

Entertainment Quarter Moore Park  
Proposed Amendments to Approved Master Plan

**Environmental Assessment**  
Traffic and Transport Report

6 March 2009

Prepared for  
**Colonial First State Property Management**

# **Colonial First State Property Management**

Entertainment Quarter, Moore Park

Amendments to Approved Master Plan

Environmental Assessment - Traffic and Transport Report

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# Contents

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>Introduction</b>   | <b>1</b>  |
| <b>2</b> | <b>Background</b>   | <b>2</b>  |
| 2.1      | Site Location   | 2         |
| 2.2      | Background to Transport Planning for the Site                                       | 2         |
| 2.3      | Approved Master Plan for the Former Moore Park Showground                           | 2         |
| 2.4      | Director General Requirements (DGRs)  | 3         |
| 2.5      | Consultation with RTA   | 4         |
| <b>3</b> | <b>Existing Entertainment Quarter Transport Conditions</b>                          | <b>6</b>  |
| 3.1      | Working Studio  | 6         |
| 3.2      | Entertainment Quarter Existing Land Uses  | 6         |
| 3.3      | Site Access Arrangements  | 7         |
| 3.4      | Traffic Generation Characteristics  | 7         |
|          | 3.4.1 <i>Historical Traffic Generation</i>  | 7         |
|          | 3.4.2 <i>Peak Period Traffic Surveys (2009)</i>                                     | 10        |
| 3.5      | Existing Road Network Operation   | 11        |
|          | 3.5.1 <i>Site Access Intersection Operation – Errol Flynn Boulevard / Lang Road</i> | 11        |
|          | 3.5.2 <i>Surrounding Road Network Intersection Operation</i>                        | 12        |
| 3.6      | Car Parking Facilities  | 13        |
|          | 3.6.1 <i>On Site Multi-Storey Car Park Provisions</i>                               | 13        |
|          | 3.6.2 <i>Other On Site Car Parking Facilities</i>                                   | 14        |
|          | 3.6.3 <i>Car Parking Demand</i>   | 14        |
| 3.7      | Public Transport  | 16        |
|          | 3.7.1 <i>Service Provision</i>  | 16        |
|          | 3.7.2 <i>Public Transport Use</i>   | 17        |
| 3.8      | Pedestrian and Cyclist Provisions   | 18        |
| <b>4</b> | <b>Assessment of Proposed Master Plan Amendment</b>                                 | <b>19</b> |
| 4.1      | Overview of Proposed Master Plan Amendments   | 19        |
| 4.2      | Traffic Generation Estimates  | 20        |
|          | 4.2.1 <i>Non Event Mode</i>   | 20        |
|          | 4.2.2 <i>Event Mode</i>   | 22        |
| 4.3      | Traffic Generation Implications – Non Event Mode                                    | 22        |
| 4.4      | Traffic Management During Event Mode  | 24        |
| 4.5      | Parking Demand  | 25        |

|                   |   |            |
|-------------------|---|------------|
| 4.6               | Public Transport and Travel Demand Management | 26         |
| 4.6.1             | <i>Public Transport Services</i>              | 26         |
| 4.6.2             | <i>Travel Demand Management</i>               | 26         |
| 4.7               | Service Vehicle Arrangements                  | 28         |
| 4.8               | Construction Traffic Implications             | 28         |
| <b>5</b>          | <b>Summary and Conclusions</b>                | <b>30</b>  |
| <b>Appendix A</b> | <b>Traffic Survey Results (2009)</b>          | <b>A.1</b> |
| <b>Appendix B</b> | <b>SCATES Modelled Traffic Flows</b>          | <b>B.1</b> |
| <b>Appendix C</b> | <b>Multi Storey Car Park Utilisation</b>      | <b>C.1</b> |

# 1

## Introduction

In October 2007 a Preliminary Assessment report was prepared to accompany a Part 3A Concept Plan Application to the Department of Planning for the proposed amendment to the approved Master Plan for the former Moore Park Showground.

The purpose of the Preliminary Assessment Report was to seek Director-General's Environmental Assessment Requirements. These requirements were issued in March 2008.

This traffic and transport assessment report has been prepared to present the findings of traffic and transport investigations undertaken by Halcrow MWT for the proposed Master Plan amendment.

The transport assessment has been prepared taking into consideration the Director-General's requirements for the Master Plan amendment application.

The proposed modification involves the identification of opportunities for new buildings on selected sites within the Entertainment Quarter precinct and seeks to address consent authority requirements for an updated Master Plan which demonstrates how available floor area (within the cap of 144,000 m<sup>2</sup> in SEPP 47) can be accommodated.

## 2 Background

### 2.1 *Site Location*

The former Moore Park Showground site as defined by SEPP 47 includes what is now the Working Studios Precinct (Fox Studios) and the Entertainment Quarter precinct.

The location and extent of the two precincts within the former Moore Park Showground site are shown in Figure 1.

### 2.2 *Background to Transport Planning for the Site*

The original Moore Park Showground Master Plan comprised three related components namely:

- A working studio;
- A studio tour / backlot; and
- Family entertainment facilities.

The original concept for the site included the Backlot studio tour which was planned as a major entertainment attraction with over 1.2 million visitors per year anticipated.

Traffic access arrangements for the site were planned for this facility, including the construction of a 2000 space multi deck car parking facility and a major site access via Lang Road at Errol Flynn Boulevard.

As it turned out the Backlot tour did not live up to expectations and most of the area originally designated for the Backlot tour has been transferred to the working studio for use in film making.

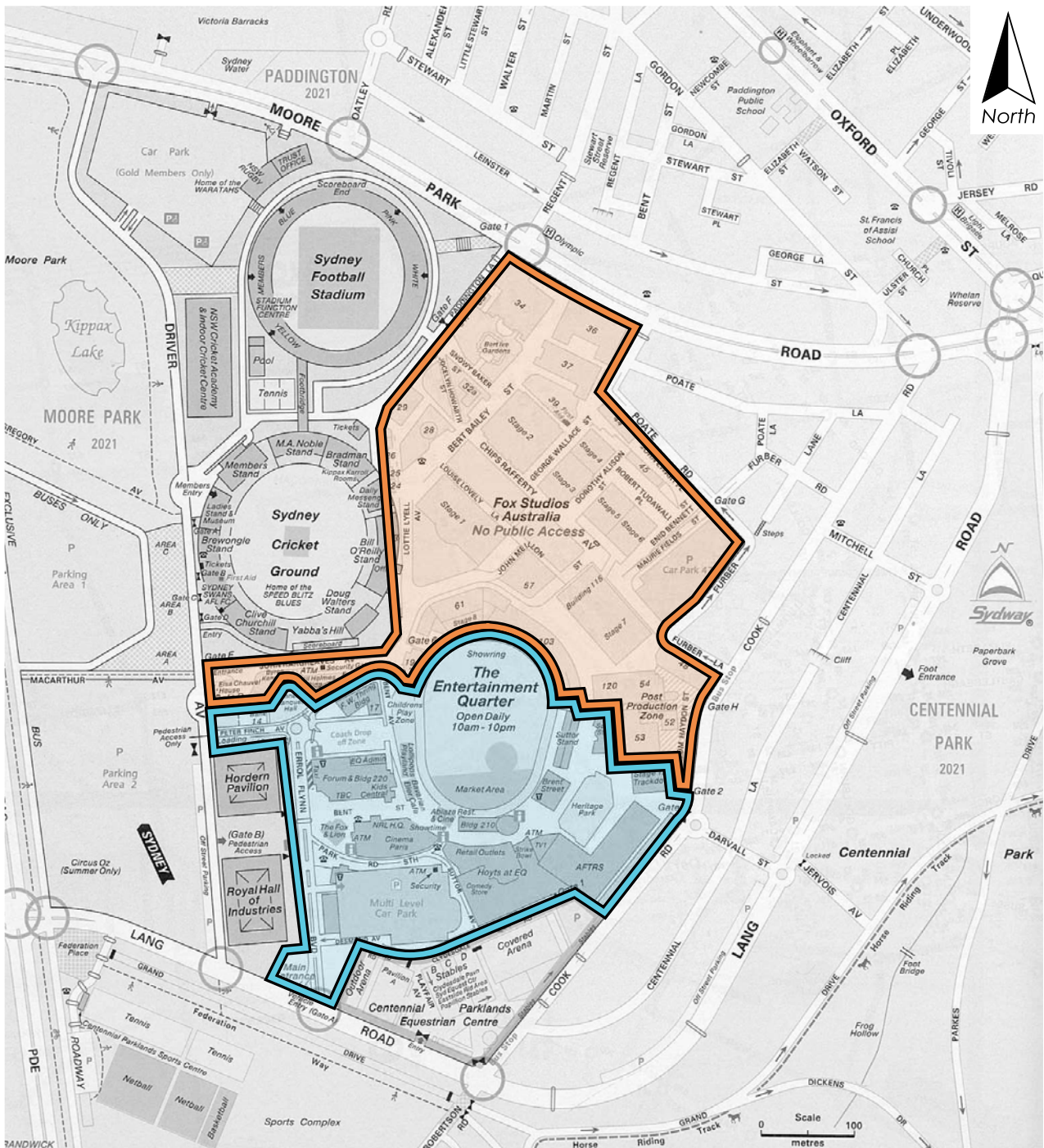
The working studio operates as a separate entity to what now is called the Entertainment Quarter (formerly the Family Entertainment Precinct).

### 2.3 *Approved Master Plan for the Former Moore Park Showground*

State Environmental Planning Policy (SEPP) No. 47 applies to the former Moore Park Showground site (now the Entertainment Quarter and Working Studio

# SITE LOCATION

## EQ CONCEPT PLAN ENVIRONMENTAL ASSESSMENT



### Key



Working Studio



EQ Entertainment Quarter

precincts). SEPP 47 also applies to the Hordern Pavilion, Royal Hall of Industries and the Equestrian Centre.

Pursuant to SEPP 47 the total floor area permissible with the Entertainment Quarter and working studios combined is 144,000m<sup>2</sup>.

The original master plan (as amended) provides for 73,500m<sup>2</sup> of floor area within the working studio and 50,313m<sup>2</sup> within the Entertainment Quarter, making a total of 123,813m<sup>2</sup>.

However, of the 73,500m<sup>2</sup> approved floor area in the working studio precinct only 67,500m<sup>2</sup> is, by agreement between the head lessees of the working studios and the Entertainment Quarter, to be constructed leaving 6,000m<sup>2</sup> for re-allocation within the Entertainment Quarter.

In total, the available floor area remaining to be allocated is thus 26,187m<sup>2</sup>.

The proposed amendment to the approved master plan seeks to identify appropriate locations within the Entertainment Quarter where this available floor space potential can be accommodated.

With regard to traffic and transport, SEPP 47 requires the Minister when determining a development application to consider the following matter:

*“traffic and parking generated by the development; measures to facilitate the use of public transport and the views of the Roads and Traffic Authority and Department of Transport”.*

This requirement reflects one of the key transport planning aspects that has evolved for the site, namely the promotion of public transport and other non private vehicle modes of transport for use by people accessing the site.

## **2.4**

### ***Director General Requirements (DGRs)***

Item 5 of the DGRs issued 14/3/08 for the Environmental Assessment addresses transport requirements, namely:



*5. Car Parking / Traffic Impacts (Construction and Operational)*

*The EA must demonstrate the provision of sufficient on site parking for the proposal having regard to local planning controls and RTA guidelines. The EA shall also provide a Traffic Impact Study prepared in accordance with the RTA's Guide to Traffic Generating Developments, considering traffic generation, any required road upgrades, access, loading dock(s), car parking arrangements, measures to promote public transport usage and pedestrian and bicycle linkages.*

A key element of the submissions from the Ministry of Transport (MoT) and the NSW Roads and Traffic Authority (RTA) is an assessment of the adequacy of proposed on site parking provisions and the promotion of public transport for travel to and from the site.

The MoT submission has requested:

*“That car parking within the subject site is capped at its current level and further initiatives are established to progressively reduce employee parking demand and demand during major events.”*

The cap on parking to current levels is consistent with the approved Master Plan's transport objectives and recent DA approvals for the Bent Street Dance Studios and various retail uses.

**2.5**

***Consultation with RTA***

As part of the Environmental Assessment process, consultation was undertaken with the RTA. The purpose of the consultation was to brief the RTA on the proposal and to seek comments on the proposed traffic and parking assessment methodology.

A summary of the outcomes from the consultation meeting is provided below:

- Traffic Generation Assessment
  - For the Concept Plan assessment, it was appropriate to use existing traffic rates with a pro rata increase in line with the proportional increase in floor area.

- A sensitivity analysis would be beneficial in order to assess the potential implications of higher than expected traffic generation of the site resulting from variations to expected land uses.
  - Further traffic assessment would be required at the DA stage for individual buildings / floor space increase once specific land uses are known and compared with Concept Plan assessment.
  - Assessment of the implications to the surrounding road network should include a SCATES analysis (co-ordinated signal operation) along Lang Road between the site access and Anzac Parade.
- Car Parking
  - RTA acknowledged that standard RTA / DCP rates were inappropriate to apply to the Entertainment Quarter land uses and that the assessment should utilise existing demand to determine future on site requirements.
  - The RTA supported the MoT's request for the existing on site car parking provisions (ie. the multi storey car park) to be set as a cap of parking as a measure to increase public transport use.
- Construction Traffic Implications
  - RTA acknowledged that detailed construction traffic impact assessment and management measures would need to be prepared at DA stage once particular land uses for the additional floor space is known.
  - The EA should provide an outline of potential construction management measure that should be considered as part of DA stage construction traffic management.

## 3 Existing Entertainment Quarter Transport Conditions

### 3.1 *Working Studio*

The working studios precinct (Fox Studios) operates as a separate entity to the Entertainment Quarter. It has separate vehicular access to the site from Driver Avenue which is restricted with no public access.

In general the working studio site produces considerably less traffic generation than the Entertainment Quarter (formerly the Family Entertainment Precinct).

### 3.2 *Entertainment Quarter Existing Land Uses*

The Entertainment Quarter provides a range of film related commercial/leisure/entertainment facilities including cinemas, restaurants, shops, bars and the old Showground parade ring which is used for a variety of events and activities.

Recent land uses to be constructed and operating within the Entertainment Quarter include:

- Australian Film, Television and Radio School (new purpose built building);
- Brent Street Studios (Dance School and Studio);
- Bavarian Beer Café (refurbishment of existing building with additional floor area); and
- Total Body Conditioning Fitness Centre (refurbishment of existing building).

The existing floor area within the Entertainment Quarter proportionally comprises the following types of land use:

- |                                     |     |
|-------------------------------------|-----|
| • Retail                            | 8%  |
| • Food and Drink                    | 9%  |
| • Office / Commercial <sup>1</sup>  | 49% |
| • Cinema/Entertainment/Recreational | 32% |
| • General uses (Byron Kennedy Hall) | 3%  |

---

<sup>1</sup> Includes Bent Street Studios and AFTRS land uses.

### 3.3

#### ***Site Access Arrangements***

All public vehicular access onto the Entertainment Quarter site is provided via Errol Flynn Boulevard at the signalised intersection with Lang Road.

Emergency vehicle access is also provided off Driver Avenue via Chelmsford Avenue. Chelmsford Avenue provides a major pedestrian access to the site, particularly during events at the Sydney Cricket Ground and Aussie Stadium.

The existing site access arrangements will be maintained under the proposed Master Plan Amendment.

### 3.4

#### ***Traffic Generation Characteristics***

#### 3.4.1

##### *Historical Traffic Generation*

The traffic volumes on Errol Flynn Boulevard (ie. the public access road into the Entertainment Quarter) were surveyed during two week long time periods, the first being Monday 2<sup>nd</sup> August 2004 to Sunday 8<sup>th</sup> August 2004 and the second being the 29 May 2006 to 4 June 2006.

These surveys provide an overview of the traffic generation behaviour of the site over a week long period.

Results of the counts are summarised below in Table 3.1.

**Table 3.1 - 2004 and 2006 Traffic Volumes on Errol Flynn Boulevard**

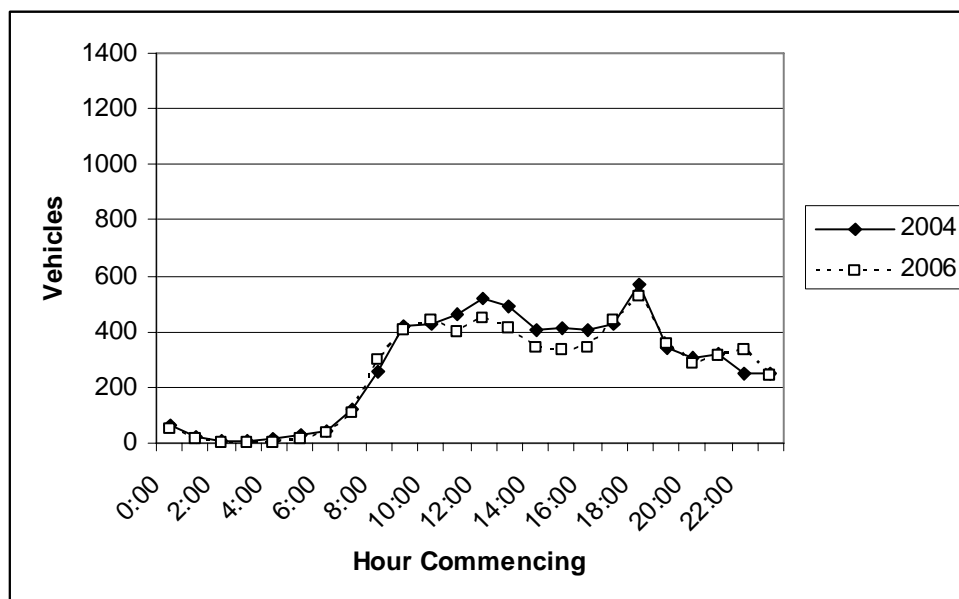
|         |                          | <b>2004</b> | <b>2006</b> |
|---------|--------------------------|-------------|-------------|
| Weekday | Average Volume           | 6,560       | 6,147       |
|         | Highest Daily Volume     | 7,814       | 9,824       |
|         | Lowest Daily Volume      | 5,216       | 3,398       |
|         | Average Peak Hour Volume | 570         | 524         |
|         | Average Peak Hour        | 1800-1900   | 1800-1900   |
| Weekend | Average Volume           | 11,505      | 11,565      |
|         | Highest Daily Volume     | 12,046      | 12,400      |
|         | Day with Highest Volume  | Saturday    | Saturday    |
|         | Average Peak Hour Volume | 1,159       | 1,085       |
|         | Average Peak Hour        | 1800-1900   | 1300-1400   |

Table 3.1 indicates that with regard to the Entertainment Quarter site traffic generation characteristics:

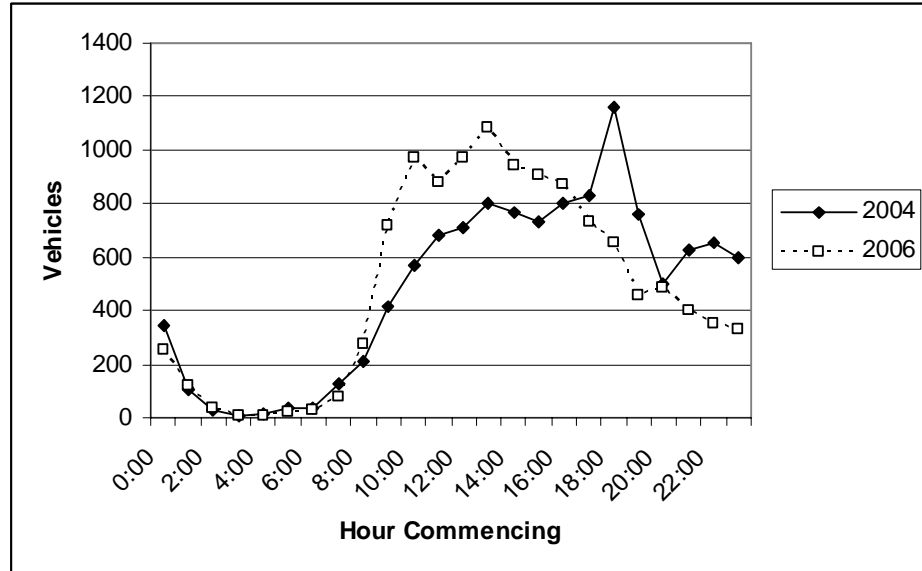
- The highest daily traffic volumes recorded in both 2004 and 2006 occurred on Saturdays.
- The highest average weekday one hour traffic volumes in both 2004 and 2006 occurred between 6.00pm and 7.00pm with similar volumes recorded i.e ~550 vehicles.

