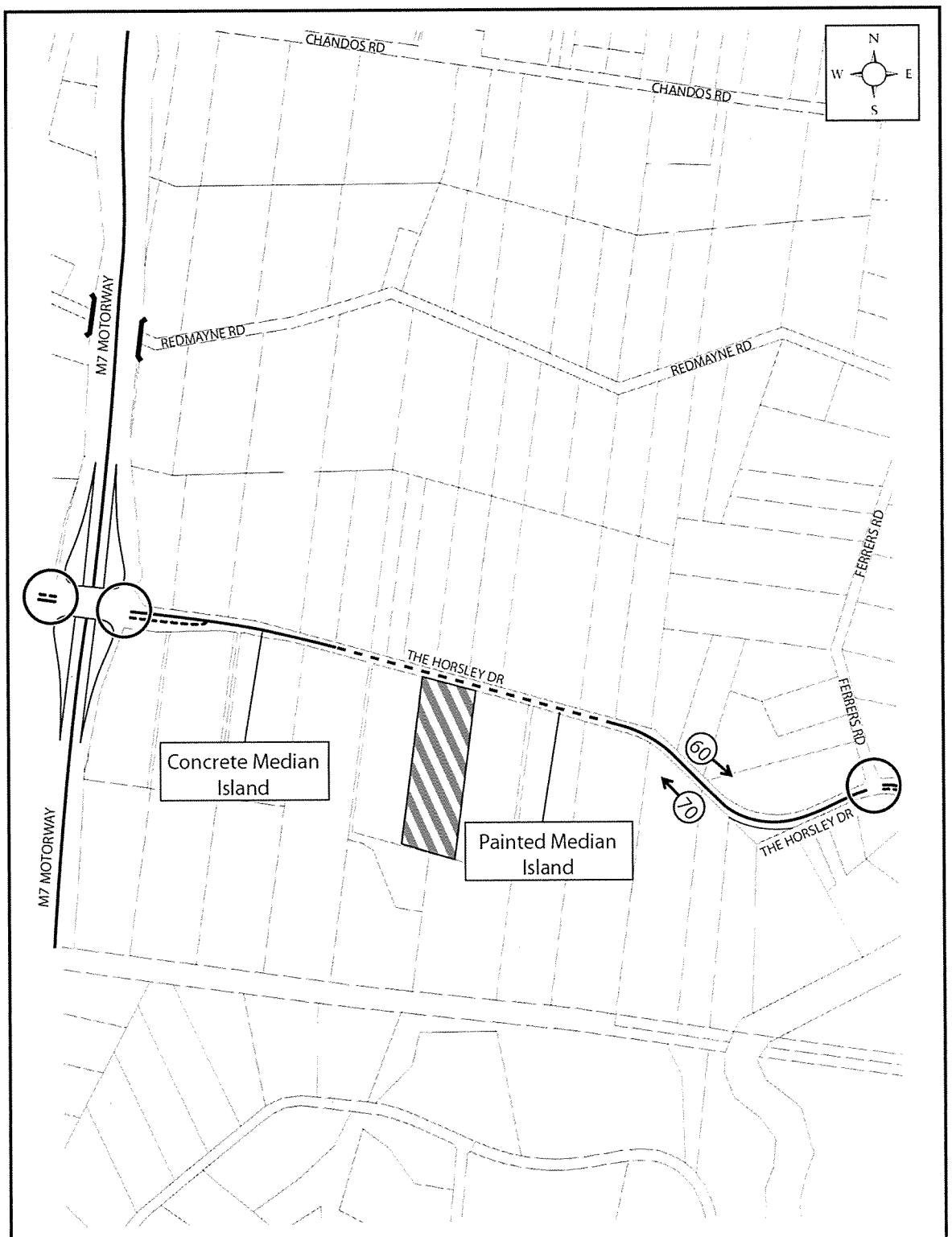
ROAD HIERARCHY
FIGURE 3



EXISTING TRAFFIC CONTROLS
FIGURE 4

Existing Traffic Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the site is provided by traffic surveys undertaken as part of this traffic study. The traffic surveys were undertaken at the adjacent service station development on Sunday 12th October 2014. The results of the traffic surveys are reproduced in full in Appendix A and reveal that:

- during the Sunday service arrival time of 8:30am-9:30am there were approximately 500 vehicles per hour (vph) travelling in the *eastbound* direction past the site frontage

- during the Sunday service arrival time of 8:30am-9:30am there were approximately 500 vph travelling in the *westbound* direction past the site frontage.

Projected Traffic Generation

The traffic implications of the development proposal primarily concern the effects of the *additional* traffic flows generated as a result of the development and its impact on the operational performance of the adjacent road network during *commuter peak periods*.

An indication of the traffic generation potential of the development proposal is typically provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002).* However, the RMS *Guidelines* does not nominate a traffic generation rate which is applicable to places of worship.

As mentioned in the foregoing, the church conducts various weekday committee meetings with up to 20 attendees. If it is assumed that all of those 20 attendees drive to and from the site individually then the church could be expected to generate in the order of 20 vehicle trips during the weekday afternoon *peak hour* (assuming attendees stay on site for two hours).

That projected increase in the traffic generation potential of the site during commuter peak periods as a consequence of the development proposal is *statistically insignificant,* and will clearly not have any unacceptable traffic implications in terms of road network capacity.

Even though development proposals primarily concern the effects of the operational performance of the adjacent road network during *commuter peak periods*, an additional traffic impact assessment has also been undertaken during the Sunday morning arrival period.

As mentioned in the foregoing, the typical Sunday morning 9am church service is expected to be attended by up to 150 people. The larger church services held *once per month* on Sunday mornings may be attended by approximately 300 people.

A survey conducted at larger church services attended by 317 people generated 61 vehicle movements travelling TO the church. The typical duration of the main Sunday church service is 3 hours, although many church patrons tend to remain on-site for longer, and may not depart the site until sometime later in the afternoon. As such, vehicle movements FROM the church after the main Sunday church service tend to be widely dispersed over a period of several hours.

Other activities are held after the main Sunday service may include Sunday School, language classes and bible study groups such that departure of the cars from the site will be dispersed over a number of hours.

Furthermore, the church hall area will be used by church members who will already be on site and therefore not generate any additional traffic.

In any event, that the traffic generation potential of the site as a consequence of the development proposal is minimal, and will not have any unacceptable traffic implications in terms of road network capacity during the Sunday morning "peak" period prior to 9am, noting that all traffic movements will be *entry* movements during this period.