Chart 3-1 to Chart 3-3 make further comparisons between the 2004 and 2006 traffic volumes recorded on Errol Flynn Boulevard.

**Chart 3-1 2004 and 2006 Average Weekday Traffic Volumes on Errol Flynn Boulevard**



**Chart 3-2 2004 and 2006 Average Weekend Traffic Volumes on Errol Flynn Boulevard**



**Chart 3-3 2004 and 2006 Average Weekly Traffic Volumes on Errol Flynn Boulevard**

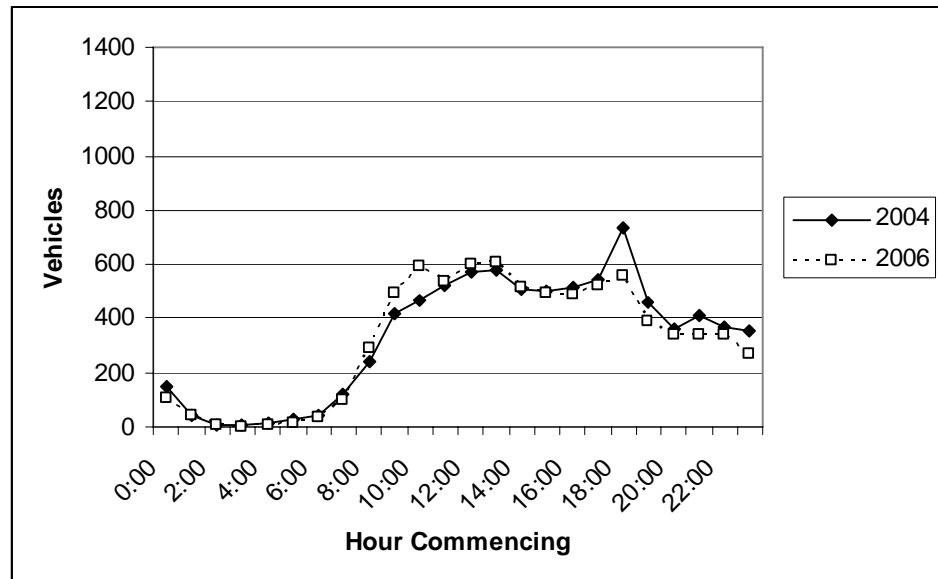


Chart 3.1 to 3.3 show that:

- Peak traffic generation to / from the Entertainment Quarter is associated with events held at the SCG, Aussie Stadium or Hordern Pavilion.
- The average weekday traffic volumes are similar in size and distribution in 2004 and 2006.
- The average weekend peak hour traffic volumes in 2004 and 2006 are similar in size. However, the peak is distributed over a longer period in 2006 compared to 2004.

Of particular interest to the proposed additional floor area is the weekday traffic flows shown in Chart 3-1 as weekend and event mode traffic generation are event driven and less likely to be influenced by additional floor area.

Furthermore with regard to the operation and capacity of the surrounding road network, the impacts of additional traffic generated by additional floor area, will be most significant during the commuter week day peak periods on the surrounding road network.

The 2004 and 2006 surveys indicate that weekday traffic flows are significantly lower than those experienced on weekends outside of event mode. During the commuter peak periods on the surrounding road network, traffic generated by the Entertainment Quarter precinct is approximately:

- AM Peak Hour = 200 to 300 vehicles / hour
- PM Peak Hour = 400 to 500 vehicles / hour

#### 3.4.2

##### *Peak Period Traffic Surveys (2009)*

As identified above, consultation with the RTA requested that the potential traffic implications of the proposed Master Plan amendment on the peak AM and PM commuter periods be assessed.

To undertake this assessment, AM and PM peak period surveys have been undertaken at the following intersections:

- Anzac Parade / Cleveland Street / Lang Road
- Lang Road / Driver Avenue
- Lang Road / Errol Flynn Boulevard

- Lang Road / Cook Road / Robertson Road

These surveys were undertaken on a typical weekday (Tuesday 17<sup>th</sup> February) and represent non event mode conditions at the showground. Detailed survey results are provided in Appendix A.

The results of the peak period traffic surveys are provided in Table 3.2.

**Table 3.2 - 2009 Surveyed Entertainment Quarter Weekday Traffic Generation**

|                 | Inbound<br>(veh/hr) | Outbound<br>(veh/hr) | Total<br>(veh/hr) | Traffic Generation<br>Rate <sup>1</sup><br>(veh/hr/100m2) |
|-----------------|---------------------|----------------------|-------------------|---|
| AM Peak<br>Hour | 290                 | 72                   | 362               | 0.7   |
| PM Peak<br>Hour | 399                 | 296                  | 695               | 1.4   |

Notes: 1. Traffic generation rate based on 50,313m2 existing EQ site floor area

The 2009 surveys indicate that the peak period traffic generation of the site has increased since 2006 and reflects the additional land uses that have recently commenced operation.

The surveyed 2009 weekday traffic flows are generally consistent with the anticipated growth in traffic flows to and from Entertainment Quarter <sup>2</sup> arising from developments which have occurred on the site between 2006 and 2009, namely:

- Bent Street Studios;
- AFTRS;
- Bavarian Beer Café and several other retail / leisure uses.

### 3.5

#### ***Existing Road Network Operation***

##### 3.5.1

##### *Site Access Intersection Operation – Errol Flynn Boulevard / Lang Road*

Analysis of surveyed (2009) existing traffic flows to and from Entertainment Quarter precinct have been undertaken at the Lang Road / Errol Flynn Boulevard intersection.

<sup>2</sup> Entertainment Quarter Master Plan Amendment – Concept Plan Traffic and Transport Report (MWT, March 2007).



The analysis has been undertaken using the SCATES intersection modelling software as directed by the RTA. SCATES allows a network of co-ordinated signalised intersections to be analysed.

The operation and capacity of the Errol Flynn Boulevard / Lang Road intersection is critical to the Entertainment Quarter as it provides the only public vehicle access to and from the Entertainment Quarter site.

The modelled traffic flows for this intersection and the surrounding road network are provided in Appendix B.

The results of the SCATES analysis for the site access are summarised in Table 3.3.

**Table 3.3 - Lang Road / Errol Flynn Boulevard (Site Access)  
Existing (2009) Intersection Operation (Weekday Peak)**

|              | Level Of<br>Service | Degree of<br>Saturation | Average Delay<br>(sec/veh) |
|--------------|---------------------|-------------------------|----------------------------|
| AM Peak Hour | A                   | 0.41                    | 2                          |
| PM Peak Hour | A                   | 0.53                    | 8                          |

The analysis presented in Table 3.3 indicates that the Entertainment Quarter site access intersection currently operates satisfactorily and accommodates the existing traffic movements to and from the Entertainment Quarter precinct.

### 3.5.2

#### *Surrounding Road Network Intersection Operation*

A SCATES analysis was also undertaken for the following intersections along Lang Road:

- Lang Road / Cook Road
- Lang Road / Driver Avenue
- Anzac Parade / Lang Road / Cleveland Street

These intersections were identified by the RTA for consideration as part of the Master Plan amendment traffic assessment.

The results of the SCATES analysis for the above intersections are summarised in Table 3.4.

**Table 3.4 - Existing (2009) Intersection Operation (Weekday Peak)**

|  | Level Of Service | Average Delay (sec/veh) |
|--|------------------|-------------------------|
| <b>Anzac Parade / Lang Rd / Cleveland St</b> |                  |                         |
| AM Peak Hour                                 | C                | 29                      |
| PM Peak Hour                                 | C<br>(nearing D) | 41                      |
| <b>Lang Rd / Driver Ave</b>                  |                  |                         |
| AM Peak Hour                                 | A                | 4                       |
| PM Peak Hour                                 | A                | 8                       |
| <b>Lang Rd / Cook Rd</b>                     |                  |                         |
| AM Peak Hour                                 | A                | 5                       |
| PM Peak Hour                                 | A                | 4                       |

*Notes: Modelled traffic flows shown in Appendix B.*

The results in Table 3.4 indicate that the Anzac Parade / Cleveland Street / Lang Road intersection is operating with satisfactory levels of service (ie. LoS C/D). Observations of intersection operation indicates that some queuing does occur at this intersection, however, queues are generally contained within the designated turning bays and clear within 1 – 2 traffic signal cycles.

The SCATES analysis indicates that both the Driver Avenue and Cook Road intersections with Lang Road operate satisfactorily with spare capacity during the AM and PM peak periods.

### 3.6

#### 3.6.1

### ***Car Parking Facilities***

#### *On Site Multi-Storey Car Park Provisions*

The Entertainment Quarter site has an existing parking provision of about 2,000 spaces in the multi-storey parking structure.

Of these 2000 spaces, 151 spaces are currently reserved for tenants although the majority of these spaces are only reserved during weekdays between 7am and 7pm.

The car park is a pay parking facility which operates on the following fee structure:

- 0-2 hours – FREE
- 2-3 hours - \$4
- 3-4 hours - \$8
- 4-5 hours - \$12
- 5-6 hours - \$15
- 6 + hours and maximum daily rate \$20
- After 6pm Evening flat rate \$6

### 3.6.2

#### *Other On Site Car Parking Facilities*

In addition to the multi storey car park, administration / staff parking is provided at grade within the Entertainment Quarter Precinct at the rear the AFTRS building (40 spaces) and several spaces in ad hoc locations along internal streets.

### 3.6.3

#### *Car Parking Demand*

The multi storey car park does not commonly fill to capacity and when this does occur it generally arises from major events at adjoining Moore Park venues.

Typically the car park is no more than one half to two thirds full at any time during a normal week. Peak usage tends to occur at weekends and on most weekdays there is substantial spare capacity.

As part of the Concept Plan for the proposed Master Plan amendments<sup>3</sup>, the utilisation of the car park has been analysed in more detail from entry and exit movements over a 1 month period (May 2006).

This data (as shown in Appendix C) provides the calculated number of cars parked at different times of day for each day plus the average over each week.

It can be seen that generally the car park demand is significantly less than 1,000 cars during the day of a weekday but with intermittent increases in evening demand on Saturday and Sundays or if there was a special event at one of the Stadiums or Hordern Pavilion/Hall of Industries.

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<sup>3</sup> Entertainment Quarter Master Plan Amendment – Concept Plan Traffic and Transport Report (MWT, March 2007).

For the Friday and Saturday nights, the surveys indicate that during non-event periods the car park has 700-1000 available parking spaces (ie. utilisation =50%-65% of capacity).

Each of the recently approved and constructed DA's within the Entertainment Quarter generates additional demand for on site parking.

A summary of the estimated parking demands for each recent development is summarised below:

- Australian Film, Television and Radio School -AFTRS (new purpose built building);
  - 40 staff parking spaces to be provided adjacent to the proposed building.
  - Student parking to be accommodated in the multi storey car park. Up to 72 spaces at peak operating periods.
- Brent Street Studios;
  - Up to 15 short stay drop off spaces to be allocated in the multi storey car park for student set down / pick up.
- Bavarian Beer Café
  - Worst Case estimated demand of 133 spaces to be accommodated within the multi storey car park on weekend evenings.
- Total Body Conditioning Fitness Centre (refurbishment of existing building).
  - Demand estimated to be up to 35 parking spaces for weekday morning and evening periods.
  - Demand to be accommodated within the multi storey car park.

It is noted that with the exception of the AFTRS development, each proposed development is a refurbishment of existing floor area and would therefore replace some existing parking demand and traffic generation.

Observations of car parking demand were undertaken at the same time as the February 2009 traffic surveyed described above.

These observations of typical weekday operating conditions with the recent developments in operation indicate that the multi storey car park continues to

operate with substantial spare capacity during these periods with demand is relatively unchanged from those levels previously surveyed (Appendix C).

During weekend events, car park demand increases significantly. It is interesting to note that during events the demand for parking increases in total demand and duration of stay. This indicates a degree of dual activities is being undertaken such as eating dinner or having a few drinks in the Entertainment Quarter before attending an event at the SCG, Aussie Stadium or the Hordern Pavilion.

In the month of analysis, there was only one occasion (Saturday 20 May around 8pm) when the car park was full. This was the result of a concert at the SCG.

It is understood that some 10 times a year (generally at weekends) an event at the SCG or Aussie Stadium will fill the car park.

### **3.7**

#### ***Public Transport***

#### **3.7.1**

##### ***Service Provision***

The Entertainment Quarter has a very good level of public transport access. Sydney Buses operate several bus services along Lang Road and the Anzac Parade bus road.

These buses connect to Bondi Junction, Sydney CBD, Coogee, Clovelly, Maroubra and other parts of the city to the southeast. At peak times there are buses every two to five minutes past or near the site.

The following bus routes service the Entertainment Quarter precinct:

- Metrobus Route 10 – which connects the inner west with the eastern suburbs via the CBD and Moore Park
- From Circular Quay - Routes 373, 374, 376, 377, 392, 394, 396, 397, 399
- From Martin Place, St James & Museum - Routes 339, 373, 374, 376, 377, 391, 392, 394, 396, 397, 399
- From Railway Square - Routes 372, 393, 395
- From Central (Eddy Avenue) - Routes 339, 372, 374, 376, 391, 393, 395
- From Bondi Junction, Newtown & Marrickville - Route 355
- Bondi Explorer customers should alight at Stop 16

A dedicated taxi rank within the Entertainment Quarter is well serviced both during and outside of peak event periods, particularly on weekend evenings.

### 3.7.2

#### *Public Transport Use*

Employees of Fox Studios and the Entertainment Quarter precincts are encouraged to use public transport. The following points are covered in either the employee manual for Entertainment Quarter staff, or in the operations manual issued to all tenants.

- Some parking is made available for staff and tenants in the multi-storey car park.
- Only management positions are provided with parking, all of which is provided outside the multi-storey car park.
- All retail leases require that tenants cannot park in public car parks. A small number of spaces have been made available to managers outside of the multi-deck car park.
- Office leases in the Family Entertainment Precinct provide for a limited number of parking spaces in the multi-storey car park, based on their operational needs. The majority of these are applicable 7am – 6pm Monday to Friday only.
- At both staff and tenant induction sessions, key focus has been made on the importance of local community and the impact of our actions upon local residents. All were reminded that parking in residential streets was not desirable.

A travel survey of Fox Studio staff and members of staff employed at the various retail stores in the Entertainment Quarter Precinct was undertaken in 2004.

This survey found that of the respondents:

- 26% catch public transport to work
- 3% ride a bicycle/motorcycle to work
- 50% arrive by car (either driving themselves or travelling as a passenger, including by taxi).

The proportion of staff travelling to work by car or bicycle/motorcycle has remained relatively the same from the previous year, but there has been a dramatic reduction in public transport use (50% reduction on the 2003 survey). This is attributed to the high numbers who now walk to work (21%), as no respondents walked in the 2003 survey.

In comparison to the above mode transport splits, the census figures indicated that 70 percent of persons that work in Randwick and about 61 percent of persons working in South Sydney travel by car. This indicates the Fox Studio and Entertainment Quarter precincts have continued to be very successful in reducing private car usage for travel to work.

### **3.8**

#### ***Pedestrian and Cyclist Provisions***

Good quality, dedicated off road bicycle and pedestrian path ways are provided along the site's frontage to Lang Road and Driver Avenue. These paths link to the:

- Anzac Parade dedicated shared off road path which acts both as a commuter and recreational bicycle / pedestrian link;
- Moore Park pedestrian paths; and
- Centennial Park.

Thus it is considered that the Entertainment Quarter is located with good access to pedestrian and cyclist facilities.

## 4 **Assessment of Proposed Master Plan Amendment**

### 4.1 *Overview of Proposed Master Plan Amendments*

The proposed concept plan seeks approval for new buildings on 9 sites in the Entertainment Quarter which together could accommodate 26,187m<sup>2</sup> of floor area.

SEPP 47 allows the total provision of 144,000m<sup>2</sup> of floor area for the combined Fox Studio and Entertainment Quarter precincts site.

The additional 26,187m<sup>2</sup> of floor area in the Entertainment Quarter precinct represents floor area which is allowable (under SEPP No. 47) within the combined Fox Studio and Entertainment Quarter site.

Notwithstanding that the Master Plan amendment proposes a transfer of approved floor space from one site to the other, for the Entertainment Quarter site the proposed Master Plan amendment represents an increase in floor area from 50,313m<sup>2</sup> to 76,500m<sup>2</sup>. This is an increase in the order of 52%.

The additional floor area within the Entertainment Quarter precinct will generate additional traffic flows, parking demand and public transport trips to and from the Entertainment Quarter site rather than by the Working Studios site

The additional 26,187m<sup>2</sup> of floor area is proposed to be provided in nine additional buildings within the Entertainment Quarter precinct.

It is noted that future uses of the 9 proposed building will be specified as part of future development or project applications which will include further detailed assessment of traffic, transport and parking implications of development.

For the purpose of this analysis, the traffic generation and parking demands of additional floor area have been extrapolated from existing uses within the Entertainment Quarter and surveyed traffic generation and parking demand.



The Entertainment Quarter provides a mix of uses which make up the existing 50,313m<sup>2</sup> of floor area on the site.

The existing floor area within the Entertainment Quarter proportionally comprises the following types of land use:

- |                                     |     |
|-------------------------------------|-----|
| • Retail                            | 8%  |
| • Food and Drink                    | 9%  |
| • Commercial / Office               | 49% |
| • Cinema/Entertainment/Recreational | 32% |
| • General uses (Byron Kennedy Hall) | 3%  |

It is envisaged that a similar mix of film / entertainment related uses will be developed for the additional 26,187m<sup>2</sup> of floor area proposed in this master plan amendment.

It is proposed to maintain the existing site access arrangements, namely public vehicle access via the Lang Road / Errol Flynn Boulevard intersection.

## 4.2

### ***Traffic Generation Estimates***

#### 4.2.1

##### *Non Event Mode*

It is anticipated that the additional floor area to be provided within the Entertainment Quarter site as proposed by the Master Plan amendment would be of similar land uses to the existing floor space.

As such it is expected that the existing traffic generation characteristics of the Entertainment Quarter site will continue with the proposed additional floor space. That is the potential increase in traffic generation is anticipated to be proportional to the increase in floor space area.

Notwithstanding the above, consultation with the RTA indicated that an assessment of road network operation with the proposed floor space increase on the Entertainment Quarter site should include a sensitivity analysis to consider the implications associated variations to the existing land characteristics.

Based on Roads and Traffic Authority guidelines<sup>4</sup>, the traffic generation potential of the Entertainment Quarter site during the peak AM and PM peak commuter periods will be greatest with a higher proportion of commercial activity on the site than current exists.

The following traffic generation scenarios have been considered as part of the SCATES analysis.

#### **Scenario 1 – Proportional Increase of Existing Uses**

- The additional floor area within the Entertainment Quarter site will be proportional to the existing land uses.
- The master plan amendment represents a 52% increase in floor area. This scenario has assumed a 52% increase in traffic generation of the site compared with existing conditions.
- Traffic distribution patterns will be the same as surveyed existing distributions.

#### **Scenario 2 – Commercial Orientated Development**

- This scenario assumes a greater proportion of additional floor space on the Entertainment Quarter site will be office / commercial uses.
- This scenario represents a worst case site based traffic generation scenario with regard to impacts on the peak commuter period.
- The following proportion of floor space uses for the additional Entertainment Quarter site floor space (26,187m<sup>2</sup>) were assessed as part of the sensitivity test.

|                                     |     |
|-------------------------------------|-----|
| ○ Retail / Food & Drink             | 15% |
| ○ Commercial / Office               | 70% |
| ○ Cinema/Entertainment/Recreational | 15% |
| ○ General uses (Byron Kennedy Hall) | 0%  |

The traffic generation characteristics of the above scenarios is summarised in Table 4.1.

---

<sup>4</sup> Roads and Traffic Authority of New South Wales (2002) *Guide to Traffic Generating Developments*, 2002.

**Table 4.1 - Entertainment Quarter Site Traffic Generation**

|  | AM Peak Hour<br>(veh / hr) |     |       | PM Peak Hour<br>(veh/hr) |     |       |
|--|----------------------------|-----|-------|--------------------------|-----|-------|
|  | In                         | Out | Total | In                       | Out | Total |
| Existing (2009)                                | 290                        | 72  | 362   | 399                      | 296 | 695   |
| Scenario 1 – Proportional Increase             | 441                        | 109 | 650   | 607                      | 450 | 1012  |
| Scenario 2 – Commercial Orientated Development | 583                        | 560 | 145   | 611                      | 728 | 1171  |

The distribution of the above traffic generation scenarios have been based on existing surveyed distributions. These are shown in detail in Appendix B.

#### 4.2.2

##### *Event Mode*

Traffic flows to and from the Entertainment Quarter during event mode is limited by the supply of car parking within the multi storey car parking facility. For example, the car park currently reaches capacity several times a year during events held at the SCG, Aussie Stadium and the Hordern Pavilion.

Therefore the total volume of traffic to and from the Entertainment Quarter during event modes with the additional floor area is not expected to change the existing conditions.

It is noted that the operation of special event traffic management plans and procedures would continue to be applied to major event periods.

#### 4.3

##### ***Traffic Generation Implications – Non Event Mode***

The potential road network operation impacts of both traffic generation scenarios described above have been assessed using the SCATES modelling software and compared to modelled existing conditions.

The modelled results are presented in Table 4.2 and Table 4.3.

**Table 4.2 - With Entertainment Quarter Development - Intersection Operation AM Peak**

| Intersection                       | Existing<br>Surveyed 2009 |                        | Scenario 1<br>Proportional |                        | Scenario 2<br>Commercial |                        |
|------------------------------------|---------------------------|------------------------|----------------------------|------------------------|--------------------------|------------------------|
|                                    | Level of<br>Service       | Av. Delay<br>(sec/veh) | Level of<br>Service        | Av. Delay<br>(sec/veh) | Level of<br>Service      | Av. Delay<br>(sec/veh) |
| Anzac Pde / Lang Rd / Cleveland St | C                         | 29                     | C                          | 31                     | C                        | 33                     |
| Lang Rd / Driver Ave               | A                         | 4                      | A                          | 4                      | A                        | 4                      |
| Lang Rd / Errol Flynn Bvd          | A                         | 2                      | A                          | 3                      | A                        | 3                      |
| Lang Rd / Cook Rd                  | A                         | 5                      | A                          | 5                      | A                        | 5                      |

**Table 4.2 - With Entertainment Quarter Development - Intersection Operation PM Peak**

| Intersection                       | Existing<br>Surveyed 2009 |                        | Scenario 1<br>Proportional |                        | Scenario 2<br>Commercial |                        |
|------------------------------------|---------------------------|------------------------|----------------------------|------------------------|--------------------------|------------------------|
|                                    | Level of<br>Service       | Av. Delay<br>(sec/veh) | Level of<br>Service        | Av. Delay<br>(sec/veh) | Level of<br>Service      | Av. Delay<br>(sec/veh) |
| Anzac Pde / Lang Rd / Cleveland St | C / D                     | 41                     | D                          | 44                     | D                        | 52                     |
| Lang Rd / Driver Ave               | A                         | 8                      | A                          | 11                     | B                        | 15                     |
| Lang Rd / Errol Flynn Bvd          | A                         | 8                      | A                          | 9                      | A                        | 11                     |
| Lang Rd / Cook Rd                  | A                         | 4                      | A                          | 4                      | A                        | 5                      |

The SCATES model results indicate that the likely development scenario for the additional floor space at on the Entertainment Quarter site (Scenario 1) will not generate a significant adverse impact on road network operation compared to existing (2009) conditions with only minor increases to average vehicle delays and similar levels of service.

With the exception of the Anzac Parade / Lang Road / Cleveland Street intersection all intersections will continue to operate at LoS A with the proposed additional floor space area on the Entertainment Quarter site (Scenario 1). For the Anzac Parade / Lang Road / Cleveland Street intersection, the level of service will continue to be on the cusp of Los C/D.

For Scenario 2 it is noted that the Anzac Parade / Lang Road / Cleveland Street intersection will continue to operate satisfactorily (LoS D) albeit with an increase in average vehicle delay from 41 seconds to 52 seconds in the PM peak period.

With regard to the Entertainment Quarter site access at the Lang Road / Errol Flynn Boulevard intersection, the SCATES analysis indicates that the access intersection will continue to operate satisfactorily with good levels of service under both traffic generating scenarios.

It is noted that the traffic generations estimates and subsequent assessment have been based on a combination of surveyed existing travel characteristics and RTA traffic generation rates (for Scenario 2 - Commercial). As such any increased mode share to public transport, cycling or pedestrian modes will reduce the traffic generation potential of the Entertainment Quarter site as assessed above.

It is realistic to expect with travel demand management and parking controls that the traffic generation potential of the EQ site will be less than the scenarios assessed above. Further details of travel demand management are described in following sections of this report.

#### **4.4**

##### ***Traffic Management During Event Mode***

Traffic generation of the Entertainment Quarter will continue to be most significant during event modes associated with events held at the SCG, Aussie Stadium or Hordern Pavilion.

However, these conditions are not expected to be different to the existing conditions as the nature of events is unlikely to change and the car park capacity provides a cap on the number of vehicles accessing the site during event mode.

It is noted that a management plan for major events is currently in place for the Entertainment Quarter. This management plan is implemented with consultation between the relevant stakeholders and site operators by the Major Events Co-ordination Unit (MECU).

The implementation of traffic, parking, pedestrians and public transport management associated with event mode will need to continue and be updated to reflect the changing travel needs within the Entertainment Quarter.

#### 4.5

##### ***Parking Demand***

The existing on site parking provisions (ie. the multi storey car park) is a legacy of the original master plan concept for the Fox Studios site which anticipated a much greater demand for on site parking than currently occurs on the site.

As described in Section 3, the existing 2,000 space (approx.) car park has a excessive spare capacity during non – event modes.

Representation from the Ministry of Transport has requested that on site parking provisions be capped at existing levels as part of any future floor space development on the Entertainment Quarter site.

It is considered that this cap on parking provisions represents a sound measure to increase mode share to public transport and other non-private motor vehicle modes.

The proposed Master Plan amendment does not propose to increase parking provisions on the Entertainment Quarter site with additional parking demand to be accommodated with the existing multi storey car park.

This is consistent with the MoT request and the overall transport objectives for travel management to and from the Entertainment Quarter site.

Notwithstanding the above, surveys of existing car park utilisation indicates that spare car park capacity during non-event periods ranges between 1/3 to 1/2 of car park capacity. Assuming that the traffic generation of Entertainment Quarter site increases by approximately 50% (Scenario 1) then the car park would have more than enough spare capacity to accommodate the additional parking demand.

Demand for coach and bus parking currently occurs during event periods at the Entertainment Quarter, the various sporting stadiums or Moore Park.

Coach parking demand is managed on an event by event basis by the MECU and the event management plan. This includes parking along internal roads within the Entertainment Quarter and Driver Avenue. Management of coach parking demand will continue to be undertaken as part the event management planning for the site by the MECU.

#### **4.6**

#### ***Public Transport and Travel Demand Management***

##### **4.6.1**

##### ***Public Transport Services***

As described in Section 3 above, the Entertainment Quarter site is well serviced by public transport. Furthermore, the existing utilisation rates of public transport, cycling and walking modes by Entertainment Quarter site employees and visitors is considered to be relatively high. This reflects the site's good access to public transport.

The existing travel behaviour of the Entertainment Quarter site population is expected to be maintained under the proposed Master Plan amendment.

Notwithstanding the above, endeavours to further increase the mode share for non – private vehicle usage should be undertaken through the development of new and refinement of existing Entertainment Quarter site travel demand management measures.

##### **4.6.2**

##### ***Travel Demand Management***

It is anticipated that as part of any site specific development or project application for building uses that a Travel Demand Management Plan will need to be prepared. This is consistent with recent DA's on the site, including the recently constructed AFTRS facility and the objectives transport objectives of SEPP 47. .

The philosophy of “Travel Demand Management” evolved as a means of facilitating the reduction of private motor vehicle travel thus minimizing the adverse social, environmental and economic impact of car dependency and achieving sustainable transport outcomes.

Sustainable transport can be understood as modes of transport, which minimise our consumption of natural resources.

Travel Demand Management is the implementation of initiatives that increase commuter travel choices, which simultaneously reduce costs. They achieve this by seeking ways to make more efficient use of existing transportation services.

There are four general approaches to Travel Demand Management:

- Increase asset utilisation; which includes initiatives such as green travel plans, carpooling, transit lanes, park and ride schemes.
- Traffic restraint; reduction in private vehicle parking availability and prioritising public transport.
- Pricing; toll roads, parking fees to discourage commuter parking; fuel taxes and parking management.
- Urban and Social changes; community behaviour change education, modification of developments to increase transport integration.

As part of Entertainment Quarter any individual site will benefit from the travel demand management and sustainable transport measures included as part of the overall Entertainment Quarter transport management strategies.

These benefits include:

- Good access to existing public transport services;
- An existing culture of travel behaviour utilising non private motor vehicle modes of travel;
- Being part of a larger site which increases the opportunities for co-ordinated measures and demand for public transport services; and
- Ongoing travel demand monitoring and implementation of employee and operations manuals for Entertainment Quarter staff which is issued to all tenants.



Generally travel demand management plan for sites within the Entertainment Quarter site would involve the following elements:

- Maintain existing parking provision (this reflects a relative restriction in parking provision for the site's building floor area).
- Provision of bicycle parking spaces equivalent to 3% of staff.
- Installation of a Taxi phone within the main entrance / reception.
- Establish mechanisms to create a staff operated car pooling system. This may include provision of space for displaying contact details of people willing to participate in a car pooling program.
- Provision of space for displaying relevant transport information in the main entrance / reception area and communal staff areas. Information to include:
  - Bus Timetables
  - Public Transport Information sources (ie. 131500 Transport Infoline - <http://www.131500.info/realtime/default.asp>)
  - Bicycle routes and on site facilities
  - Preferred pedestrian routes
  - Taxi phone numbers

The above measures are generally consistent with best practice green travel plan guidelines.

#### **4.7**

##### ***Service Vehicle Arrangements***

It is envisaged that the existing service vehicle access arrangements would be maintained as part of the proposed additional floor area.

Essentially service vehicle access will continue to be provided via the main site access at Errol Flynn Boulevard. Access to individual buildings will be via the existing internal service vehicle roads, including the service vehicle road around the Showring.

Service vehicle arrangements and access to each new building would be addressed as part of individual development applications for additional floor area.

#### **4.8**

##### ***Construction Traffic Implications***

As identified through consultation with the RTA, the construction traffic implications of the proposed Master Plan amendment need to be considered in detail at the development application or project application stages of development.

It is envisaged that detailed Construction Traffic Management Plans will be prepared for each stage of construction activity on the Entertainment Quarter site.

Construction traffic management plans will need to consider the following issues:

- Construction traffic generation (heavy vehicle and staff vehicles)
- Site access arrangements;
- Heavy vehicle haulage routes and implications on the operation and safety of the surrounding road network; and
- Impacts on Entertainment Quarter operation.

The principle objectives of construction traffic management should include:

- Heavy vehicle routes to be limited to the main road network where possible. Use of residential roads (including Cook Road) should be constrained.
- Construction hours to avoid peak Entertainment Quarter site traffic periods, namely during events or weekends.

## 5

# Summary and Conclusions

This traffic and transport assessment has been prepared to consider the implications of a Master Plan Amendment for the Entertainment Quarter.

The proposed amendment seeks approval for several new buildings on sites in the Entertainment Quarter which are able to accommodate 26,187m<sup>2</sup> of floor area whilst preserving / protecting the urban design and heritage qualities of the precinct.

SEPP 47 allows the total provision of 144,000m<sup>2</sup> of floor area for the combined Fox Studio and Entertainment Quarter sites. The additional 26,187m<sup>2</sup> of floor area in the Entertainment Quarter precinct represents floor area which is allowable (under SEPP No. 47) within the combined Fox Studio and Entertainment Quarter site.

It is envisaged that the additional floor area within the Entertainment Quarter will provide a mix of film, entertainment, retail, restaurant and leisure uses as envisaged under SEPP 47, generally in the same proportions as presently exists.

This traffic and transport assessment has considered the implication of the Master Plan Concept amendment based on existing and known proposed development within the Entertainment Quarter. A sensitivity analysis of traffic generation potential of the site has been undertaken as requested by the RTA in order to appreciate the potential implications of variations in land use types for the additional floor space area.

However, it is noted that further detailed traffic and parking assessments will be required as part of development or project applications once particular uses of individual new buildings are known.

The additional floor area within the Entertainment Quarter will generate additional traffic flows to and from the Entertainment Quarter site and increased demand for parking compared to the existing situation, particularly for non event modes.

For non event modes, the analysis presented in this report has concluded that:

- Additional traffic generation can be satisfactorily accommodated with regard to intersection operation and capacity;
- Additional parking demands can be accommodated on site within the multi storey car parking facility.

For event modes, the traffic generation and parking demands are not expected to be significantly different to existing conditions as these demand are typically generated by uses outside of the Entertainment Quarter (ie. SCG, Aussie Stadium and Hordern Pavilion) and are not related to additional floor area within the Entertainment Quarter.

The Entertainment Quarter site is well located with regard to public transport services as well as bicycle and pedestrian facilities. The Entertainment Quarter site generally and its individual tenants have implemented a range of travel demand measures to encourage increased use of non-private vehicle modes of travel. These measures and other enhancements will be incorporated into the planning of the additional space use on the Entertainment Quarter site.

## **Appendix A Traffic Survey Results (2009)**



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

Client : H.M.W.T  
Job No/Name : 2579 MOORE PARK Lang Rd  
Day/Date : Tuesday 17th February 09

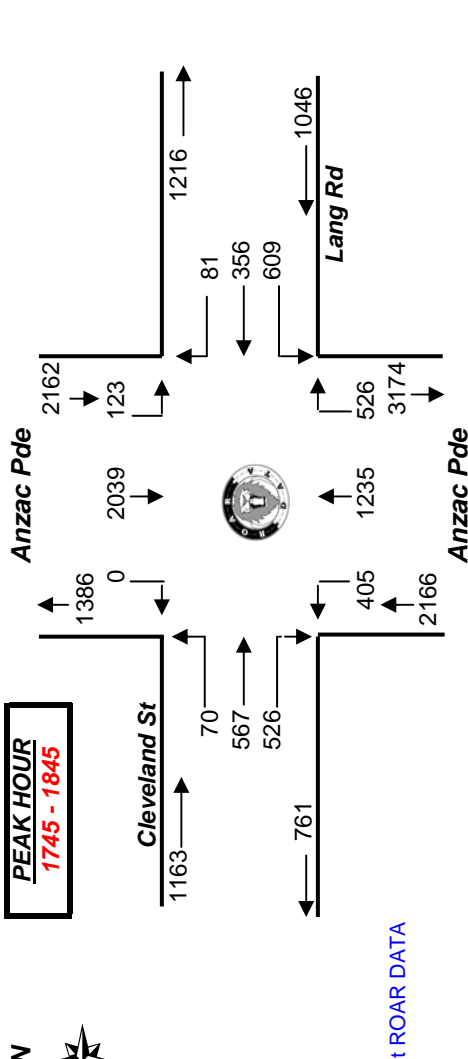
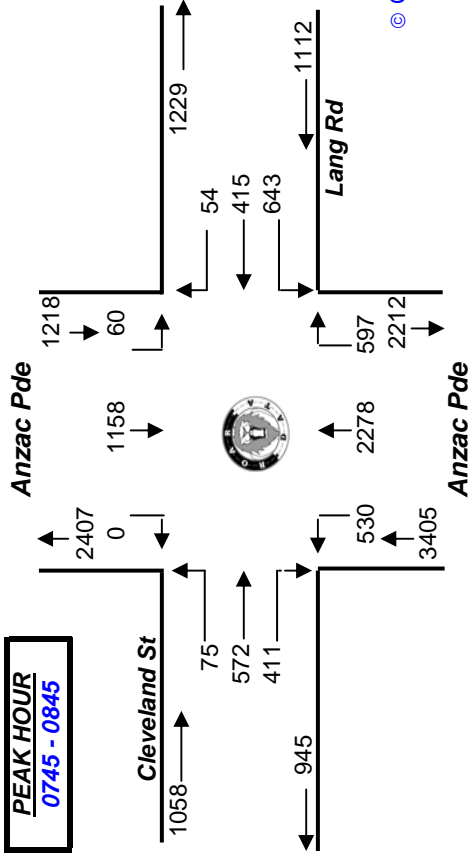
| All Vehicles | NORTH     |      |   | WEST         |      |     | SOUTH     |      |      | EAST    |     |    |
|--------------|-----------|------|---|--------------|------|-----|-----------|------|------|---------|-----|----|
|              | Anzac Pde |      |   | Cleveland St |      |     | Anzac Pde |      |      | Lang Rd |     |    |
|              | L         | I    | R | L            | I    | R   | L         | I    | R    | L       | I   | R  |
| 0700 - 0715  | 12        | 140  | 0 | 18           | 69   | 78  | 117       | 310  | 70   | 71      | 44  | 7  |
| 0715 - 0730  | 15        | 145  | 0 | 24           | 124  | 85  | 123       | 473  | 101  | 118     | 53  | 6  |
| 0730 - 0745  | 14        | 323  | 0 | 23           | 121  | 101 | 162       | 578  | 120  | 122     | 69  | 8  |
| 0745 - 0800  | 8         | 292  | 0 | 15           | 141  | 128 | 128       | 604  | 156  | 154     | 70  | 12 |
| 0800 - 0815  | 19        | 311  | 0 | 21           | 178  | 106 | 142       | 569  | 128  | 156     | 101 | 11 |
| 0815 - 0830  | 16        | 289  | 0 | 16           | 96   | 85  | 121       | 555  | 165  | 181     | 107 | 11 |
| 0830 - 0845  | 17        | 266  | 0 | 23           | 157  | 92  | 139       | 550  | 148  | 152     | 137 | 20 |
| 0845 - 0900  | 12        | 248  | 0 | 25           | 137  | 92  | 160       | 531  | 171  | 181     | 105 | 14 |
| Period End   | 113       | 2014 | 0 | 165          | 1023 | 767 | 1092      | 4170 | 1059 | 1135    | 686 | 89 |

| All Vehicles | NORTH     |      |   | WEST         |      |      | SOUTH     |      |      | EAST    |      |     |
|--------------|-----------|------|---|--------------|------|------|-----------|------|------|---------|------|-----|
|              | Anzac Pde |      |   | Cleveland St |      |      | Anzac Pde |      |      | Lang Rd |      |     |
|              | L         | I    | R | L            | I    | R    | L         | I    | R    | L       | I    | R   |
| 1600 - 1615  | 16        | 365  | 0 | 14           | 121  | 121  | 134       | 287  | 110  | 163     | 87   | 21  |
| 1615 - 1630  | 12        | 359  | 0 | 24           | 120  | 111  | 127       | 315  | 119  | 144     | 98   | 15  |
| 1630 - 1645  | 17        | 425  | 0 | 19           | 150  | 108  | 143       | 399  | 121  | 133     | 68   | 8   |
| 1645 - 1700  | 23        | 421  | 0 | 8            | 136  | 163  | 109       | 321  | 86   | 153     | 97   | 27  |
| 1700 - 1715  | 20        | 437  | 0 | 15           | 150  | 113  | 140       | 386  | 95   | 154     | 77   | 18  |
| 1715 - 1730  | 15        | 443  | 0 | 23           | 160  | 143  | 90        | 344  | 110  | 163     | 86   | 12  |
| 1730 - 1745  | 17        | 405  | 0 | 18           | 113  | 143  | 109       | 387  | 167  | 167     | 69   | 17  |
| 1745 - 1800  | 28        | 469  | 0 | 21           | 141  | 138  | 97        | 273  | 104  | 145     | 101  | 19  |
| 1800 - 1815  | 23        | 491  | 0 | 13           | 143  | 130  | 112       | 344  | 153  | 160     | 85   | 25  |
| 1815 - 1830  | 42        | 504  | 0 | 17           | 141  | 121  | 94        | 308  | 139  | 164     | 105  | 19  |
| 1830 - 1845  | 30        | 575  | 0 | 19           | 142  | 137  | 102       | 310  | 130  | 140     | 65   | 18  |
| 1845 - 1900  | 29        | 471  | 0 | 17           | 134  | 143  | 84        | 266  | 99   | 112     | 80   | 15  |
| Period End   | 272       | 5365 | 0 | 208          | 1651 | 1571 | 1341      | 3940 | 1433 | 1798    | 1018 | 214 |