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. Key features of those parking restrictions are:

- NO STOPPING restrictions along both sides of The Horsley Drive including along the entire site frontage

- BUS ZONES located on both sides of The Horsley Drive directly outside the adjacent service station site

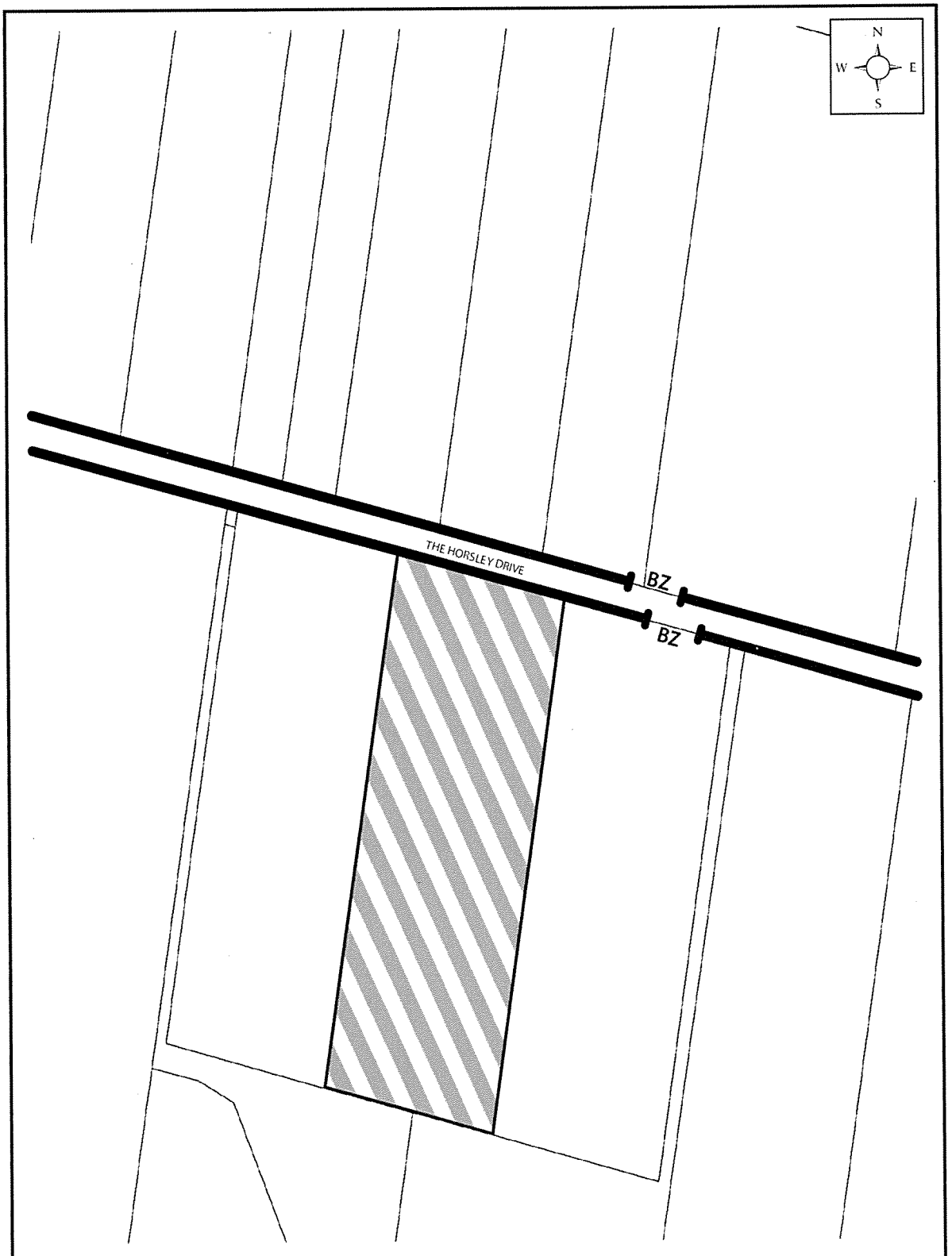
Off-Street Car Parking Provisions

The off-street car parking requirements applicable to the development proposal are specified in Council's *City Wide Development Control Plan 2013, Chapter 12 – Car Parking, Vehicle and Access Management* document in the following terms:

Place of Public Worship	
Where seating is provided:	1 space per 6 seats *or* 1 space per 5m^2 GLA (whichever is greater)

Application of the above car parking requirements to the proposed church's various components outlined in the development proposal yields an off-street car parking requirement of 80 spaces (based on a seating area of 400 seats with a worship area of approximately 400m^2).

Discussions with Council have indicated that the parking demand of the church hall should also be assessed. However, the church hall will be *ancillary* in nature and will *not* be used during church services. This space will be used primarily on Sundays after the morning church service, by church members who will already be on site, and will therefore not require any additional parking.



EXISTING PARKING RESTRICTIONS
FIGURE 5

Surveys conducted at the existing church have found that the typical peak parking demand generated by the church during Sunday services is typically in the order of 60 spaces.

The proposed development makes provision for a total of 102 off-street car parking spaces in a formal, sealed car parking area. In addition, provision has been made for an overflow car parking area with a capacity of a further 55 spaces immediately adjacent to the formal car parking area, yielding a potential total parking capacity of up to 157 spaces, should the need ever arise.

In essence, it is intended that all parking demands generated by the proposed development will be *fully accommodated* within the site, noting that kerbside parking is *not* available anywhere in the vicinity of the subject site.

That proposed parking provision satisfies both the practical needs of the church (as identified by the surveys) as well as the parking requirements specified by Council's *DCP*.

The geometric design layout of the proposed car parking facilities have been 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 and aisle widths.

As mentioned in the foregoing, vehicular access to the site is to be provided via a new entry/exit driveway located at the western end of The Horsley Drive site frontage which will be preceded by a deceleration lane as requested by the RMS. The deceleration lane will extend to the eastern boundary of the site and will have a length of 70m. The deceleration lane will be contained entirely within the site frontage and will have no effect on the adjacent service station's existing vehicular access driveway.

The geometric design layout of the proposed deceleration lane has been designed to comply with the relevant requirements specified in the *Austroads* publication *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* in respect of overall length, taper length, width and turning radius.