| All Vehicles | NORTH     |      |   | WEST         |     |     | SOUTH     |      |     | EAST    |     |    |
|--------------|-----------|------|---|--------------|-----|-----|-----------|------|-----|---------|-----|----|
|              | Anzac Pde |      |   | Cleveland St |     |     | Anzac Pde |      |     | Lang Rd |     |    |
|              | L         | I    | R | L            | I   | R   | L         | I    | R   | L       | I   | R  |
| 0700 - 0800  | 49        | 900  | 0 | 80           | 455 | 392 | 530       | 1965 | 447 | 465     | 236 | 33 |
| 0715 - 0815  | 56        | 1071 | 0 | 83           | 564 | 420 | 555       | 2224 | 505 | 550     | 293 | 37 |
| 0730 - 0830  | 57        | 1215 | 0 | 75           | 536 | 420 | 553       | 2306 | 569 | 613     | 347 | 42 |
| 0745 - 0845  | 60        | 1158 | 0 | 75           | 572 | 411 | 530       | 2278 | 597 | 643     | 415 | 54 |
| 0800 - 0900  | 64        | 1114 | 0 | 85           | 568 | 375 | 562       | 2205 | 612 | 670     | 450 | 56 |

| All Vehicles | NORTH     |      |   | WEST         |     |     | SOUTH     |      |     | EAST    |     |    |
|--------------|-----------|------|---|--------------|-----|-----|-----------|------|-----|---------|-----|----|
|              | Anzac Pde |      |   | Cleveland St |     |     | Anzac Pde |      |     | Lang Rd |     |    |
|              | L         | I    | R | L            | I   | R   | L         | I    | R   | L       | I   | R  |
| 1600 - 1700  | 68        | 1570 | 0 | 65           | 527 | 503 | 513       | 1322 | 436 | 593     | 350 | 71 |
| 1615 - 1715  | 72        | 1642 | 0 | 66           | 556 | 495 | 519       | 1421 | 421 | 584     | 340 | 68 |
| 1630 - 1730  | 75        | 1726 | 0 | 65           | 596 | 527 | 482       | 1450 | 412 | 603     | 328 | 65 |
| 1645 - 1745  | 75        | 1706 | 0 | 64           | 559 | 562 | 448       | 1438 | 458 | 637     | 329 | 74 |
| 1700 - 1800  | 80        | 1754 | 0 | 77           | 564 | 537 | 436       | 1390 | 476 | 629     | 333 | 66 |
| 1715 - 1815  | 83        | 1808 | 0 | 75           | 557 | 554 | 408       | 1348 | 534 | 635     | 341 | 73 |
| 1730 - 1830  | 110       | 1869 | 0 | 69           | 538 | 532 | 412       | 1312 | 563 | 636     | 360 | 80 |
| 1745 - 1845  | 123       | 2039 | 0 | 70           | 567 | 526 | 405       | 1235 | 526 | 609     | 356 | 81 |
| 1800 - 1900  | 124       | 2041 | 0 | 66           | 560 | 531 | 392       | 1228 | 521 | 576     | 335 | 77 |

|           |    |      |   |    |     |     |     |      |     |     |     |    |      |
|-----------|----|------|---|----|-----|-----|-----|------|-----|-----|-----|----|------|
| PEAK HOUR | 60 | 1158 | 0 | 75 | 572 | 411 | 530 | 2278 | 597 | 643 | 415 | 54 | 6793 |
|-----------|----|------|---|----|-----|-----|-----|------|-----|-----|-----|----|------|





**R.O.A.R DATA**

***Reliable, Original & Authentic Results***

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

Client : H.M.W.T

Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

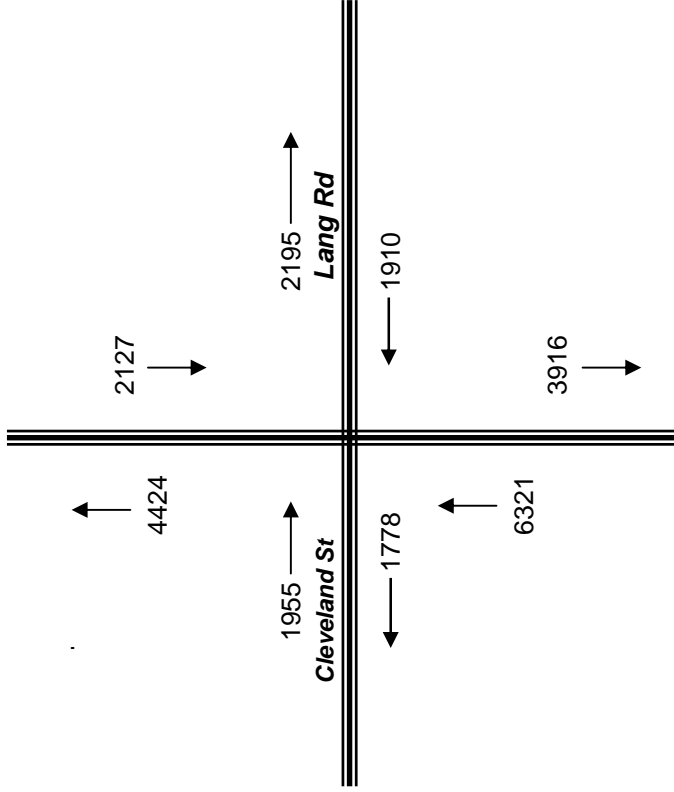
AM

TOTAL VOLUMES  
FOR COUNT  
PERIOD

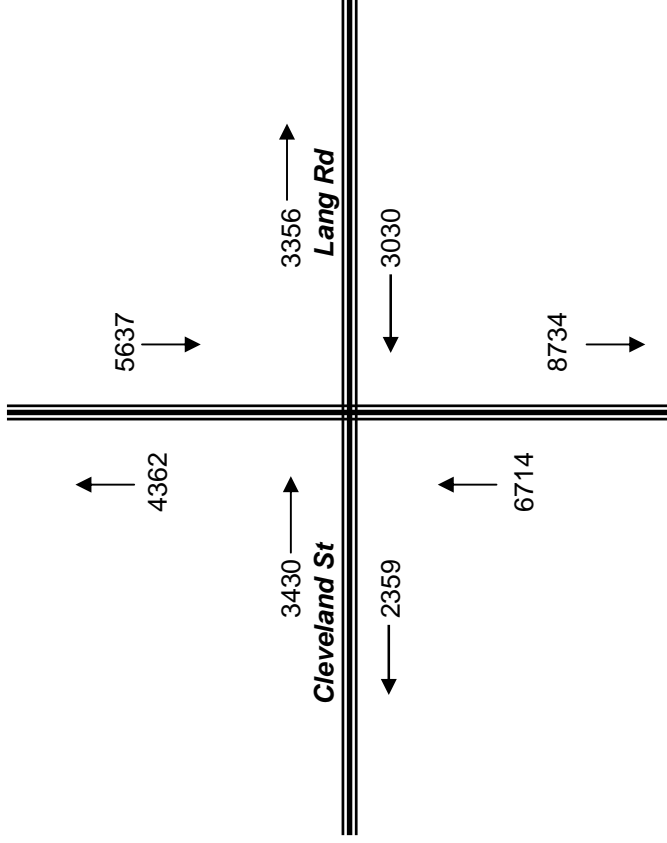
PM

**Anzac Pde**

**Anzac Pde**



**Anzac Pde**



**Anzac Pde**



R.O.A.R DATA

Reliable, Original & Authentic Results

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

Client : H.M.W.T

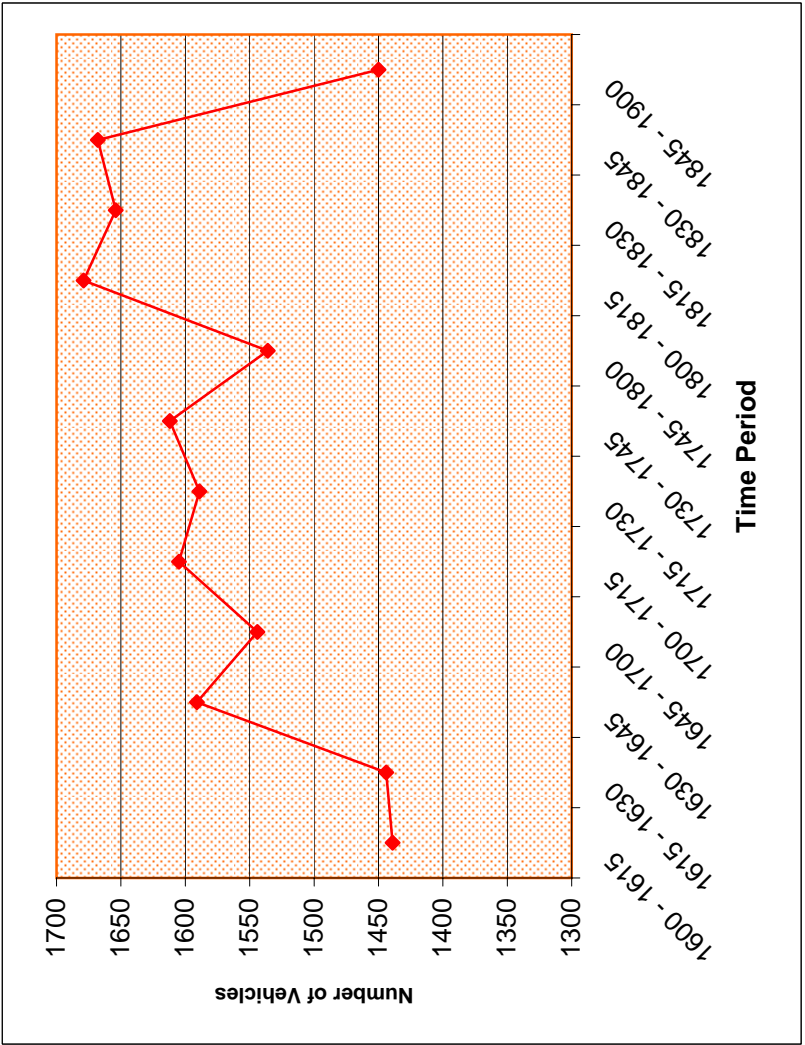
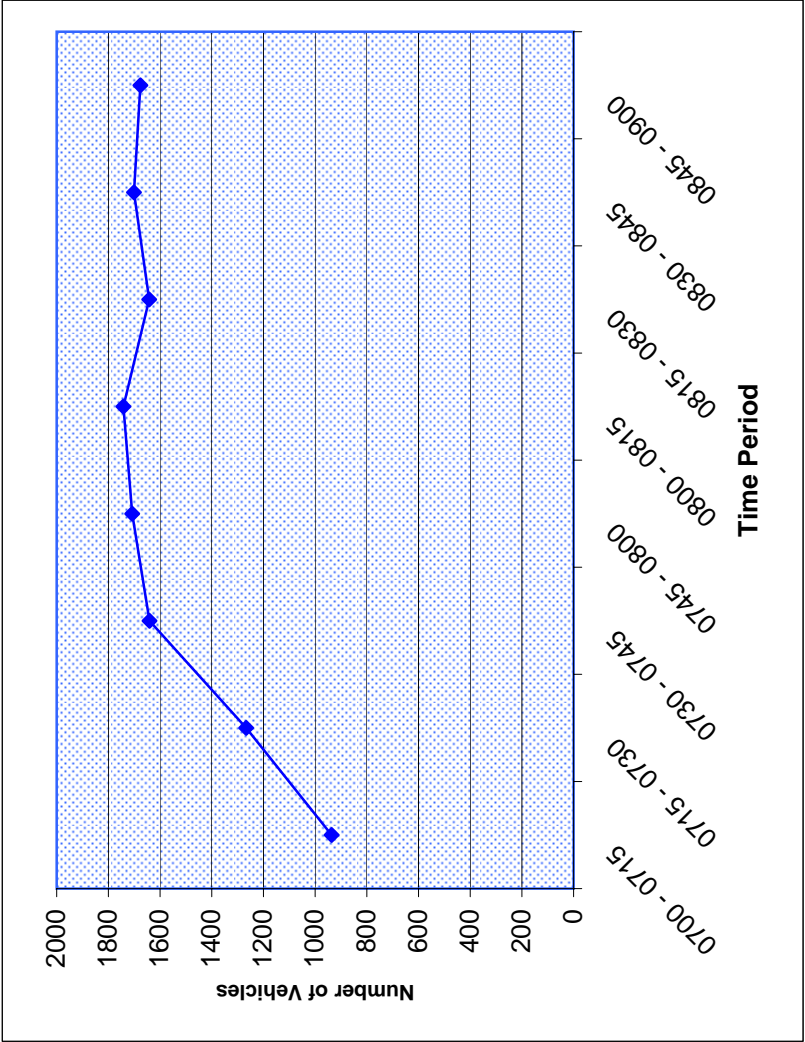
Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

AM

MOORE PARK Anzac Pde

PM







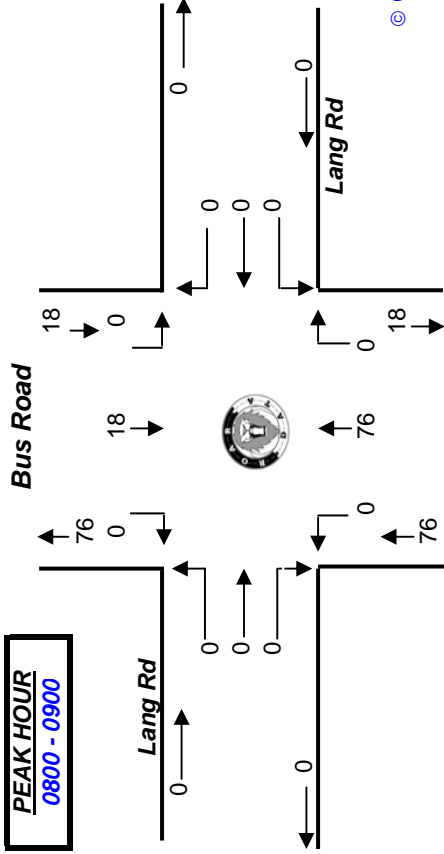
| All Vehicles | NORTH    |    |   |     | WEST    |   |   |     | SOUTH    |     |   |     | EAST    |   |   |     |
|--------------|----------|----|---|-----|---------|---|---|-----|----------|-----|---|-----|---------|---|---|-----|
|              | Bus Road |    |   |     | Lang Rd |   |   |     | Bus Road |     |   |     | Lang Rd |   |   |     |
|              | L        | I  | R | TOT | L       | I | R | TOT | L        | I   | R | TOT | L       | I | R | TOT |
| 0700 - 0715  | 0        | 3  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 9   | 0 | 0   | 0       | 0 | 0 | 12  |
| 0715 - 0730  | 0        | 2  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 7   | 0 | 0   | 0       | 0 | 0 | 9   |
| 0730 - 0745  | 0        | 3  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 16  | 0 | 0   | 0       | 0 | 0 | 19  |
| 0745 - 0800  | 0        | 3  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 19  | 0 | 0   | 0       | 0 | 0 | 22  |
| 0800 - 0815  | 0        | 5  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 19  | 0 | 0   | 0       | 0 | 0 | 24  |
| 0815 - 0830  | 0        | 2  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 21  | 0 | 0   | 0       | 0 | 0 | 23  |
| 0830 - 0845  | 0        | 5  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 19  | 0 | 0   | 0       | 0 | 0 | 24  |
| 0845 - 0900  | 0        | 6  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 17  | 0 | 0   | 0       | 0 | 0 | 23  |
| Period End   | 0        | 29 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 127 | 0 | 0   | 0       | 0 | 0 | 156 |

| All Vehicles | NORTH    |     |   |     | WEST    |   |   |     | SOUTH    |    |   |     | EAST    |   |   |     |
|--------------|----------|-----|---|-----|---------|---|---|-----|----------|----|---|-----|---------|---|---|-----|
|              | Bus Road |     |   |     | Lang Rd |   |   |     | Bus Road |    |   |     | Lang Rd |   |   |     |
|              | L        | I   | R | TOT | L       | I | R | TOT | L        | I  | R | TOT | L       | I | R | TOT |
| 1600 - 1615  | 0        | 4   | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 5  | 0 | 0   | 0       | 0 | 0 | 9   |
| 1615 - 1630  | 0        | 7   | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 5  | 0 | 0   | 0       | 0 | 0 | 12  |
| 1630 - 1645  | 0        | 8   | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 7  | 0 | 0   | 0       | 0 | 0 | 15  |
| 1645 - 1700  | 0        | 9   | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 3  | 0 | 0   | 0       | 0 | 0 | 12  |
| 1700 - 1715  | 0        | 9   | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 5  | 0 | 0   | 0       | 0 | 0 | 14  |
| 1715 - 1730  | 0        | 10  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 6  | 0 | 0   | 0       | 0 | 0 | 16  |
| 1730 - 1745  | 0        | 12  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 6  | 0 | 0   | 0       | 0 | 0 | 18  |
| 1745 - 1800  | 0        | 18  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 4  | 0 | 0   | 0       | 0 | 0 | 22  |
| 1800 - 1815  | 0        | 10  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 4  | 0 | 0   | 0       | 0 | 0 | 14  |
| 1815 - 1830  | 0        | 15  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 5  | 0 | 0   | 0       | 0 | 0 | 20  |
| 1830 - 1845  | 0        | 15  | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 1  | 0 | 0   | 0       | 0 | 0 | 16  |
| 1845 - 1900  | 0        | 8   | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 4  | 0 | 0   | 0       | 0 | 0 | 12  |
| Period End   | 0        | 125 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 55 | 0 | 0   | 0       | 0 | 0 | 180 |

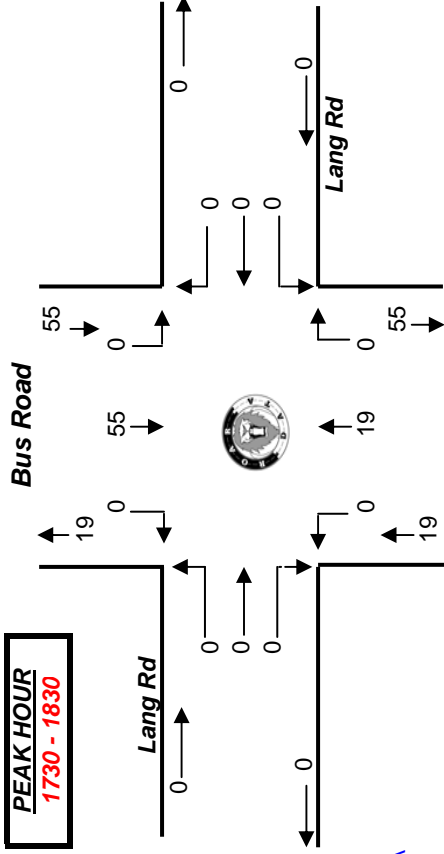
| All Vehicles | NORTH    |    |   |     | WEST    |   |   |     | SOUTH    |    |   |     | EAST    |   |   |     |
|--------------|----------|----|---|-----|---------|---|---|-----|----------|----|---|-----|---------|---|---|-----|
|              | Bus Road |    |   |     | Lang Rd |   |   |     | Bus Road |    |   |     | Lang Rd |   |   |     |
|              | L        | I  | R | TOT | L       | I | R | TOT | L        | I  | R | TOT | L       | I | R | TOT |
| 0700 - 0800  | 0        | 11 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 51 | 0 | 0   | 0       | 0 | 0 | 62  |
| 0715 - 0815  | 0        | 13 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 61 | 0 | 0   | 0       | 0 | 0 | 74  |
| 0730 - 0830  | 0        | 13 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 75 | 0 | 0   | 0       | 0 | 0 | 88  |
| 0745 - 0845  | 0        | 15 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 78 | 0 | 0   | 0       | 0 | 0 | 93  |
| 0800 - 0900  | 0        | 18 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 76 | 0 | 0   | 0       | 0 | 0 | 94  |

| All Vehicles | NORTH    |    |   |     | WEST    |   |   |     | SOUTH    |    |   |     | EAST    |   |   |     |
|--------------|----------|----|---|-----|---------|---|---|-----|----------|----|---|-----|---------|---|---|-----|
|              | Bus Road |    |   |     | Lang Rd |   |   |     | Bus Road |    |   |     | Lang Rd |   |   |     |
|              | L        | I  | R | TOT | L       | I | R | TOT | L        | I  | R | TOT | L       | I | R | TOT |
| 1600 - 1700  | 0        | 28 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 20 | 0 | 0   | 0       | 0 | 0 | 48  |
| 1615 - 1715  | 0        | 33 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 20 | 0 | 0   | 0       | 0 | 0 | 53  |
| 1630 - 1730  | 0        | 36 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 21 | 0 | 0   | 0       | 0 | 0 | 57  |
| 1645 - 1745  | 0        | 40 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 20 | 0 | 0   | 0       | 0 | 0 | 60  |
| 1700 - 1800  | 0        | 49 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 21 | 0 | 0   | 0       | 0 | 0 | 70  |
| 1715 - 1815  | 0        | 50 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 20 | 0 | 0   | 0       | 0 | 0 | 70  |
| 1730 - 1830  | 0        | 55 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 19 | 0 | 0   | 0       | 0 | 0 | 74  |
| 1745 - 1845  | 0        | 58 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 14 | 0 | 0   | 0       | 0 | 0 | 72  |
| 1800 - 1900  | 0        | 48 | 0 | 0   | 0       | 0 | 0 | 0   | 0        | 14 | 0 | 0   | 0       | 0 | 0 | 62  |

|           |   |    |   |   |   |   |   |   |   |    |   |   |   |   |   |    |
|-----------|---|----|---|---|---|---|---|---|---|----|---|---|---|---|---|----|
| PEAK HOUR | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 76 | 0 | 0 | 0 | 0 | 0 | 94 |
|-----------|---|----|---|---|---|---|---|---|---|----|---|---|---|---|---|----|



|           |   |    |   |   |   |   |   |   |   |    |   |   |   |   |   |    |
|-----------|---|----|---|---|---|---|---|---|---|----|---|---|---|---|---|----|
| PEAK HOUR | 0 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 74 |
|-----------|---|----|---|---|---|---|---|---|---|----|---|---|---|---|---|----|





R.O.A.R DATA

Reliable, Original & Authentic Results

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

Client : H.M.W.T

Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

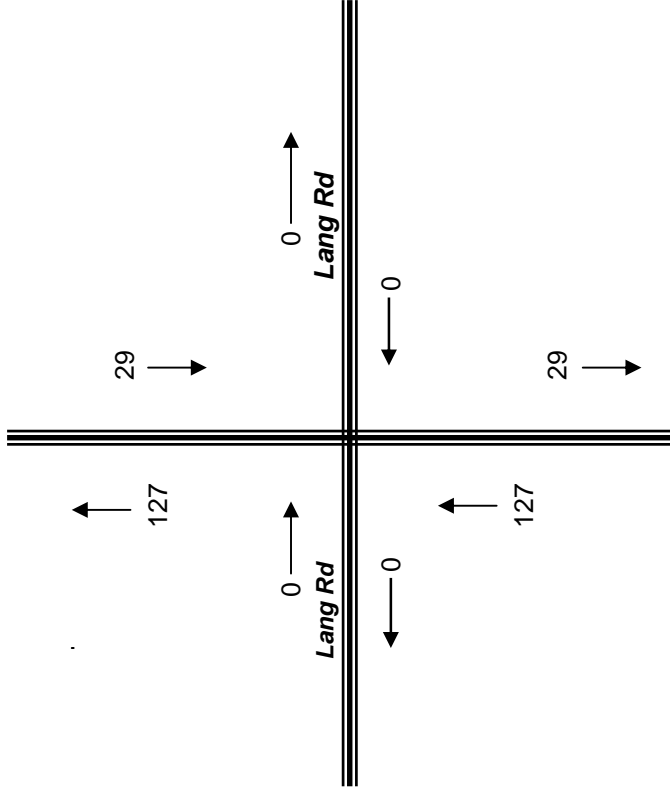
AM

TOTAL VOLUMES  
FOR COUNT  
PERIOD

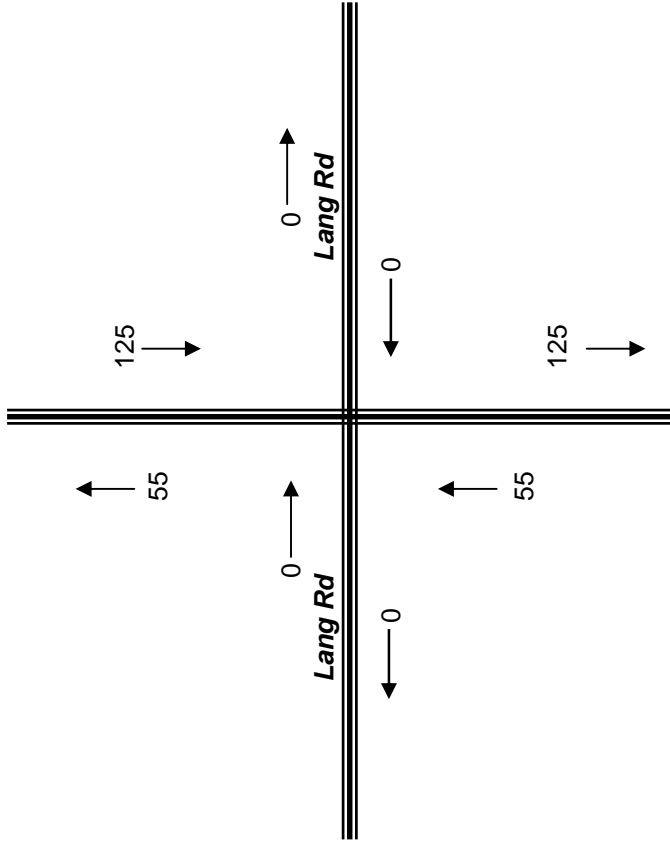
PM

Bus Road

Bus Road



Bus Road



Bus Road



R.O.A.R DATA

Reliable, Original & Authentic Results

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

Client : H.M.W.T

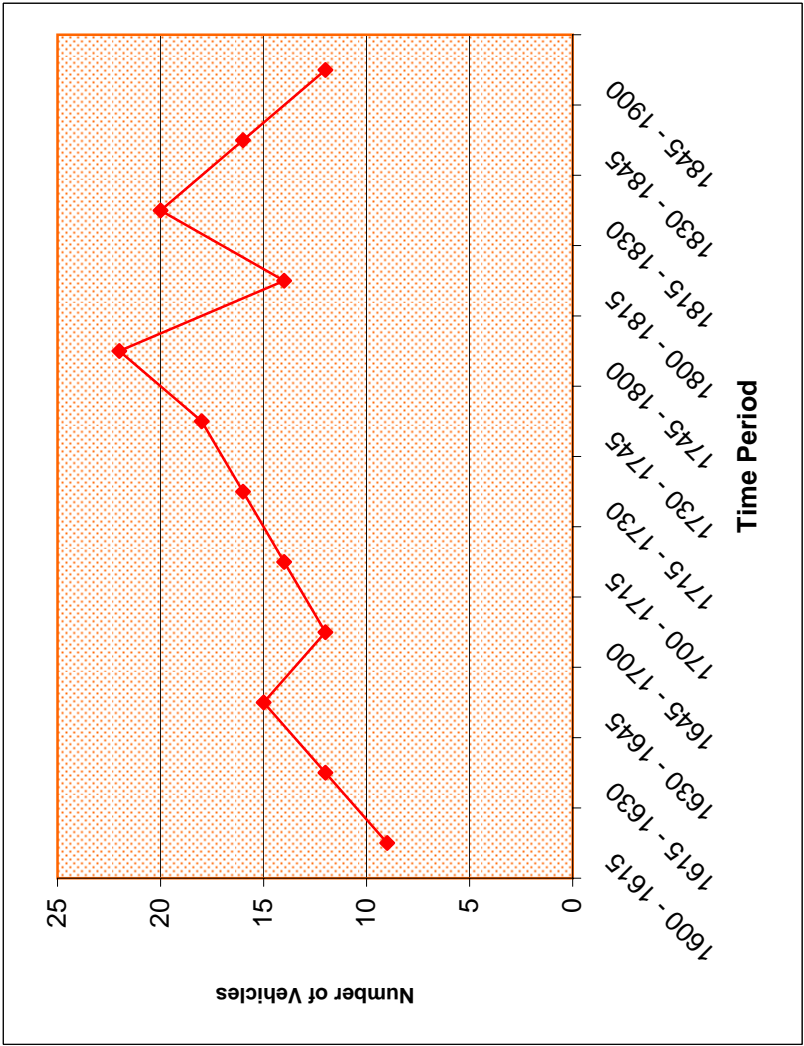
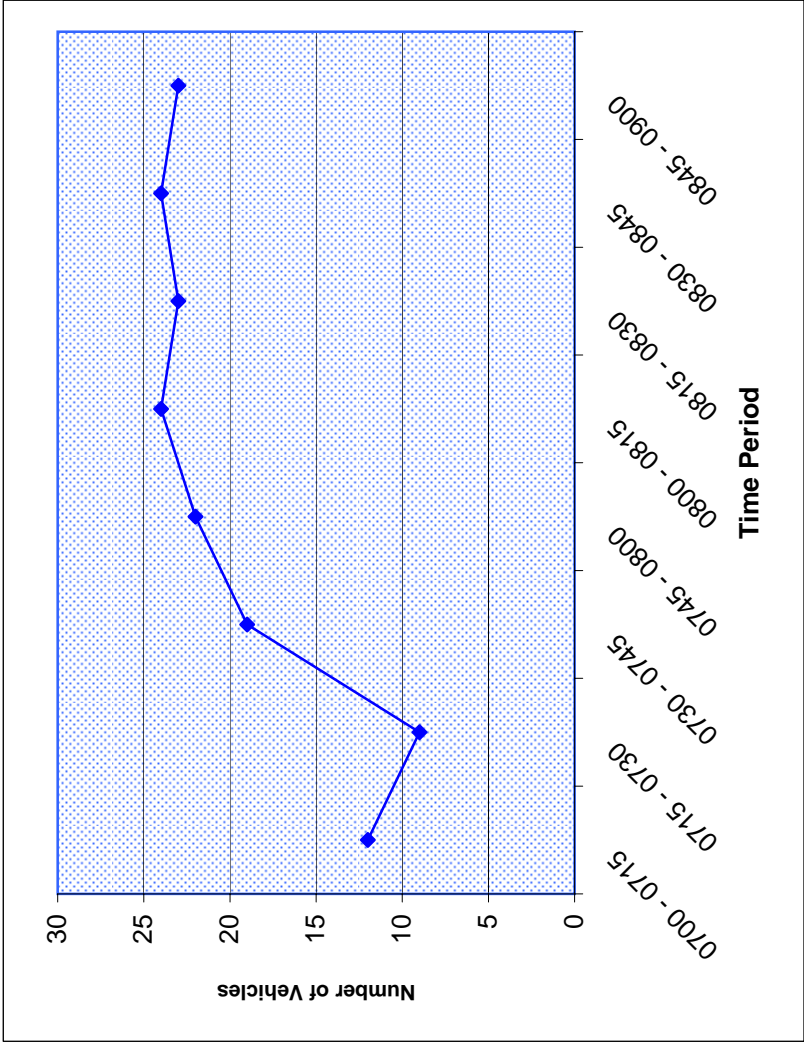
Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

AM

PM

MOORE PARK Bus Road





| Peds        | NORTH        |              | WEST         |              | SOUTH |  | EAST |  |
|-------------|--------------|--------------|--------------|--------------|-------|--|------|--|
|             | Anzac Pde    | Cleveland St | Anzac Pde    | Lang Rd      |       |  |      |  |
| Time Period | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | TOTAL |  |      |  |
| 0700 - 0715 | 0            | 2            | 3            | 4            | 9     |  |      |  |
| 0715 - 0730 | 3            | 0            | 12           | 6            | 21    |  |      |  |
| 0730 - 0745 | 0            | 0            | 17           | 9            | 26    |  |      |  |
| 0745 - 0800 | 3            | 0            | 19           | 14           | 36    |  |      |  |
| 0800 - 0815 | 4            | 3            | 15           | 10           | 32    |  |      |  |
| 0815 - 0830 | 7            | 4            | 25           | 39           | 75    |  |      |  |
| 0830 - 0845 | 1            | 2            | 20           | 31           | 54    |  |      |  |
| 0845 - 0900 | 2            | 2            | 12           | 7            | 23    |  |      |  |
| Period End  | 20           | 13           | 123          | 120          | 276   |  |      |  |

AM PEAK HOUR  
0745 - 0845

| Peds        | NORTH        |              | WEST         |              | SOUTH |  | EAST |       |
|-------------|--------------|--------------|--------------|--------------|-------|--|------|-------|
|             | Anzac Pde    | Cleveland St | Anzac Pde    | Lang Rd      |       |  |      |       |
|             | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED |       |  |      |       |
| Time Period |              |              |              |              |       |  |      | TOTAL |
| 1600 - 1615 | 5            | 0            | 17           | 6            | 28    |  |      |       |
| 1615 - 1630 | 3            | 1            | 8            | 12           | 24    |  |      |       |
| 1630 - 1645 | 2            | 0            | 7            | 10           | 19    |  |      |       |
| 1645 - 1700 | 1            | 0            | 20           | 7            | 28    |  |      |       |
| 1700 - 1715 | 0            | 5            | 22           | 10           | 37    |  |      |       |
| 1715 - 1730 | 3            | 0            | 22           | 10           | 35    |  |      |       |
| 1730 - 1745 | 1            | 1            | 14           | 8            | 24    |  |      |       |
| 1745 - 1800 | 6            | 0            | 26           | 19           | 51    |  |      |       |
| 1800 - 1815 | 1            | 1            | 15           | 9            | 26    |  |      |       |
| 1815 - 1830 | 0            | 4            | 12           | 14           | 30    |  |      |       |
| 1830 - 1845 | 0            | 18           | 29           | 16           | 63    |  |      |       |
| 1845 - 1900 | 3            | 1            | 31           | 7            | 42    |  |      |       |
| Period End  | 25           | 31           | 223          | 128          | 407   |  |      |       |

PM PEAK HOUR  
1745 - 1845

| Peds        | NORTH     |              | WEST         |              | SOUTH     |              | EAST    |              |     |
|-------------|-----------|--------------|--------------|--------------|-----------|--------------|---------|--------------|-----|
|             | Anzac Pde | UNCLASSIFIED | Cleveland St | UNCLASSIFIED | Anzac Pde | UNCLASSIFIED | Lang Rd | UNCLASSIFIED |     |
| Peak Period |           |              |              |              |           |              |         | TOT          |     |
| 0700 - 0800 |           | 6            |              | 2            |           | 51           |         | 33           | 92  |
| 0715 - 0815 |           | 10           |              | 3            |           | 63           |         | 39           | 115 |
| 0730 - 0830 |           | 14           |              | 7            |           | 76           |         | 72           | 169 |
| 0745 - 0845 |           | 15           |              | 9            |           | 79           |         | 94           | 197 |
| 0800 - 0900 |           | 14           |              | 11           |           | 72           |         | 87           | 184 |

|         |    |   |    |    |     |
|---------|----|---|----|----|-----|
| PEAK HR | 15 | 9 | 79 | 94 | 197 |
|---------|----|---|----|----|-----|

| Peds        | NORTH        |              | WEST         |              | SOUTH |  | EAST |  |
|-------------|--------------|--------------|--------------|--------------|-------|--|------|--|
|             | Anzac Pde    | Cleveland St | Anzac Pde    | Lang Rd      |       |  |      |  |
|             | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED |       |  |      |  |
| Peak Period |              |              |              |              |       |  | TOT  |  |
| 1600 - 1700 | 11           | 1            | 52           | 35           | 99    |  |      |  |
| 1615 - 1715 | 6            | 6            | 57           | 39           | 108   |  |      |  |
| 1630 - 1730 | 6            | 5            | 71           | 37           | 119   |  |      |  |
| 1645 - 1745 | 5            | 6            | 78           | 35           | 124   |  |      |  |
| 1700 - 1800 | 10           | 6            | 84           | 47           | 147   |  |      |  |
| 1715 - 1815 | 11           | 2            | 77           | 46           | 136   |  |      |  |
| 1730 - 1830 | 8            | 6            | 67           | 50           | 131   |  |      |  |
| 1745 - 1845 | 7            | 23           | 82           | 58           | 170   |  |      |  |
| 1800 - 1900 | 4            | 24           | 87           | 46           | 161   |  |      |  |

|         |   |    |    |    |     |
|---------|---|----|----|----|-----|
| PEAK HR | 7 | 23 | 82 | 58 | 170 |
|---------|---|----|----|----|-----|



**Pedestrian on Bus Road**

| <u>Peds</u> | NORTH        |              | SOUTH        |       |
|-------------|--------------|--------------|--------------|-------|
|             | Bus Road     |              | Bus Road     |       |
| Time Period | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | TOTAL |
| 0700 - 0715 | 2            | 8            |              | 10    |
| 0715 - 0730 | 1            | 18           |              | 19    |
| 0730 - 0745 | 5            | 27           |              | 32    |
| 0745 - 0800 | 2            | 32           |              | 34    |
| 0800 - 0815 | 0            | 24           |              | 24    |
| 0815 - 0830 | 0            | 36           |              | 36    |
| 0830 - 0845 | 0            | 25           |              | 25    |
| 0845 - 0900 | 0            | 26           |              | 26    |
| Period End  | 10           | 196          |              | 206   |

AM PEAK HOUR  
0800 - 0900

| <u>Peds</u> | NORTH        |              | SOUTH        |       |
|-------------|--------------|--------------|--------------|-------|
|             | Bus Road     |              | Bus Road     |       |
| Time Period | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | TOTAL |
| 1600 - 1615 | 6            | 21           |              | 27    |
| 1615 - 1630 | 2            | 17           |              | 19    |
| 1630 - 1645 | 3            | 21           |              | 24    |
| 1645 - 1700 | 0            | 30           |              | 30    |
| 1700 - 1715 | 0            | 17           |              | 17    |
| 1715 - 1730 | 1            | 32           |              | 33    |
| 1730 - 1745 | 0            | 18           |              | 18    |
| 1745 - 1800 | 0            | 32           |              | 32    |
| 1800 - 1815 | 7            | 21           |              | 28    |
| 1815 - 1830 | 0            | 24           |              | 24    |
| 1830 - 1845 | 0            | 33           |              | 33    |
| 1845 - 1900 | 1            | 30           |              | 31    |
| Period End  | 20           | 296          |              | 316   |