In addition, a 30m long x 900mm wide raised concrete median island is proposed in The Horsley Drive opposite the site access driveway, as requested by the RMS. The proposed central concrete median island will restrict turning movements in/out of the site to *left-turn only* movements.

The existing central painted road markings are approximately 1.7m wide such that the 900mm wide raised median island should sit centrally within those markings. As such, there should be no changes to the existing linemarking. Notwithstanding, appropriate "Keep Left" signs should be installed at both ends of the island in accordance with RMS requirements.

In summary, the proposed parking facilities and vehicular access arrangements satisfy the relevant requirements specified in Council's Parking Code, *Austroads* as well as the Australian Standards and it is therefore concluded that the proposed development will not have any unacceptable parking or access implications.

APPENDIX A

TRAFFIC SURVEY DATA

R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client : Varga Traffic Planning
Job No/Name : 5360 HORSLEY PARK 1650 The Horsley Dr
Day/Date : Sunday 12th October 2014

Lights

	WEST		SOUTH		EAST		
	The Horsley Dr		*Western D-Way*		*The Horsley Dr*		
Time Per	T	R	L	R	L	T	TOT
0830 - 0845	46	0	2	3	0	46	97
0845 - 0900	57	0	0	1	0	57	115
0900 - 0915	68	0	3	4	0	68	143
0915 - 0930	68	1	11	3	0	92	175
0930 - 0945	104	0	8	1	0	99	212
0945 - 1000	122	3	5	0	0	108	238
1000 - 1015	104	0	8	4	0	77	193
1015 - 1030	107	1	5	4	0	86	203
1030 - 1045	144	0	6	1	0	104	255
1045 - 1100	86	0	3	0	1	85	175
1100 - 1115	114	0	6	3	0	124	247
1115 - 1130	104	0	3	4	0	86	197
1130 - 1145	138	0	6	0	0	108	252
1145 - 1200	149	0	5	1	0	99	254
1200 - 1215	97	0	7	1	0	109	214
1215 - 1230	113	0	3	3	0	92	211
1230 - 1245	113	0	12	3	0	111	239
1245 - 1300	97	1	9	5	0	117	229
1300 - 1315	104	0	6	3	0	97	210
1315 - 1330	100	0	9	0	0	89	198
Per End	2035	6	117	44	1	1854	4057

Heavies

	WEST		SOUTH		EAST		
	The Horsley Dr		*Western D-Way*		*The Horsley Dr*		
Time Per	T	R	L	R	L	T	TOT
0830 - 0845	2	0	1	0	0	5	8
0845 - 0900	0	0	1	0	0	3	4
0900 - 0915	1	0	1	0	0	1	3
0915 - 0930	1	0	0	0	0	5	6
0930 - 0945	2	0	0	0	0	1	3
0945 - 1000	0	0	1	0	0	0	1
1000 - 1015	0	0	0	0	0	5	5
1015 - 1030	3	0	0	0	0	0	3
1030 - 1045	1	0	0	0	0	0	1
1045 - 1100	0	0	2	0	0	0	2
1100 - 1115	2	0	0	0	0	1	3
1115 - 1130	1	0	1	0	0	1	3
1130 - 1145	2	0	0	0	0	0	2
1145 - 1200	2	0	0	1	0	2	5
1200 - 1215	1	0	0	0	0	1	2
1215 - 1230	2	0	1	1	0	3	7
1230 - 1245	1	0	0	0	0	0	1
1245 - 1300	1	0	0	0	0	1	2
1300 - 1315	2	0	1	0	0	2	5
1315 - 1330	1	0	0	0	0	0	1
Per End	25	0	9	2	0	31	67

Combined

	WEST		SOUTH		EAST		
	The Horsley Dr		*Western D-Way*		*The Horsley Dr*		
Time Per	T	R	L	R	L	T	TOT
0830 - 0845	48	0	3	3	0	51	105
0845 - 0900	57	0	1	1	0	60	119
0900 - 0915	69	0	4	4	0	69	146
0915 - 0930	69	1	11	3	0	97	181
0930 - 0945	106	0	8	1	0	100	215
0945 - 1000	122	3	6	0	0	108	239
1000 - 1015	104	0	8	4	0	82	198
1015 - 1030	110	1	5	4	0	86	206
1030 - 1045	145	0	6	1	0	104	256
1045 - 1100	86	0	5	0	1	85	177
1100 - 1115	116	0	6	3	0	125	250
1115 - 1130	105	0	4	4	0	87	200
1130 - 1145	140	0	6	0	0	108	254
1145 - 1200	151	0	5	2	0	101	259
1200 - 1215	98	0	7	1	0	110	216
1215 - 1230	115	0	4	4	0	95	218
1230 - 1245	114	0	12	3	0	111	240
1245 - 1300	98	1	9	5	0	118	231
1300 - 1315	106	0	7	3	0	99	215
1315 - 1330	101	0	9	0	0	89	199
Per End	2060	6	126	46	1	1885	4124

Lights

	WEST		SOUTH		EAST		
	The Horsley		*Western D-*		*The Horsley*		
Peak Per	T	R	L	R	L	T	TOT
0830 - 0930	239	1	16	11	0	263	530
0845 - 0945	297	1	22	9	0	316	645
0900 - 1000	362	4	27	8	0	367	768
0915 - 1015	398	4	32	8	0	376	818
0930 - 1030	437	4	26	9	0	370	846
0945 - 1045	477	4	24	9	0	375	889
1000 - 1100	441	1	22	9	1	352	826
1015 - 1115	451	1	20	8	1	399	880
1030 - 1130	448	0	18	8	1	399	874
1045 - 1145	442	0	18	7	1	403	871
1100 - 1200	505	0	20	8	0	417	950
1115 - 1215	488	0	21	6	0	402	917
1130 - 1230	497	0	21	5	0	408	931
1145 - 1245	472	0	27	8	0	411	918
1200 - 1300	420	1	31	12	0	429	893
1215 - 1315	427	1	30	14	0	417	889
1230 - 1330	414	1	36	11	0	414	876
PEAK HR	505	0	20	8	0	417	950