PM PEAK HOUR  
1730 - 1830

| <u>Peds</u> | NORTH        |              | SOUTH        |       |
|-------------|--------------|--------------|--------------|-------|
|             | Bus Road     |              | Bus Road     |       |
| Peak Period | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | TOTAL |
| 0700 - 0800 | 10           | 85           |              | 95    |
| 0715 - 0815 | 8            | 101          |              | 109   |
| 0730 - 0830 | 7            | 119          |              | 126   |
| 0745 - 0845 | 2            | 117          |              | 119   |
| 0800 - 0900 | 0            | 111          |              | 111   |

|         |   |     |     |
|---------|---|-----|-----|
| PEAK HR | 0 | 111 | 111 |
|---------|---|-----|-----|

| <u>Peds</u> | NORTH        |              | SOUTH        |       |
|-------------|--------------|--------------|--------------|-------|
|             | Bus Road     |              | Bus Road     |       |
| Peak Period | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | TOTAL |
| 1600 - 1700 | 11           | 89           |              | 100   |
| 1615 - 1715 | 5            | 85           |              | 90    |
| 1630 - 1730 | 4            | 100          |              | 104   |
| 1645 - 1745 | 1            | 97           |              | 98    |
| 1700 - 1800 | 1            | 99           |              | 100   |
| 1715 - 1815 | 8            | 103          |              | 111   |
| 1730 - 1830 | 7            | 95           |              | 102   |
| 1745 - 1845 | 7            | 110          |              | 117   |
| 1800 - 1900 | 8            | 108          |              | 116   |

|         |   |    |     |
|---------|---|----|-----|
| PEAK HR | 7 | 95 | 102 |
|---------|---|----|-----|



# R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client : H.M.W.T

Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

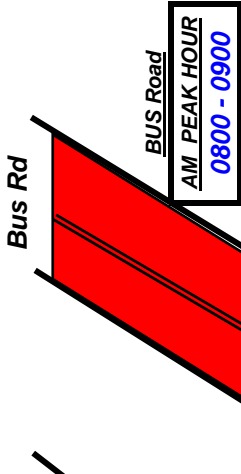
## Intersection Details

NO Right Turn  
from Anzac Pde  
To Cleveland St

AM PEAK HOUR  
0745 - 0845



Anzac Parade



Cleveland St

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| L | AM  |     | PM  |     |
|   | 75  | 70  | 572 | 567 |
|   | 411 | 526 |     |     |
| T |     |     |     |     |
| R |     |     |     |     |

|   |    |      |    |     |
|---|----|------|----|-----|
| R | AM |      | PM |     |
|   | 0  | 1158 | 60 | 123 |
|   | 0  | 2039 |    |     |
| T |    |      |    |     |
| L |    |      |    |     |

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| R | AM  |     | PM  |     |
|   | 81  | 54  | 356 | 415 |
|   | 609 | 643 |     |     |
| T |     |     |     |     |
| L |     |     |     |     |

|   |     |      |     |     |
|---|-----|------|-----|-----|
| L | AM  |      | PM  |     |
|   | 405 | 1235 | 526 | 597 |
|   | 530 | 2278 |     |     |
| T |     |      |     |     |
| R |     |      |     |     |

|   |    |    |    |  |
|---|----|----|----|--|
| R | AM |    | PM |  |
|   | 19 | 76 |    |  |
|   |    |    |    |  |
| T |    |    |    |  |
| L |    |    |    |  |

Lang Rd

BUS Road  
PM PEAK HOUR  
1730 - 1830

BUS Road  
PM PEAK HOUR  
1745 - 1845



Weather >>>

Anzac Parade

Bus Rd



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

Client : H.M.W.T  
Job No/Name : 2579 MOORE PARK Lang Rd  
Day/Date : Tuesday 17th February 09

**All Vehicles**

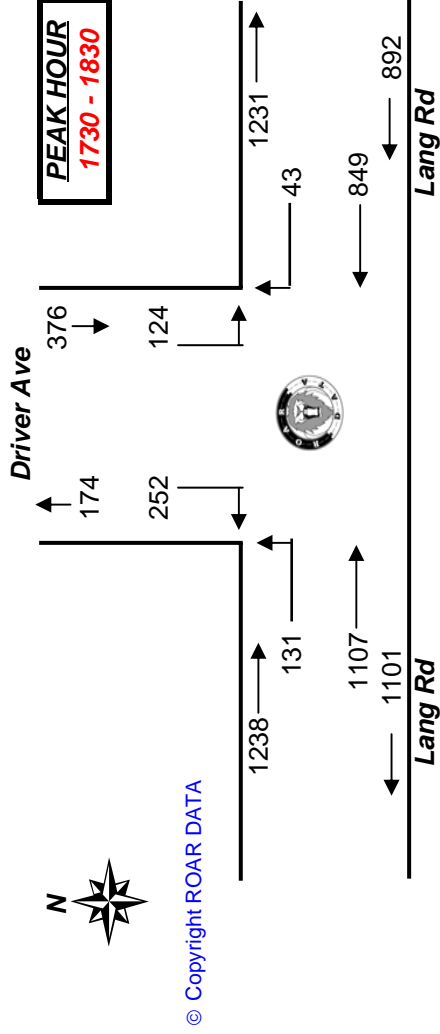
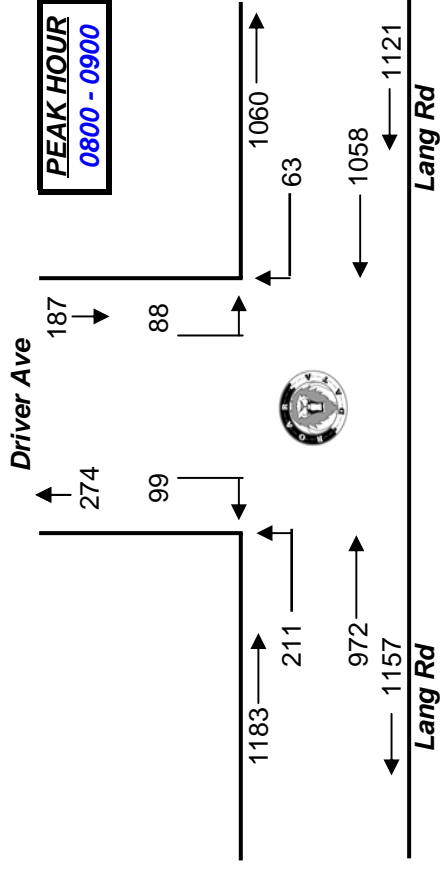
|             | WEST    |      | NORTH      |     | EAST |    |
|-------------|---------|------|------------|-----|------|----|
|             | Lang Rd | T    | Driver Ave | L   | T    | R  |
| Time Per    | L       | T    | R          | L   | T    | R  |
| 0700 - 0715 | 23      | 183  | 19         | 11  | 139  | 3  |
| 0715 - 0730 | 30      | 212  | 31         | 9   | 149  | 4  |
| 0730 - 0745 | 33      | 223  | 30         | 16  | 195  | 4  |
| 0745 - 0800 | 38      | 229  | 25         | 9   | 198  | 5  |
| 0800 - 0815 | 45      | 268  | 20         | 14  | 261  | 8  |
| 0815 - 0830 | 45      | 190  | 36         | 18  | 271  | 17 |
| 0830 - 0845 | 52      | 262  | 20         | 27  | 288  | 19 |
| 0845 - 0900 | 69      | 252  | 23         | 29  | 238  | 19 |
| Period End  | 335     | 1819 | 204        | 133 | 1739 | 79 |
| TOTAL       |         |      |            |     |      |    |

|             | WEST    |      | NORTH      |     | EAST |     |
|-------------|---------|------|------------|-----|------|-----|
|             | Lang Rd | T    | Driver Ave | L   | T    | R   |
| Time Per    | L       | T    | R          | L   | T    | R   |
| 1600 - 1615 | 27      | 221  | 35         | 13  | 223  | 5   |
| 1615 - 1630 | 29      | 222  | 33         | 8   | 207  | 9   |
| 1630 - 1645 | 32      | 247  | 39         | 15  | 178  | 12  |
| 1645 - 1700 | 31      | 216  | 48         | 17  | 226  | 11  |
| 1700 - 1715 | 30      | 207  | 59         | 14  | 206  | 12  |
| 1715 - 1730 | 33      | 253  | 42         | 14  | 212  | 15  |
| 1730 - 1745 | 35      | 247  | 66         | 28  | 201  | 14  |
| 1745 - 1800 | 26      | 260  | 71         | 28  | 199  | 7   |
| 1800 - 1815 | 32      | 281  | 58         | 25  | 227  | 12  |
| 1815 - 1830 | 38      | 319  | 57         | 43  | 222  | 10  |
| 1830 - 1845 | 23      | 247  | 58         | 22  | 186  | 7   |
| 1845 - 1900 | 29      | 233  | 42         | 16  | 149  | 1   |
| Period End  | 365     | 2953 | 608        | 243 | 2436 | 115 |
| TOTAL       |         |      |            |     |      |     |

|             | WEST    |     | NORTH      |    | EAST |       |
|-------------|---------|-----|------------|----|------|-------|
|             | Lang Rd | T   | Driver Ave | L  | T    | R     |
| Peak Per    | L       | T   | R          | L  | T    | TOTAL |
| 0700 - 0800 | 124     | 847 | 105        | 45 | 681  | 16    |
| 0715 - 0815 | 146     | 932 | 106        | 48 | 803  | 21    |
| 0730 - 0830 | 161     | 910 | 111        | 57 | 925  | 34    |
| 0745 - 0845 | 180     | 949 | 101        | 68 | 1018 | 49    |
| 0800 - 0900 | 211     | 972 | 99         | 88 | 1058 | 63    |
| TOTAL       |         |     |            |    |      |       |

|             | WEST    |      | NORTH      |     | EAST |       |
|-------------|---------|------|------------|-----|------|-------|
|             | Lang Rd | T    | Driver Ave | L   | T    | R     |
| Peak Per    | L       | T    | R          | L   | T    | TOTAL |
| 1600 - 1700 | 119     | 906  | 155        | 53  | 834  | 37    |
| 1615 - 1715 | 122     | 892  | 179        | 54  | 817  | 44    |
| 1630 - 1730 | 126     | 923  | 188        | 60  | 822  | 50    |
| 1645 - 1745 | 129     | 923  | 215        | 73  | 845  | 52    |
| 1700 - 1800 | 124     | 967  | 238        | 84  | 818  | 48    |
| 1715 - 1815 | 126     | 1041 | 237        | 95  | 839  | 48    |
| 1730 - 1830 | 131     | 1107 | 252        | 124 | 849  | 43    |
| 1745 - 1845 | 119     | 1107 | 244        | 118 | 834  | 36    |
| 1800 - 1900 | 122     | 1080 | 215        | 106 | 784  | 30    |
| TOTAL       |         |      |            |     |      |       |

|         |     |     |    |    |      |    |      |
|---------|-----|-----|----|----|------|----|------|
| PEAK HR | 211 | 972 | 99 | 88 | 1058 | 63 | 2491 |
|---------|-----|-----|----|----|------|----|------|





R.O.A.R DATA

**Reliable, Original & Authentic Results**  
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Job No/Name : 2579 MOORE PARK Lang Rd  
Day/Date : Tuesday 17th February 09

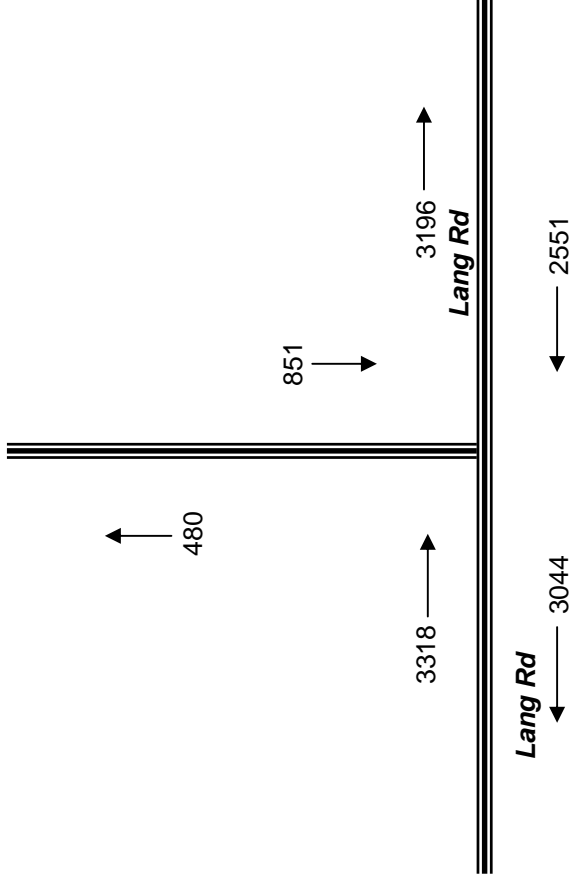
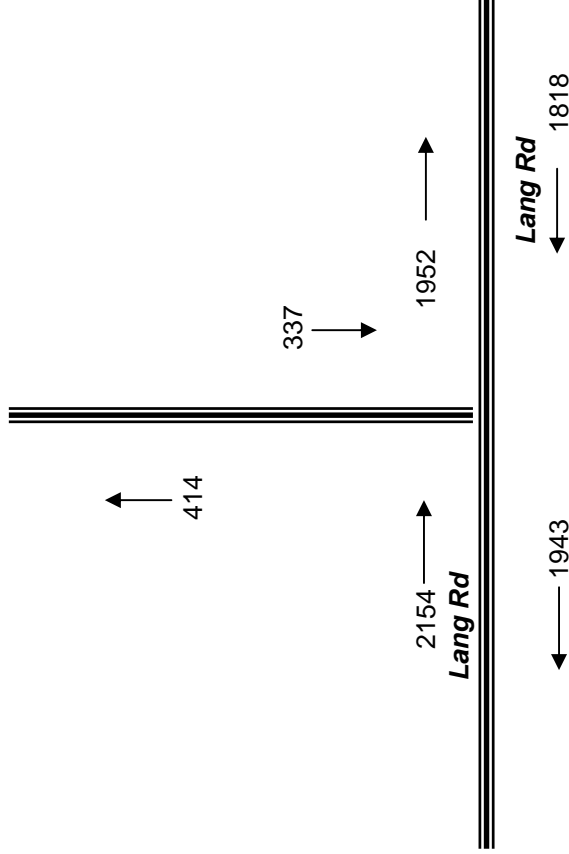
TOTAL VOLUMES  
FOR PERIOD  
COUNTED

AM

PM

Driver Ave

Driver Ave







R.O.A.R DATA

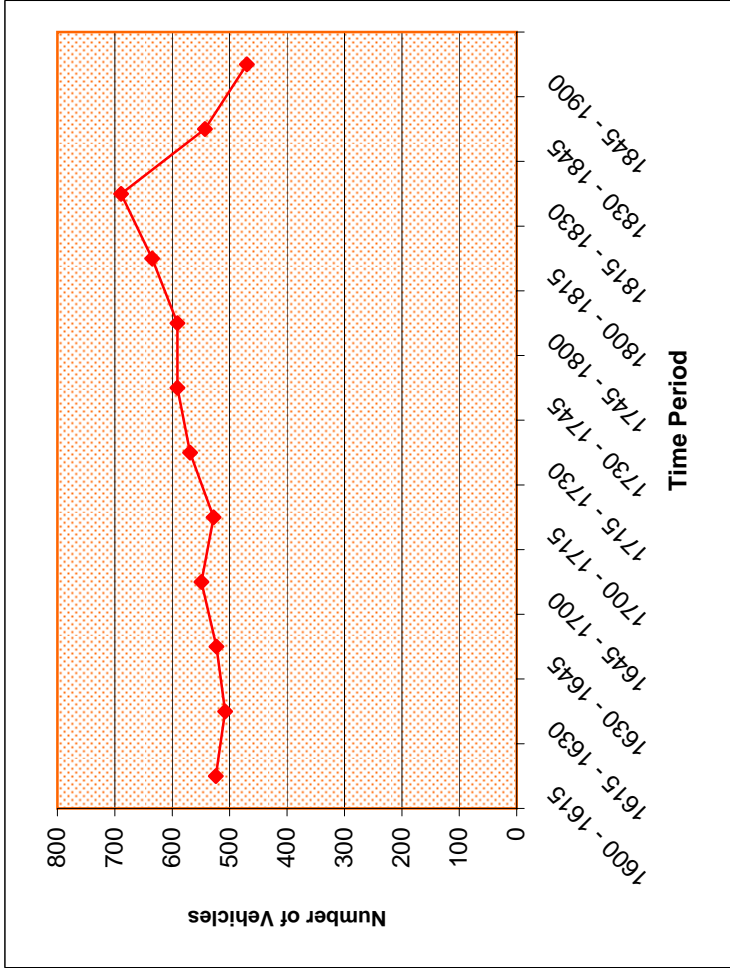
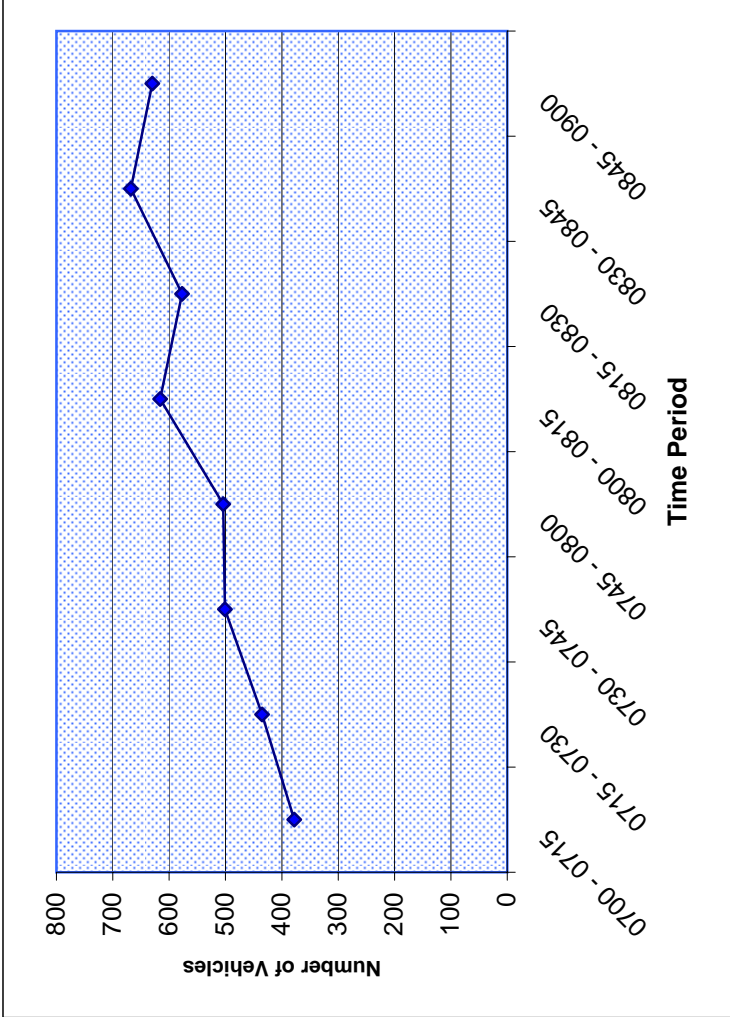
Reliable, Original & Authentic Results  
Ph.88196847, Fax 88196849, Mob.0418-239019

Client : H.M.W.T  
Job No/Name : 2579 MOORE PARK Lang Rd  
Day/Date : Tuesday 17th February 09

AM

MOORE PARK Driver Ave

PM





| Peds        |              | WEST         | NORTH      | EAST    |
|-------------|--------------|--------------|------------|---------|
|             |              | Lang Rd      | Driver Ave | Lang Rd |
| Time Period | UNCLASSIFIED | UNCLASSIFIED | TOTAL      |         |
| 0700 - 0715 | 2            | 5            | 8          | 15      |
| 0715 - 0730 | 0            | 6            | 11         | 17      |
| 0730 - 0745 | 0            | 5            | 4          | 9       |
| 0745 - 0800 | 0            | 4            | 15         | 19      |
| 0800 - 0815 | 1            | 6            | 9          | 16      |
| 0815 - 0830 | 0            | 0            | 14         | 14      |
| 0830 - 0845 | 1            | 8            | 11         | 20      |
| 0845 - 0900 | 0            | 5            | 26         | 31      |
| Period End  | 4            | 39           | 98         | 141     |

AM PEAK HOUR  
0800 - 0900

| Peds        |              | WEST         | NORTH        | EAST    |
|-------------|--------------|--------------|--------------|---------|
|             |              | Lang Rd      | Driver Ave   | Lang Rd |
| Time Period | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | TOTAL   |
| 1600 - 1615 | 0            | 14           | 6            | 20      |
| 1615 - 1630 | 0            | 9            | 1            | 10      |
| 1630 - 1645 | 0            | 15           | 8            | 23      |
| 1645 - 1700 | 0            | 15           | 6            | 21      |
| 1700 - 1715 | 0            | 15           | 1            | 16      |
| 1715 - 1730 | 0            | 12           | 1            | 13      |
| 1730 - 1745 | 0            | 13           | 5            | 18      |
| 1745 - 1800 | 0            | 10           | 7            | 17      |
| 1800 - 1815 | 0            | 5            | 7            | 12      |
| 1815 - 1830 | 0            | 17           | 4            | 21      |
| 1830 - 1845 | 0            | 10           | 6            | 16      |
| 1845 - 1900 | 1            | 9            | 1            | 11      |
| Period End  | 1            | 144          | 53           | 198     |