Heavies

	WEST		SOUTH		EAST		
	The Horsley		*Western D-*		*The Horsley*		
Peak Per	T	R	L	R	L	T	TOT
0830 - 0930	4	0	3	0	0	14	21
0845 - 0945	4	0	2	0	0	10	16
0900 - 1000	4	0	2	0	0	7	13
0915 - 1015	3	0	1	0	0	11	15
0930 - 1030	5	0	1	0	0	6	12
0945 - 1045	4	0	1	0	0	5	10
1000 - 1100	4	0	2	0	0	5	11
1015 - 1115	6	0	2	0	0	1	9
1030 - 1130	4	0	3	0	0	2	9
1045 - 1145	5	0	3	0	0	2	10
1100 - 1200	7	0	1	1	0	4	13
1115 - 1215	6	0	1	1	0	4	12
1130 - 1230	7	0	1	2	0	6	16
1145 - 1245	6	0	1	2	0	6	15
1200 - 1300	5	0	1	1	0	5	12
1215 - 1315	6	0	2	1	0	6	15
1230 - 1330	5	0	1	0	0	3	9
PEAK HR	7	0	1	1	0	4	13

Combined

	WEST		SOUTH		EAST		
	The Horsley		*Western D-*		*The Horsley*		
Peak Per	T	R	L	R	L	T	TOT
0830 - 0930	243	1	19	11	0	277	551
0845 - 0945	301	1	24	9	0	326	661
0900 - 1000	366	4	29	8	0	374	781
0915 - 1015	401	4	33	8	0	387	833
0930 - 1030	442	4	27	9	0	376	858
0945 - 1045	481	4	25	9	0	380	899
1000 - 1100	445	1	24	9	1	357	837
1015 - 1115	457	1	22	8	1	400	889
1030 - 1130	452	0	21	8	1	401	883
1045 - 1145	447	0	21	7	1	405	881
1100 - 1200	512	0	21	9	0	421	963
1115 - 1215	494	0	22	7	0	406	929
1130 - 1230	504	0	22	7	0	414	947
1145 - 1245	478	0	28	10	0	417	933
1200 - 1300	425	1	32	13	0	434	905
1215 - 1315	433	1	32	15	0	423	904
1230 - 1330	419	1	37	11	0	417	885
PEAK HR	512	0	21	9	0	421	963

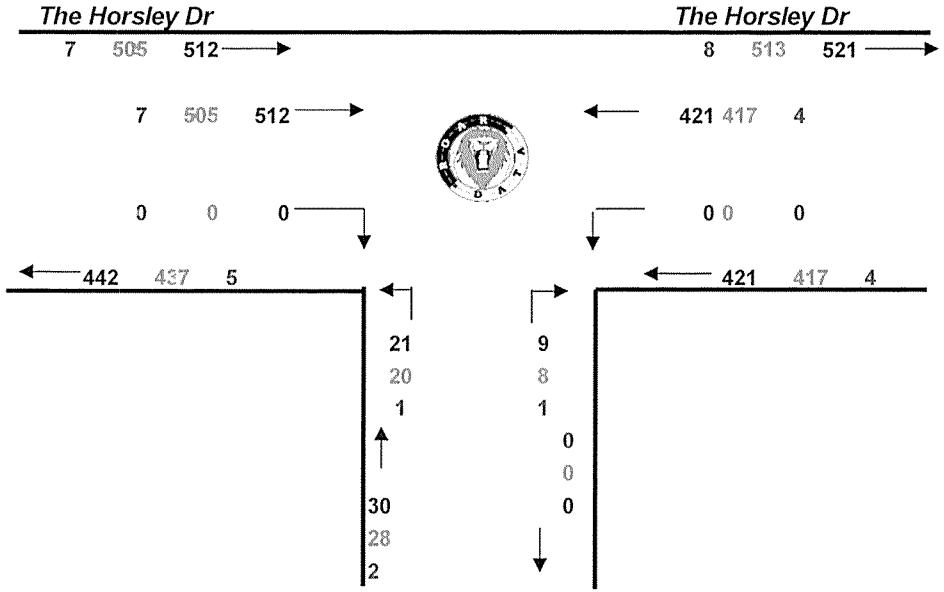
R.O.A.R. DATA
Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849, Mob.0418-239019

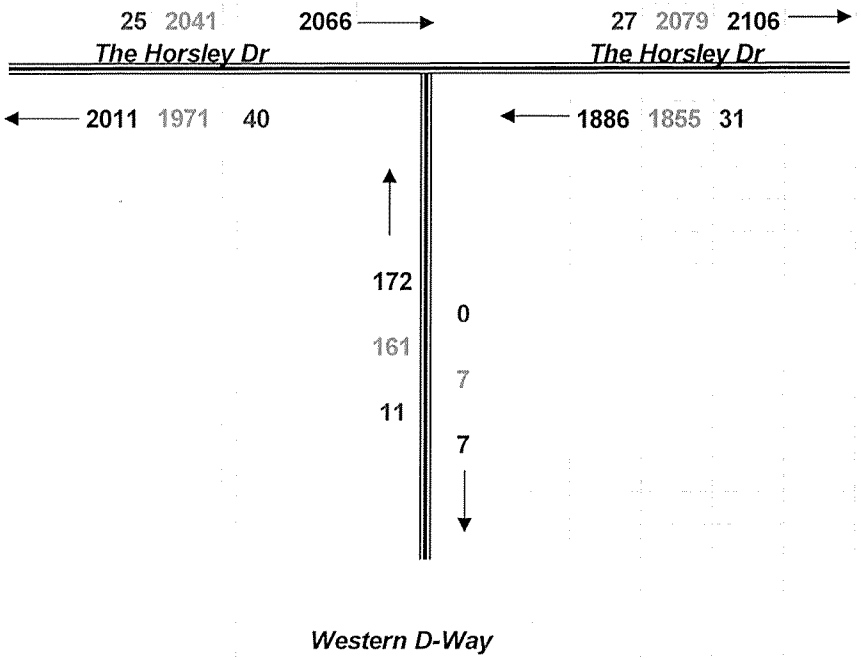
Client : Varga Traffic Planning
Job No/Name : 5360 HORSLEY PARK 1650 The Horsley Dr
Day/Date : Sunday 12th October 2014

PEAK HOUR
1100 - 1200

N

TOTAL VOLUMES FOR COUNT PERIOD





R.O.A.R. DATA

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Client : Varga Traffic Planning
Job No/Name : 5360 HORSLEY PARK 1650 The Horsley Dr
Day/Date : Sunday 12th October 2014