PM PEAK HOUR  
1730 - 1830

| Peds        |              | WEST         | NORTH      | EAST    |
|-------------|--------------|--------------|------------|---------|
|             |              | Lang Rd      | Driver Ave | Lang Rd |
| Peak Period | UNCLASSIFIED | UNCLASSIFIED | TOT        |         |
| 0700 - 0800 | 2            | 20           | 38         | 60      |
| 0715 - 0815 | 1            | 21           | 39         | 61      |
| 0730 - 0830 | 1            | 15           | 42         | 58      |
| 0745 - 0845 | 2            | 18           | 49         | 69      |
| 0800 - 0900 | 2            | 19           | 60         | 81      |

|         |   |    |    |    |
|---------|---|----|----|----|
| PEAK HR | 2 | 19 | 60 | 81 |
|---------|---|----|----|----|

| Peds        |              | WEST         | NORTH        | EAST    |
|-------------|--------------|--------------|--------------|---------|
|             |              | Lang Rd      | Driver Ave   | Lang Rd |
| Peak Period | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | TOT     |
| 1600 - 1700 | 0            | 53           | 21           | 74      |
| 1615 - 1715 | 0            | 54           | 16           | 70      |
| 1630 - 1730 | 0            | 57           | 16           | 73      |
| 1645 - 1745 | 0            | 55           | 13           | 68      |
| 1700 - 1800 | 0            | 50           | 14           | 64      |
| 1715 - 1815 | 0            | 40           | 20           | 60      |
| 1730 - 1830 | 0            | 45           | 23           | 68      |
| 1745 - 1845 | 0            | 42           | 24           | 66      |
| 1800 - 1900 | 1            | 41           | 18           | 60      |

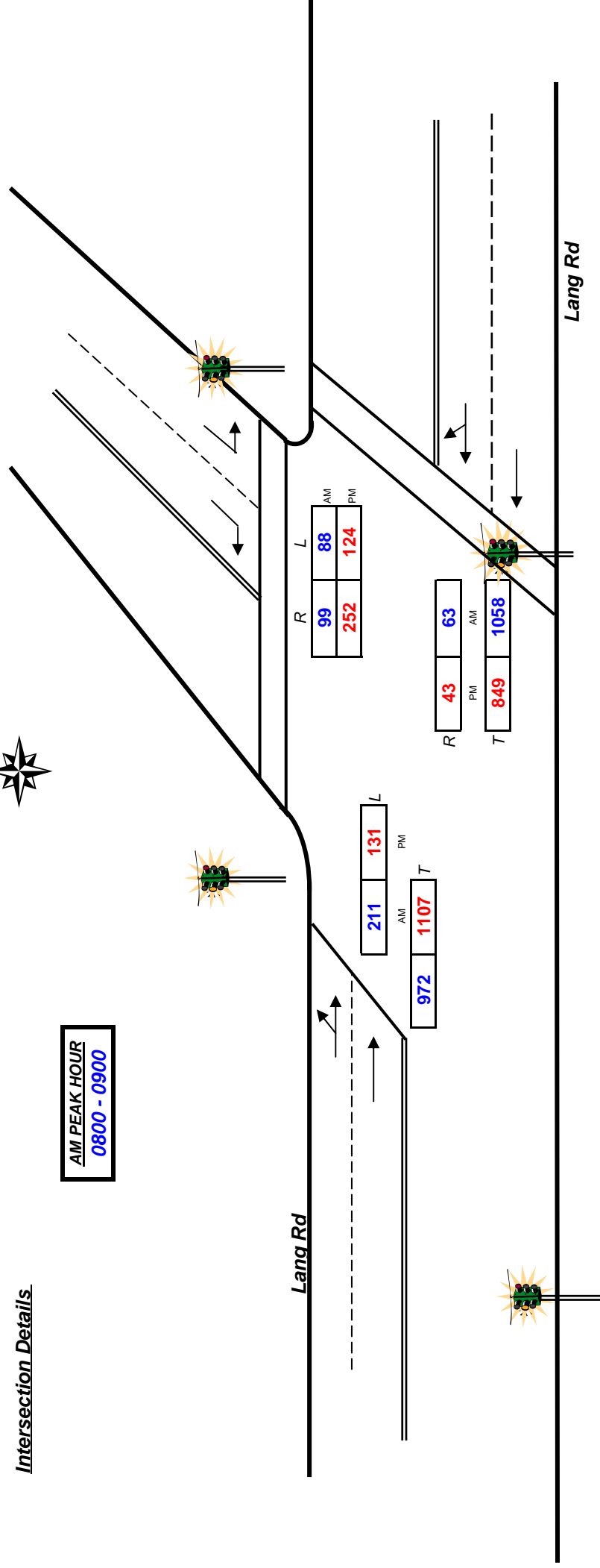
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|---------|---|----|----|----|
| PEAK HR | 0 | 45 | 23 | 68 |
|---------|---|----|----|----|



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Day/Date : Tuesday 17th February 09

**AM PEAK HOUR**  
**0800 - 0900**



**PM PEAK HOUR**  
**1730 - 1830**

**Weather >>>**





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

Client : H.M.W.T

Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

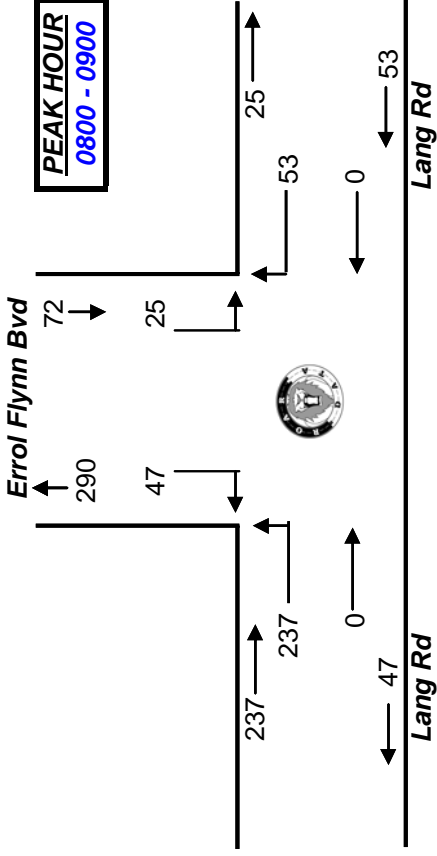
All Vehicles

|             | WEST    |             | NORTH   |             | EAST    |             |
|-------------|---------|-------------|---------|-------------|---------|-------------|
|             | Lang Rd | Errol Flynn | Lang Rd | Errol Flynn | Lang Rd | Errol Flynn |
| Time Per    | L       | T           | R       | L           | T       | R           |
| 0700 - 0715 | 21      |             | 5       | 7           |         | 3           |
| 0715 - 0730 | 27      |             | 4       | 1           |         | 1           |
| 0730 - 0745 | 36      |             | 7       | 2           |         | 2           |
| 0745 - 0800 | 43      |             | 7       | 1           |         | 7           |
| 0800 - 0815 | 50      |             | 14      | 8           |         | 11          |
| 0815 - 0830 | 51      |             | 10      | 6           |         | 6           |
| 0830 - 0845 | 67      |             | 12      | 7           |         | 14          |
| 0845 - 0900 | 69      |             | 11      | 4           |         | 22          |
| Period End  | 364     | 0           | 70      | 36          | 0       | 66          |
| TOTAL       |         |             |         |             |         |             |

| Time Per    | L   | T | R  | L  | T | R  | TOTAL |
|-------------|-----|---|----|----|---|----|-------|
| 0700 - 0715 | 21  |   | 5  | 7  |   | 3  | 36    |
| 0715 - 0730 | 27  |   | 4  | 1  |   | 1  | 33    |
| 0730 - 0745 | 36  |   | 7  | 2  |   | 2  | 47    |
| 0745 - 0800 | 43  |   | 7  | 1  |   | 7  | 58    |
| 0800 - 0815 | 50  |   | 14 | 8  |   | 11 | 83    |
| 0815 - 0830 | 51  |   | 10 | 6  |   | 6  | 73    |
| 0830 - 0845 | 67  |   | 12 | 7  |   | 14 | 100   |
| 0845 - 0900 | 69  |   | 11 | 4  |   | 22 | 106   |
| Period End  | 364 | 0 | 70 | 36 | 0 | 66 | 536   |

|             | WEST    |             | NORTH   |             | EAST    |             |
|-------------|---------|-------------|---------|-------------|---------|-------------|
|             | Lang Rd | Errol Flynn | Lang Rd | Errol Flynn | Lang Rd | Errol Flynn |
| Peak Per    | L       | T           | R       | L           | T       | R           |
| 0700 - 0800 | 127     | 0           | 23      | 11          | 0       | 13          |
| 0715 - 0815 | 156     | 0           | 32      | 12          | 0       | 21          |
| 0730 - 0830 | 180     | 0           | 38      | 17          | 0       | 26          |
| 0745 - 0845 | 211     | 0           | 43      | 22          | 0       | 38          |
| 0800 - 0900 | 237     | 0           | 47      | 25          | 0       | 53          |
| TOTAL       |         |             |         |             |         |             |

|         |     |   |    |    |   |    |     |
|---------|-----|---|----|----|---|----|-----|
| PEAK HR | 237 | 0 | 47 | 25 | 0 | 53 | 362 |
|---------|-----|---|----|----|---|----|-----|

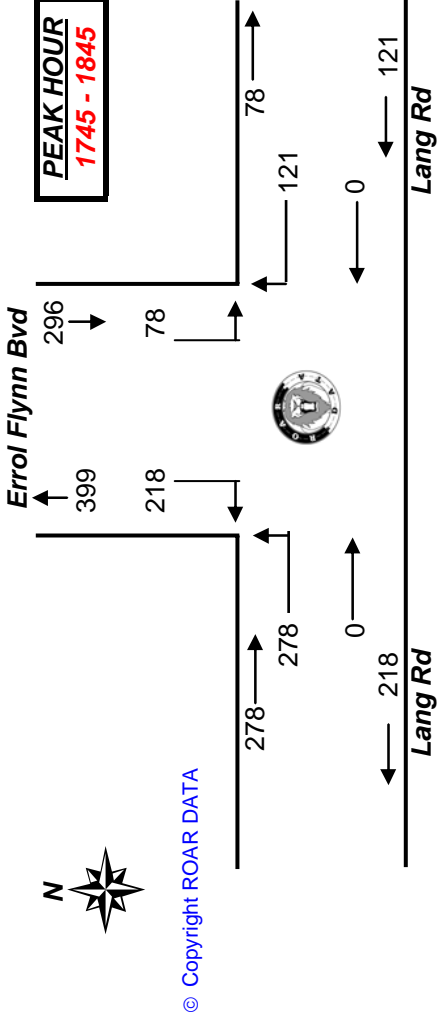


All Vehicles

|             | WEST    |             | NORTH   |             | EAST    |             |
|-------------|---------|-------------|---------|-------------|---------|-------------|
|             | Lang Rd | Errol Flynn | Lang Rd | Errol Flynn | Lang Rd | Errol Flynn |
| Time Per    | L       | T           | R       | L           | T       | R           |
| 1600 - 1615 | 47      |             | 59      | 19          |         | 16          |
| 1615 - 1630 | 44      |             | 41      | 14          |         | 14          |
| 1630 - 1645 | 29      |             | 58      | 18          |         | 5           |
| 1645 - 1700 | 26      |             | 70      | 14          |         | 7           |
| 1700 - 1715 | 25      |             | 48      | 16          |         | 10          |
| 1715 - 1730 | 39      |             | 76      | 15          |         | 15          |
| 1730 - 1745 | 34      |             | 63      | 31          |         | 16          |
| 1745 - 1800 | 54      |             | 43      | 15          |         | 20          |
| 1800 - 1815 | 79      |             | 60      | 24          |         | 36          |
| 1815 - 1830 | 97      |             | 61      | 14          |         | 40          |
| 1830 - 1845 | 48      |             | 54      | 25          |         | 25          |
| 1845 - 1900 | 52      |             | 33      | 9           |         | 14          |
| Period End  | 574     | 0           | 666     | 214         | 0       | 218         |
| TOTAL       |         |             |         |             |         |             |

| Peak Per    | L   | T | R   | L  | T | R   | TOTAL |
|-------------|-----|---|-----|----|---|-----|-------|
| 1600 - 1700 | 146 | 0 | 228 | 65 | 0 | 42  | 481   |
| 1615 - 1715 | 124 | 0 | 217 | 62 | 0 | 36  | 439   |
| 1630 - 1730 | 119 | 0 | 252 | 63 | 0 | 37  | 471   |
| 1645 - 1745 | 124 | 0 | 257 | 76 | 0 | 48  | 505   |
| 1700 - 1800 | 152 | 0 | 230 | 77 | 0 | 61  | 520   |
| 1715 - 1815 | 206 | 0 | 242 | 85 | 0 | 87  | 620   |
| 1730 - 1830 | 264 | 0 | 227 | 84 | 0 | 112 | 687   |
| 1745 - 1845 | 278 | 0 | 218 | 78 | 0 | 121 | 695   |
| 1800 - 1900 | 276 | 0 | 208 | 72 | 0 | 115 | 671   |
| TOTAL       |     |   |     |    |   |     |       |

|         |     |   |     |    |   |     |     |
|---------|-----|---|-----|----|---|-----|-----|
| PEAK HR | 278 | 0 | 218 | 78 | 0 | 121 | 695 |
|---------|-----|---|-----|----|---|-----|-----|





R.O.A.R DATA

**Reliable, Original & Authentic Results**

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

Client : H.M.W.T

Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

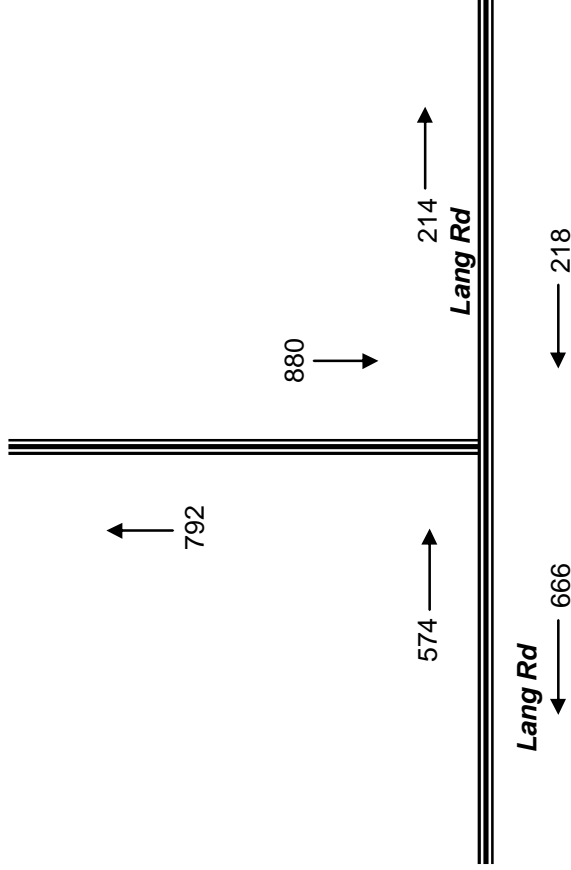
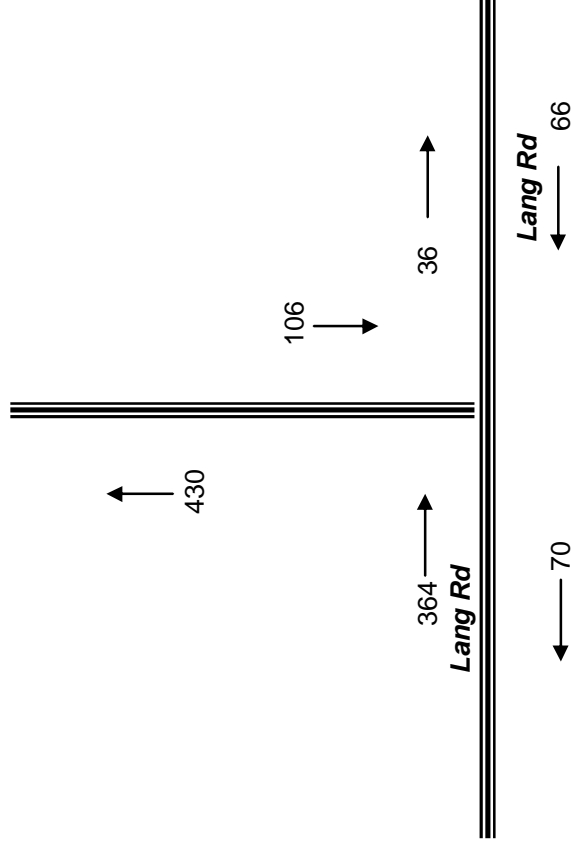
TOTAL VOLUMES  
FOR PERIOD  
COUNTED

AM

PM

*Errol Flynn Bvd*

*Errol Flynn Bvd*





R.O.A.R DATA

Reliable, Original & Authentic Results

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

Client : H.M.W.T

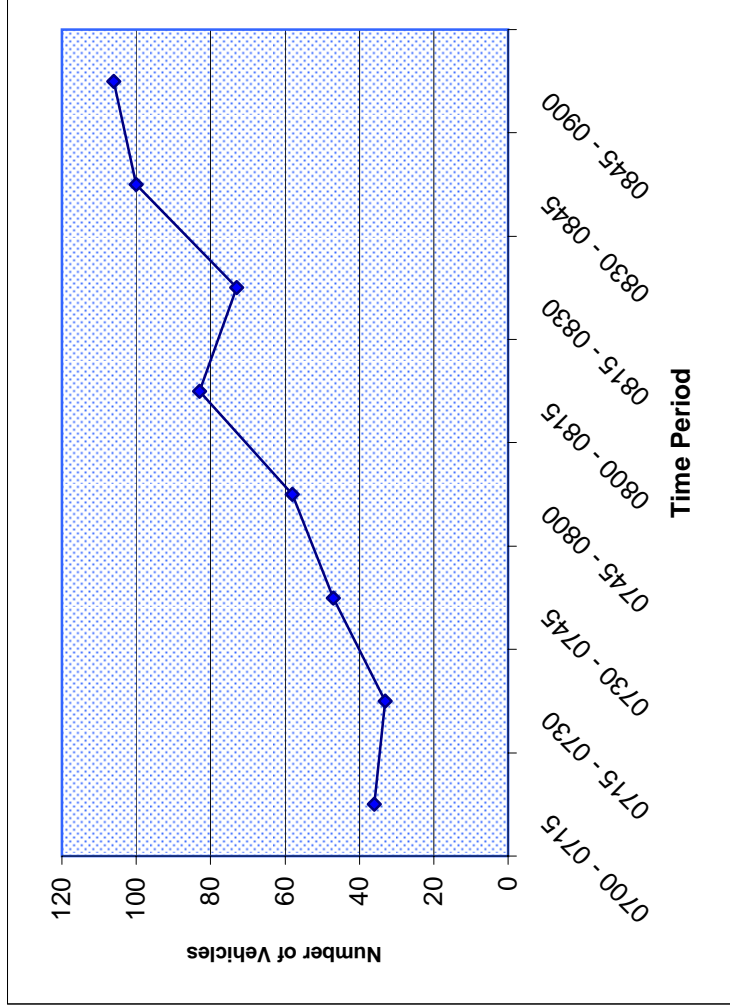
Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