Lights

Time Per	WEST The Horsley Dr T	WEST The Horsley Dr R	SOUTH Eastern D-Way L	SOUTH Eastern D-Way R	EAST The Horsley Dr L	EAST The Horsley Dr T	TOT
0830 - 0845	49	0	0	0	3	46	98
0845 - 0900	57	1	0	0	3	57	118
0900 - 0915	67	5	0	0	6	68	146
0915 - 0930	70	1	0	0	7	92	170
0930 - 0945	104	1	0	0	6	99	210
0945 - 1000	119	3	0	0	7	108	237
1000 - 1015	105	3	0	0	6	77	191
1015 - 1030	107	4	0	0	4	86	201
1030 - 1045	144	1	0	0	2	104	251
1045 - 1100	84	2	0	0	5	86	177
1100 - 1115	113	4	0	0	3	124	244
1115 - 1130	106	2	0	1	7	86	202
1130 - 1145	138	0	0	1	5	108	252
1145 - 1200	149	1	0	0	8	99	257
1200 - 1215	96	2	0	0	6	109	213
1215 - 1230	113	3	0	0	6	92	214
1230 - 1245	115	1	0	0	11	111	238
1245 - 1300	97	5	0	0	12	117	231
1300 - 1315	107	0	0	0	6	97	210
1315 - 1330	98	2	0	0	4	89	193
Per End	2038	41	0	2	117	1855	4053

Heavies

Time Per	WEST The Horsley Dr T	WEST The Horsley Dr R	SOUTH Eastern D-Way L	SOUTH Eastern D-Way R	EAST The Horsley Dr L	EAST The Horsley Dr T	TOT
0830 - 0845	2	0	0	0	0	5	7
0845 - 0900	-1	1	0	0	0	3	3
0900 - 0915	1	0	0	0	0	1	2
0915 - 0930	1	0	0	0	0	5	6
0930 - 0945	2	0	0	0	0	1	3
0945 - 1000	-2	2	0	0	0	0	0
1000 - 1015	0	0	0	0	0	5	5
1015 - 1030	3	0	0	0	0	0	3
1030 - 1045	0	1	0	0	0	0	1
1045 - 1100	0	0	0	0	0	0	0
1100 - 1115	1	1	0	0	0	1	3
1115 - 1130	1	0	0	0	0	1	2
1130 - 1145	2	0	0	0	0	0	2
1145 - 1200	3	0	0	0	1	2	6
1200 - 1215	0	1	0	0	1	1	3
1215 - 1230	3	0	0	0	0	3	6
1230 - 1245	1	0	0	0	1	0	2
1245 - 1300	1	0	0	0	0	1	2
1300 - 1315	2	0	0	0	0	2	4
1315 - 1330	0	1	0	0	0	0	1
Per End	20	7	0	0	3	31	61

Combined

Time Per	WEST The Horsley Dr T	WEST The Horsley Dr R	SOUTH Eastern D-Way L	SOUTH Eastern D-Way R	EAST The Horsley Dr L	EAST The Horsley Dr T	TOT
0830 - 0845	51	0	0	0	3	51	105
0845 - 0900	56	2	0	0	3	60	121
0900 - 0915	68	5	0	0	6	69	148
0915 - 0930	71	1	0	0	7	97	176
0930 - 0945	106	1	0	0	6	100	213
0945 - 1000	117	5	0	0	7	108	237
1000 - 1015	105	3	0	0	6	82	196
1015 - 1030	110	4	0	0	4	86	204
1030 - 1045	144	2	0	0	2	104	252
1045 - 1100	84	2	0	0	5	86	177
1100 - 1115	114	5	0	0	3	125	247
1115 - 1130	107	2	0	1	7	87	204
1130 - 1145	140	0	0	1	5	108	254
1145 - 1200	152	1	0	0	9	101	263
1200 - 1215	96	3	0	0	7	110	216
1215 - 1230	116	3	0	0	6	95	220
1230 - 1245	116	1	0	0	12	111	240
1245 - 1300	98	5	0	0	12	118	233
1300 - 1315	109	0	0	0	6	99	214
1315 - 1330	98	3	0	0	4	89	194
Per End	2058	48	0	2	120	1886	4114

Lights

Peak Per	WEST The Horsley T	WEST The Horsley R	SOUTH Eastern D- L	SOUTH Eastern D- R	EAST The Horsley L	EAST The Horsley T	TOT
0830 - 0930	243	7	0	0	19	263	532
0845 - 0945	298	8	0	0	22	316	644
0900 - 1000	360	10	0	0	26	367	763
0915 - 1015	398	8	0	0	26	376	808
0930 - 1030	435	11	0	0	23	370	839
0945 - 1045	475	11	0	0	19	375	880
1000 - 1100	440	10	0	0	17	353	820
1015 - 1115	448	11	0	0	14	400	873
1030 - 1130	447	9	0	1	17	400	874
1045 - 1145	441	8	0	2	20	404	875
1100 - 1200	506	7	0	2	23	417	955
1115 - 1215	489	5	0	2	26	402	924
1130 - 1230	496	6	0	1	25	408	936
1145 - 1245	473	7	0	0	31	411	922
1200 - 1300	421	11	0	0	35	429	896
1215 - 1315	432	9	0	0	35	417	893
1230 - 1330	417	8	0	0	33	414	872
PEAK HR	506	7	0	2	23	417	955

Heavies

Peak Per	WEST The Horsley T	WEST The Horsley R	SOUTH Eastern D- L	SOUTH Eastern D- R	EAST The Horsley L	EAST The Horsley T	TOT
0830 - 0930	3	1	0	0	0	14	18
0845 - 0945	3	1	0	0	0	10	14
0900 - 1000	2	2	0	0	0	7	11
0915 - 1015	1	2	0	0	0	11	14
0930 - 1030	3	2	0	0	0	6	11
0945 - 1045	1	3	0	0	0	5	9
1000 - 1100	3	1	0	0	0	5	9
1015 - 1115	4	2	0	0	0	1	7
1030 - 1130	2	2	0	0	0	2	6
1045 - 1145	4	1	0	0	0	2	7
1100 - 1200	7	1	0	0	1	4	13
1115 - 1215	6	1	0	0	2	4	13
1130 - 1230	8	1	0	0	2	6	17
1145 - 1245	7	1	0	0	3	6	17
1200 - 1300	5	1	0	0	2	5	13
1215 - 1315	7	0	0	0	1	6	14
1230 - 1330	4	1	0	0	1	3	9
PEAK HR	7	1	0	0	1	4	13

Combined

Peak Per	WEST The Horsley T	WEST The Horsley R	SOUTH Eastern D- L	SOUTH Eastern D- R	EAST The Horsley L	EAST The Horsley T	TOT
0830 - 0930	246	8	0	0	19	277	550
0845 - 0945	301	9	0	0	22	326	658
0900 - 1000	362	12	0	0	26	374	774
0915 - 1015	399	10	0	0	26	387	822
0930 - 1030	438	13	0	0	23	376	850
0945 - 1045	476	14	0	0	19	380	889
1000 - 1100	443	11	0	0	17	358	829
1015 - 1115	452	13	0	0	14	401	880
1030 - 1130	449	11	0	1	17	402	880
1045 - 1145	445	9	0	2	20	406	882
1100 - 1200	513	8	0	2	24	421	968
1115 - 1215	495	6	0	2	28	406	937
1130 - 1230	504	7	0	1	27	414	953
1145 - 1245	480	8	0	0	34	417	939
1200 - 1300	426	12	0	0	37	434	909
1215 - 1315	439	9	0	0	36	423	907
1230 - 1330	421	9	0	0	34	417	881
PEAK HR	513	8	0	2	24	421	968

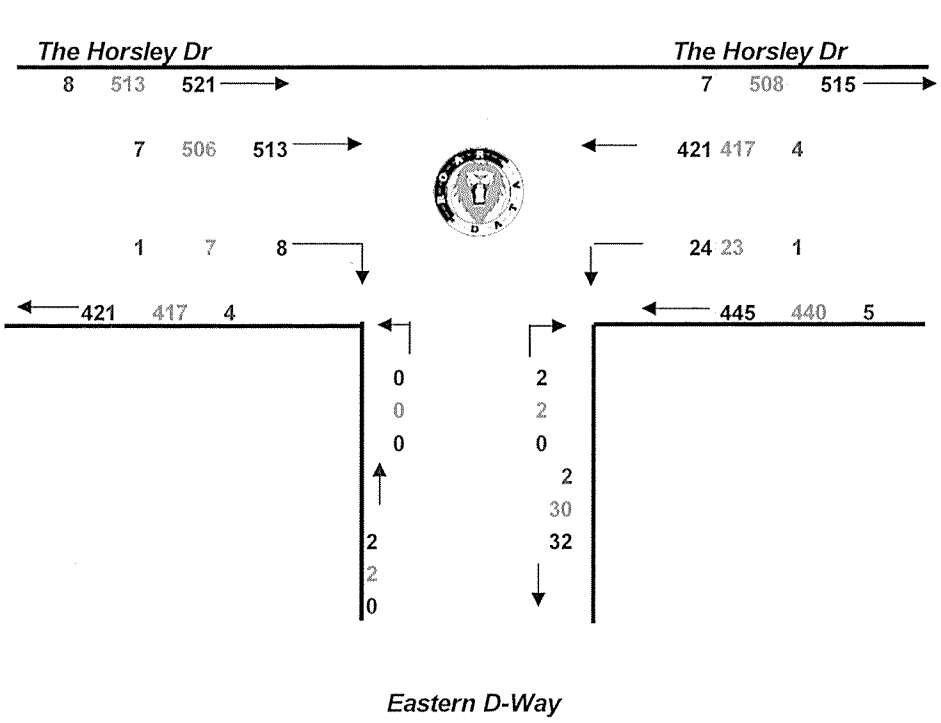
R.O.A.R. DATA
Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849, Mob.0418-239019

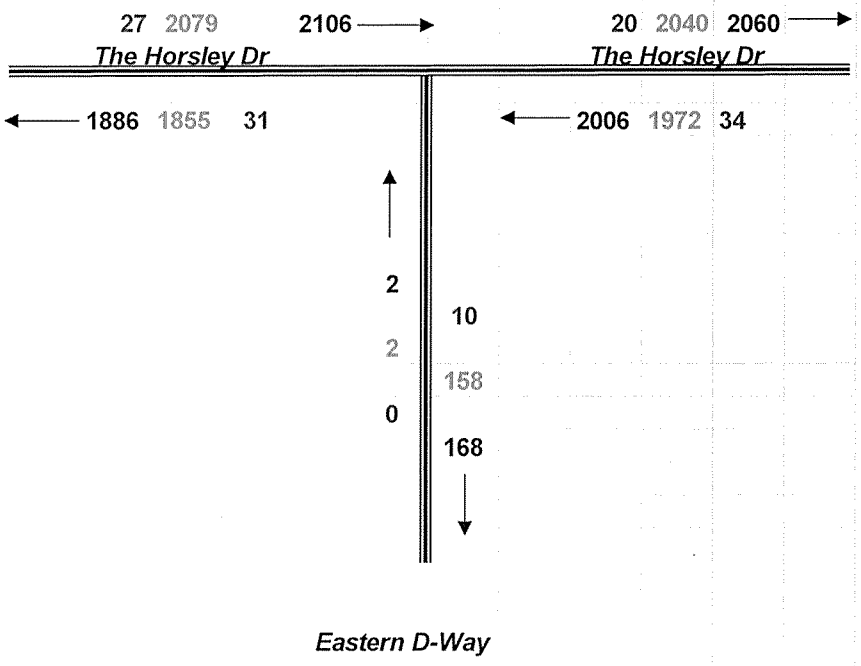
Client	: Varga Traffic Planning
Job No/Name	: 5360 HORSLEY PARK 1650 The Horsley Dr
Day/Date	: Sunday 12th October 2014

PEAK HOUR
1100 - 1200

N

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 : 5360 HORSLEY PARK 1650 The Horsley Dr
Day/Date : Sunday 12th October 2014

Lights

	WEST		SOUTH		EAST		
	The Horsley Dr		*Combined*		*The Horsley Dr*		
Time Per	T	R	L	R	L	T	TOT
0830 - 0845	95	0	2	3	3	92	195
0845 - 0900	114	1	0	1	3	114	233
0900 - 0915	135	5	3	4	6	136	289
0915 - 0930	138	2	11	3	7	184	345
0930 - 0945	208	1	8	1	6	198	422
0945 - 1000	241	6	5	0	7	216	475
1000 - 1015	209	3	8	4	6	154	384
1015 - 1030	214	5	5	4	4	172	404
1030 - 1045	288	1	6	1	2	208	506
1045 - 1100	170	2	3	0	6	171	352
1100 - 1115	227	4	6	3	3	248	491
1115 - 1130	210	2	3	5	7	172	399
1130 - 1145	276	0	6	1	5	216	504
1145 - 1200	298	1	5	1	8	198	511
1200 - 1215	193	2	7	1	6	218	427
1215 - 1230	226	3	3	3	6	184	425
1230 - 1245	228	1	12	3	11	222	477
1245 - 1300	194	6	9	5	12	234	460
1300 - 1315	211	0	6	3	6	194	420
1315 - 1330	198	2	9	0	4	178	391
Per End	4073	47	117	46	118	3709	8110

Heavies

	WEST		SOUTH		EAST		
	The Horsley Dr		*Combined*		*The Horsley Dr*		
Time Per	T	R	L	R	L	T	TOT
0830 - 0845	4	0	1	0	0	10	15
0845 - 0900	-1	1	1	0	0	6	7
0900 - 0915	2	0	1	0	0	2	5
0915 - 0930	2	0	0	0	0	10	12
0930 - 0945	4	0	0	0	0	2	6
0945 - 1000	-2	2	1	0	0	0	1
1000 - 1015	0	0	0	0	0	10	10
1015 - 1030	6	0	0	0	0	0	6
1030 - 1045	1	1	0	0	0	0	2
1045 - 1100	0	0	2	0	0	0	2
1100 - 1115	3	1	0	0	0	2	6
1115 - 1130	2	0	1	0	0	2	5
1130 - 1145	4	0	0	0	0	0	4
1145 - 1200	5	0	0	1	1	4	11
1200 - 1215	1	1	0	0	1	2	5
1215 - 1230	5	0	1	1	0	6	13
1230 - 1245	2	0	0	0	1	0	3
1245 - 1300	2	0	0	0	0	2	4
1300 - 1315	4	0	1	0	0	4	9
1315 - 1330	1	1	0	0	0	0	2
Per End	45	7	9	2	3	62	128

Combined

	WEST		SOUTH		EAST		
	The Horsley Dr		*Combined*		*The Horsley Dr*		
Time Per	T	R	L	R	L	T	TOT
0830 - 0845	99	0	3	3	3	102	210
0845 - 0900	113	2	1	1	3	120	240
0900 - 0915	137	5	4	4	6	138	294
0915 - 0930	140	2	11	3	7	194	357
0930 - 0945	212	1	8	1	6	200	428
0945 - 1000	239	8	6	0	7	216	476
1000 - 1015	209	3	8	4	6	164	394
1015 - 1030	220	5	5	4	4	172	410
1030 - 1045	289	2	6	1	2	208	508
1045 - 1100	170	2	5	0	6	171	354
1100 - 1115	230	5	6	3	3	250	497
1115 - 1130	212	2	4	5	7	174	404
1130 - 1145	280	0	6	1	5	216	508
1145 - 1200	303	1	5	2	9	202	522
1200 - 1215	194	3	7	1	7	220	432
1215 - 1230	231	3	4	4	6	190	438
1230 - 1245	230	1	12	3	12	222	480
1245 - 1300	196	6	9	5	12	236	464
1300 - 1315	215	0	7	3	6	198	429
1315 - 1330	199	3	9	0	4	178	393
Per End	4118	54	126	48	121	3771	8238

Lights

	WEST		SOUTH		EAST		
	The Horsley		*Combined*		*The Horsley*		
Peak Per	T	R	L	R	L	T	TOT
0830 - 0930	482	8	16	11	19	526	1062
0845 - 0945	595	9	22	9	22	632	1289
0900 - 1000	722	14	27	8	26	734	1531
0915 - 1015	796	12	32	8	26	752	1626
0930 - 1030	872	15	26	9	23	740	1685
0945 - 1045	952	15	24	9	19	750	1769
1000 - 1100	881	11	22	9	18	705	1646
1015 - 1115	899	12	20	8	15	799	1753
1030 - 1130	895	9	18	9	18	799	1748
1045 - 1145	883	8	18	9	21	807	1746
1100 - 1200	1011	7	20	10	23	834	1905
1115 - 1215	977	5	21	8	26	804	1841
1130 - 1230	993	6	21	6	25	816	1867
1145 - 1245	945	7	27	8	31	822	1840
1200 - 1300	841	12	31	12	35	858	1789
1215 - 1315	859	10	30	14	35	834	1782
1230 - 1330	831	9	36	11	33	828	1748
PEAK HR	1011	7	20	10	23	834	1905

Heavies

	WEST		SOUTH		EAST		
	The Horsley		*Combined*		*The Horsley*		
Peak Per	T	R	L	R	L	T	TOT
0830 - 0930	7	1	3	0	0	28	39
0845 - 0945	7	1	2	0	0	20	30
0900 - 1000	6	2	2	0	0	14	24
0915 - 1015	4	2	1	0	0	22	29
0930 - 1030	8	2	1	0	0	12	23
0945 - 1045	5	3	1	0	0	10	19
1000 - 1100	7	1	2	0	0	10	20
1015 - 1115	10	2	2	0	0	2	16
1030 - 1130	6	2	3	0	0	4	15
1045 - 1145	9	1	3	0	0	4	17
1100 - 1200	14	1	1	1	1	8	26
1115 - 1215	12	1	1	1	2	8	25
1130 - 1230	15	1	1	2	2	12	33
1145 - 1245	13	1	1	2	3	12	32
1200 - 1300	10	1	1	1	2	10	25
1215 - 1315	13	0	2	1	1	12	29
1230 - 1330	9	1	1	0	1	6	18
PEAK HR	14	1	1	1	1	8	26

Combined

	WEST		SOUTH		EAST		
	The Horsley		*Combined*		*The Horsley*		
Peak Per	T	R	L	R	L	T	TOT
0830 - 0930	489	9	19	11	19	554	1101
0845 - 0945	602	10	24	9	22	652	1319
0900 - 1000	728	16	29	8	26	748	1555
0915 - 1015	800	14	33	8	26	774	1655
0930 - 1030	880	17	27	9	23	752	1708
0945 - 1045	957	18	25	9	19	760	1788
1000 - 1100	888	12	24	9	18	715	1666
1015 - 1115	909	14	22	8	15	801	1769
1030 - 1130	901	11	21	9	18	803	1763
1045 - 1145	892	9	21	9	21	811	1763
1100 - 1200	1025	8	21	11	24	842	1931
1115 - 1215	989	6	22	9	28	812	1866
1130 - 1230	1008	7	22	8	27	828	1900
1145 - 1245	958	8	28	10	34	834	1872
1200 - 1300	851	13	32	13	37	868	1814
1215 - 1315	872	10	32	15	36	846	1811
1230 - 1330	840	10	37	11	34	834	1766
PEAK HR	1025	8	21	11	24	842	1931

R.O.A.R. DATA
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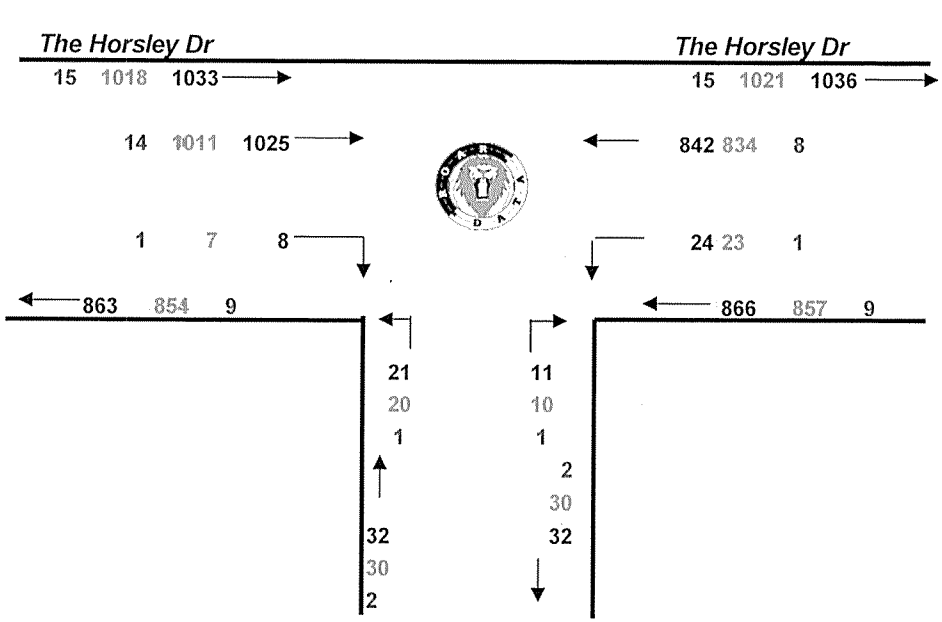
Client	: Varga Traffic Planning
Job No/Name	: 5360 HORSLEY PARK 1650 The Horsley Dr
Day/Date	: Sunday 12th October 2014

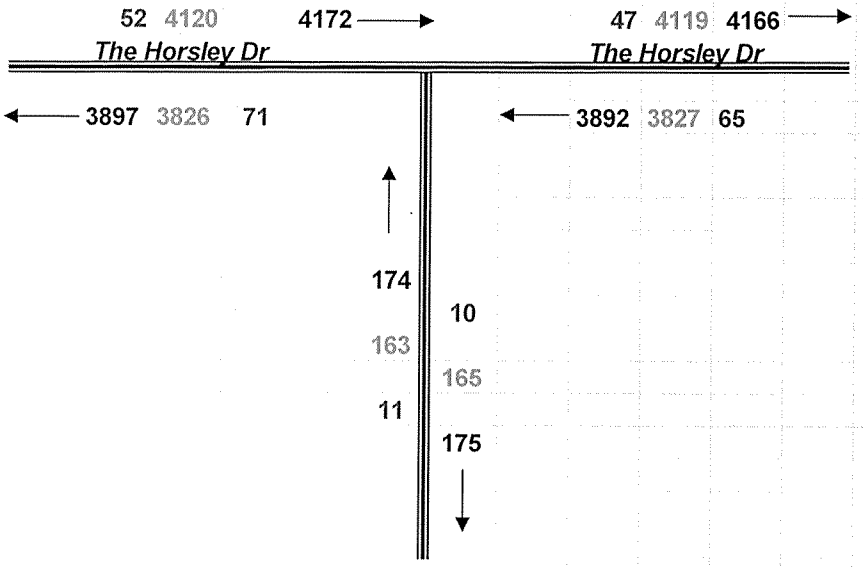
PEAK HOUR
1100 - 1200

N

TOTAL VOLUMES FOR COUNT PERIOD



Combined



Combined

R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client : Varga Traffic Planning

Job No/Name : 5360 HORSLEY PARK 1650 The Horsley Dr

Day/Date : Sunday 12th October 2014

PEAK HOUR
1100 - 1200

Peds	WEST	SOUTH	EAST	
	The Horsley Dr	*Driveways*	*The Horsley Dr*	
Time Period	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOTAL
0830 - 0845	0	0	0	**0**
0845 - 0900	0	0	0	**0**
0900 - 0915	0	0	0	**0**
0915 - 0930	0	0	0	**0**
0930 - 0945	0	0	0	**0**
0945 - 1000	0	0	0	**0**
1000 - 1015	0	0	1	**1**
1015 - 1030	0	0	1	**1**
1030 - 1045	0	0	0	**0**
1045 - 1100	0	0	0	**0**
1100 - 1115	0	0	0	**0**
1115 - 1130	0	0	0	**0**
1130 - 1145	0	0	0	**0**
1145 - 1200	0	0	0	**0**
1200 - 1215	0	0	0	**0**
1215 - 1230	0	0	2	**2**
1230 - 1245	0	0	0	**0**
1245 - 1300	0	0	0	**0**
1300 - 1315	0	0	0	**0**
1315 - 1330	0	0	0	**0**
Period End	**0**	**0**	**4**	**4**

Peds	WEST	SOUTH	EAST	
	The Horsley Dr	*Driveways*	*The Horsley Dr*	
Peak Period	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	TOT
0830 - 0930	0	0	0	**0**
0845 - 0945	0	0	0	**0**
0900 - 1000	0	0	0	**0**
0915 - 1015	0	0	1	**1**
0930 - 1030	0	0	2	**2**
0945 - 1045	0	0	2	**2**
1000 - 1100	0	0	2	**2**
1015 - 1115	0	0	1	**1**
1030 - 1130	0	0	0	**0**
1045 - 1145	0	0	0	**0**
1100 - 1200	0	0	0	**0**
1115 - 1215	0	0	0	**0**
1130 - 1230	0	0	2	**2**
1145 - 1245	0	0	2	**2**
1200 - 1300	0	0	2	**2**
1215 - 1315	0	0	2	**2**
1230 - 1330	0	0	0	**0**

PEAK HR	**0**	**0**	**0**	**0**