AM

PM

MOORE PARK Errol Flynn Bvd

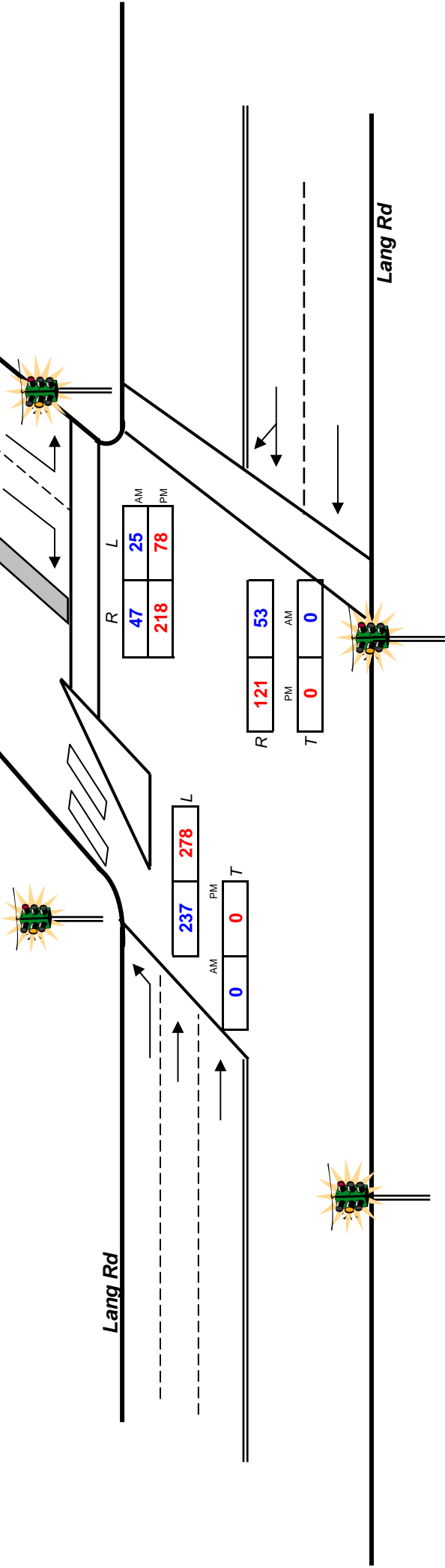




**Errol Flynn Bvd**

Intersection Details

**AM PEAK HOUR**  
**0800 - 0900**



**PM PEAK HOUR**  
**1745 - 1845**

Weather >>>





| Peds        |  | WEST         | NORTH           | EAST    |
|-------------|--|--------------|-----------------|---------|
|             |  | Lang Rd      | Errol Flynn Bvd | Lang Rd |
| Time Period |  | UNCLASSIFIED | UNCLASSIFIED    | TOTAL   |
| 0700 - 0715 |  | 1            | 0               | 3       |
| 0715 - 0730 |  | 0            | 4               | 6       |
| 0730 - 0745 |  | 0            | 1               | 8       |
| 0745 - 0800 |  | 1            | 1               | 4       |
| 0800 - 0815 |  | 1            | 10              | 12      |
| 0815 - 0830 |  | 0            | 3               | 6       |
| 0830 - 0845 |  | 2            | 7               | 11      |
| 0845 - 0900 |  | 0            | 4               | 10      |
| Period End  |  | 5            | 30              | 60      |
|             |  |              |                 | 95      |

AM PEAK HOUR  
0800 - 0900

| Peds        |  | WEST         | NORTH           | EAST    |
|-------------|--|--------------|-----------------|---------|
|             |  | Lang Rd      | Errol Flynn Bvd | Lang Rd |
| Time Period |  | UNCLASSIFIED | UNCLASSIFIED    | TOTAL   |
| 1600 - 1615 |  | 0            | 4               | 15      |
| 1615 - 1630 |  | 0            | 5               | 8       |
| 1630 - 1645 |  | 0            | 1               | 10      |
| 1645 - 1700 |  | 2            | 1               | 3       |
| 1700 - 1715 |  | 0            | 0               | 13      |
| 1715 - 1730 |  | 0            | 2               | 10      |
| 1730 - 1745 |  | 1            | 6               | 11      |
| 1745 - 1800 |  | 0            | 2               | 12      |
| 1800 - 1815 |  | 0            | 5               | 11      |
| 1815 - 1830 |  | 0            | 10              | 20      |
| 1830 - 1845 |  | 0            | 3               | 14      |
| 1845 - 1900 |  | 0            | 1               | 8       |
| Period End  |  | 3            | 40              | 135     |
|             |  |              |                 | 178     |

PM PEAK HOUR  
1745 - 1845

| Peds        |  | WEST         | NORTH           | EAST    |
|-------------|--|--------------|-----------------|---------|
|             |  | Lang Rd      | Errol Flynn Bvd | Lang Rd |
| Peak Period |  | UNCLASSIFIED | UNCLASSIFIED    | TOT     |
| 0700 - 0800 |  | 2            | 6               | 21      |
| 0715 - 0815 |  | 2            | 16              | 30      |
| 0730 - 0830 |  | 2            | 15              | 30      |
| 0745 - 0845 |  | 4            | 21              | 33      |
| 0800 - 0900 |  | 3            | 24              | 39      |
|             |  |              |                 | 66      |

|         |   |    |    |    |
|---------|---|----|----|----|
| PEAK HR | 3 | 24 | 39 | 66 |
|---------|---|----|----|----|

| Peds        |  | WEST         | NORTH           | EAST    |
|-------------|--|--------------|-----------------|---------|
|             |  | Lang Rd      | Errol Flynn Bvd | Lang Rd |
| Peak Period |  | UNCLASSIFIED | UNCLASSIFIED    | TOT     |
| 1600 - 1700 |  | 2            | 11              | 36      |
| 1615 - 1715 |  | 2            | 7               | 34      |
| 1630 - 1730 |  | 2            | 4               | 36      |
| 1645 - 1745 |  | 3            | 9               | 37      |
| 1700 - 1800 |  | 1            | 10              | 46      |
| 1715 - 1815 |  | 1            | 15              | 44      |
| 1730 - 1830 |  | 1            | 23              | 54      |
| 1745 - 1845 |  | 0            | 20              | 57      |
| 1800 - 1900 |  | 0            | 19              | 53      |
|             |  |              |                 | 72      |

|         |   |    |    |    |
|---------|---|----|----|----|
| PEAK HR | 0 | 20 | 57 | 77 |
|---------|---|----|----|----|





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

Client : H.M.W.T  
Job No/Name : 2579 MOORE PARK Lang Rd  
Day/Date : Tuesday 17th February 09

| All Vehicles | NORTH   |    |     | WEST    |      |     | SOUTH        |    |    | EAST    |      |   |
|--------------|---------|----|-----|---------|------|-----|--------------|----|----|---------|------|---|
|              | Cook Rd |    |     | Lang Rd |      |     | Robertson Rd |    |    | Lang Rd |      |   |
| Time Per     | L       | I  | R   | L       | I    | R   | L            | I  | R  | L       | I    | R |
| 0700 - 0715  | 1       | 3  | 15  | 17      | 139  | 19  | 6            | 2  | 5  | 5       | 118  | 1 |
| 0715 - 0730  | 1       | 3  | 25  | 11      | 172  | 12  | 4            | 4  | 1  | 7       | 119  | 0 |
| 0730 - 0745  | 0       | 3  | 22  | 22      | 161  | 8   | 4            | 3  | 3  | 12      | 167  | 0 |
| 0745 - 0800  | 2       | 8  | 32  | 25      | 178  | 11  | 9            | 2  | 5  | 14      | 162  | 0 |
| 0800 - 0815  | 1       | 7  | 41  | 29      | 187  | 19  | 8            | 1  | 1  | 5       | 205  | 0 |
| 0815 - 0830  | 3       | 5  | 32  | 19      | 145  | 11  | 8            | 4  | 3  | 8       | 248  | 0 |
| 0830 - 0845  | 1       | 3  | 57  | 21      | 187  | 21  | 18           | 13 | 4  | 8       | 252  | 0 |
| 0845 - 0900  | 2       | 1  | 34  | 25      | 168  | 25  | 16           | 9  | 2  | 3       | 207  | 1 |
| Period End   | 11      | 33 | 258 | 169     | 1337 | 126 | 73           | 38 | 24 | 62      | 1478 | 2 |

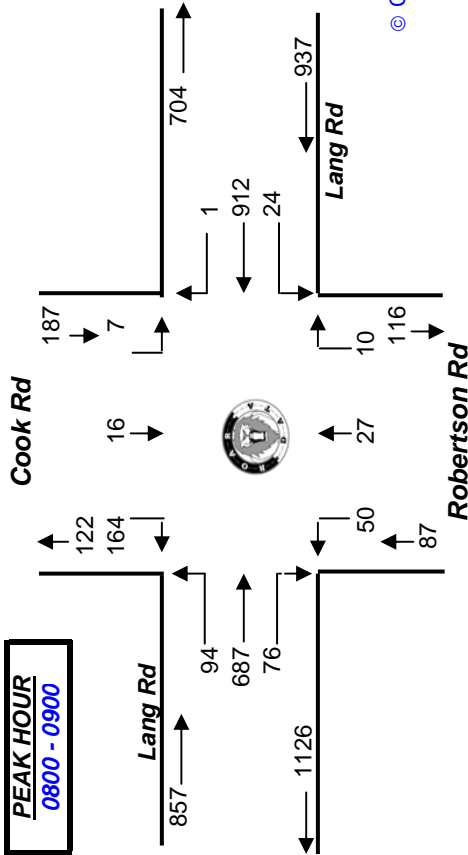
| All Vehicles | NORTH   |    |     | WEST    |      |     | SOUTH        |    |    | EAST    |      |   |
|--------------|---------|----|-----|---------|------|-----|--------------|----|----|---------|------|---|
|              | Cook Rd |    |     | Lang Rd |      |     | Robertson Rd |    |    | Lang Rd |      |   |
| Time Per     | L       | I  | R   | L       | I    | R   | L            | I  | R  | L       | I    | R |
| 1600 - 1615  | 0       | 4  | 18  | 32      | 157  | 18  | 7            | 2  | 1  | 6       | 141  | 1 |
| 1615 - 1630  | 1       | 4  | 24  | 16      | 156  | 16  | 5            | 2  | 2  | 9       | 154  | 0 |
| 1630 - 1645  | 2       | 5  | 16  | 31      | 187  | 38  | 8            | 5  | 4  | 19      | 129  | 0 |
| 1645 - 1700  | 1       | 3  | 21  | 31      | 176  | 20  | 18           | 4  | 14 | 13      | 131  | 0 |
| 1700 - 1715  | 1       | 4  | 24  | 25      | 178  | 20  | 5            | 1  | 1  | 7       | 147  | 0 |
| 1715 - 1730  | 0       | 2  | 12  | 29      | 180  | 27  | 6            | 1  | 3  | 10      | 140  | 0 |
| 1730 - 1745  | 4       | 2  | 17  | 34      | 228  | 18  | 14           | 4  | 1  | 8       | 150  | 0 |
| 1745 - 1800  | 2       | 1  | 22  | 38      | 168  | 26  | 15           | 2  | 0  | 9       | 136  | 0 |
| 1800 - 1815  | 1       | 3  | 17  | 36      | 194  | 24  | 24           | 6  | 4  | 17      | 158  | 1 |
| 1815 - 1830  | 1       | 2  | 27  | 41      | 190  | 31  | 3            | 1  | 1  | 14      | 158  | 1 |
| 1830 - 1845  | 2       | 3  | 25  | 32      | 176  | 33  | 6            | 5  | 0  | 16      | 118  | 1 |
| 1845 - 1900  | 1       | 1  | 16  | 37      | 162  | 15  | 2            | 1  | 0  | 8       | 126  | 1 |
| Period End   | 16      | 34 | 239 | 382     | 2152 | 286 | 113          | 34 | 31 | 136     | 1688 | 5 |

| Peak Time   | NORTH   |      |      | WEST    |      |    | SOUTH        |    |    | EAST    |     |   |
|-------------|---------|------|------|---------|------|----|--------------|----|----|---------|-----|---|
|             | Cook Rd |      |      | Lang Rd |      |    | Robertson Rd |    |    | Lang Rd |     |   |
| Peak Time   | L       | I    | R    | L       | I    | R  | L            | I  | R  | L       | I   | R |
| 0700 - 0800 | 4       | 17   | 94   | 75      | 650  | 50 | 23           | 11 | 14 | 38      | 566 | 1 |
| 0715 - 0815 | 4       | 21   | 120  | 87      | 698  | 50 | 25           | 10 | 10 | 38      | 653 | 0 |
| 0730 - 0830 | 6       | 23   | 127  | 95      | 671  | 49 | 29           | 10 | 12 | 39      | 782 | 0 |
| 0745 - 0845 | 7       | 23   | 162  | 94      | 697  | 62 | 43           | 20 | 13 | 35      | 867 | 0 |
| 0800 - 0900 | 7       | 16   | 164  | 94      | 687  | 76 | 50           | 27 | 10 | 24      | 912 | 1 |
| TOT         | 1543    | 1716 | 1843 | 2023    | 2068 |    |              |    |    |         |     |   |

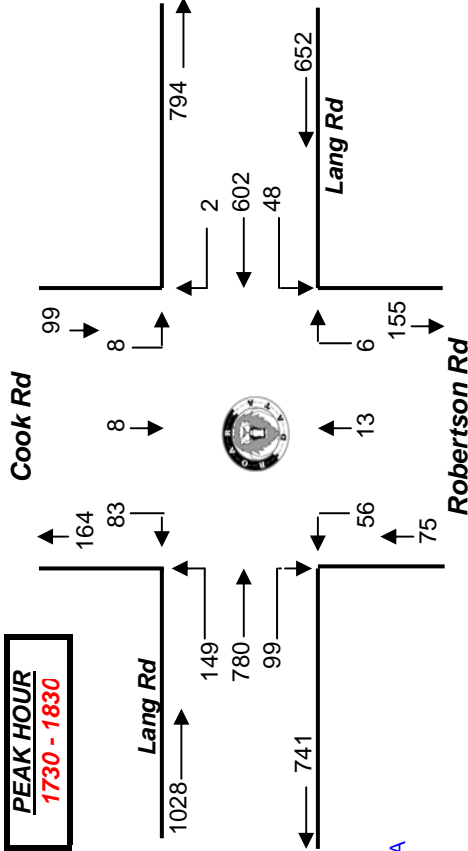
| Peak Time   | NORTH   |      |      | WEST    |      |     | SOUTH        |    |    | EAST    |     |   |
|-------------|---------|------|------|---------|------|-----|--------------|----|----|---------|-----|---|
|             | Cook Rd |      |      | Lang Rd |      |     | Robertson Rd |    |    | Lang Rd |     |   |
| Peak Time   | L       | I    | R    | L       | I    | R   | L            | I  | R  | L       | I   | R |
| 1600 - 1700 | 4       | 16   | 79   | 110     | 676  | 92  | 38           | 13 | 21 | 47      | 555 | 1 |
| 1615 - 1715 | 5       | 16   | 85   | 103     | 697  | 94  | 36           | 12 | 21 | 48      | 561 | 0 |
| 1630 - 1730 | 4       | 14   | 73   | 116     | 721  | 105 | 37           | 11 | 22 | 49      | 547 | 0 |
| 1645 - 1745 | 6       | 11   | 74   | 119     | 762  | 85  | 43           | 10 | 19 | 38      | 568 | 0 |
| 1700 - 1800 | 7       | 9    | 75   | 126     | 754  | 91  | 40           | 8  | 5  | 34      | 573 | 0 |
| 1715 - 1815 | 7       | 8    | 68   | 137     | 770  | 95  | 59           | 13 | 8  | 44      | 584 | 1 |
| 1730 - 1830 | 8       | 8    | 83   | 149     | 780  | 99  | 56           | 13 | 6  | 48      | 602 | 2 |
| 1745 - 1845 | 6       | 9    | 91   | 147     | 728  | 114 | 48           | 14 | 5  | 56      | 570 | 3 |
| 1800 - 1900 | 5       | 9    | 85   | 146     | 722  | 103 | 35           | 13 | 5  | 55      | 560 | 4 |
| TOT         | 1652    | 1678 | 1699 | 1735    | 1722 |     |              |    |    |         |     |   |

|           |   |    |     |    |     |    |    |    |    |    |     |   |      |
|-----------|---|----|-----|----|-----|----|----|----|----|----|-----|---|------|
| PEAK HOUR | 7 | 16 | 164 | 94 | 687 | 76 | 50 | 27 | 10 | 24 | 912 | 1 | 2068 |
|-----------|---|----|-----|----|-----|----|----|----|----|----|-----|---|------|

PEAK HOUR  
0800 - 0900



PEAK HOUR  
1730 - 1830





**R.O.A.R DATA**

***Reliable, Original & Authentic Results***

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

Client : H.M.W.T

Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

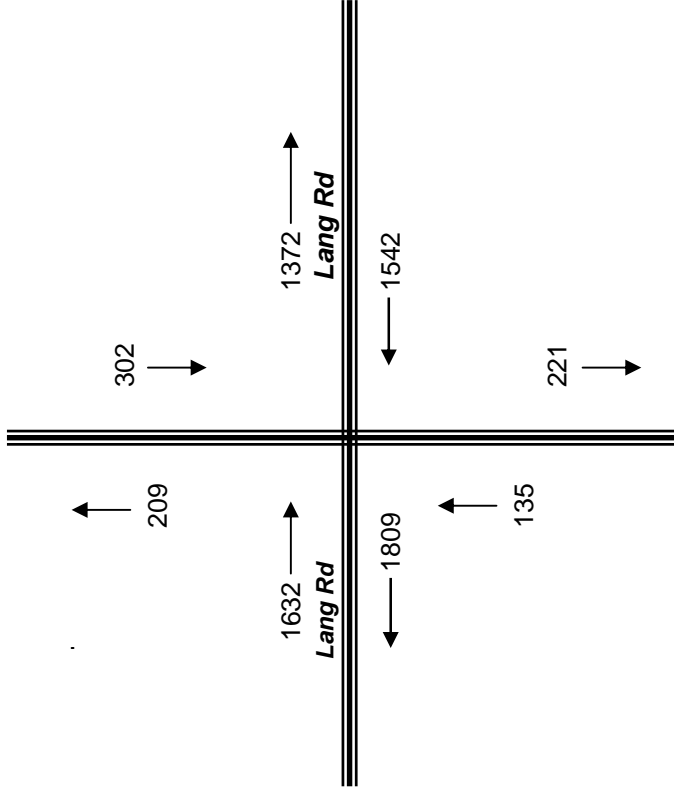
AM

PM

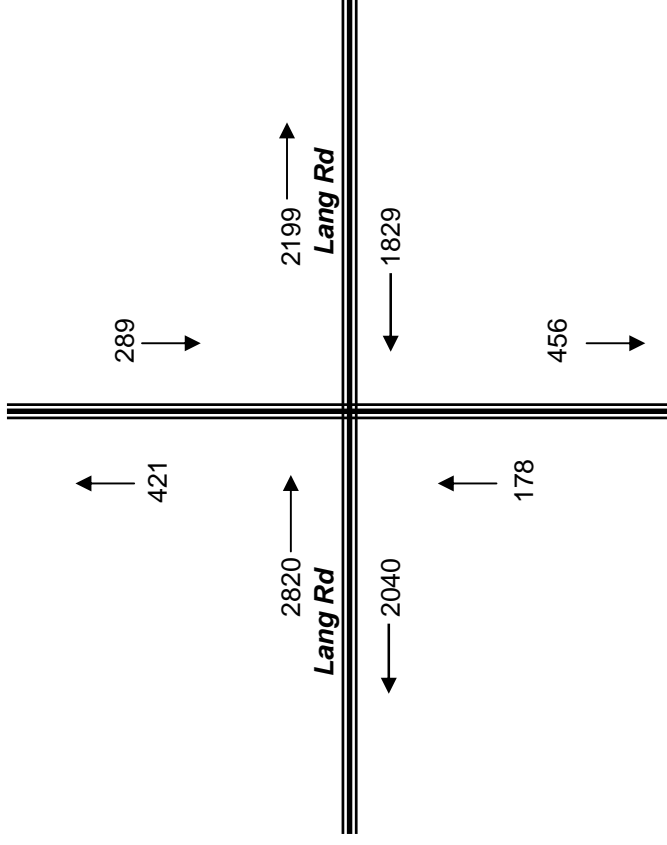
TOTAL VOLUMES  
FOR COUNT  
PERIOD

**Cook Rd**

**Cook Rd**



**Robertson Rd**



**Robertson Rd**



R.O.A.R DATA

Reliable, Original & Authentic Results

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

Client : H.M.W.T

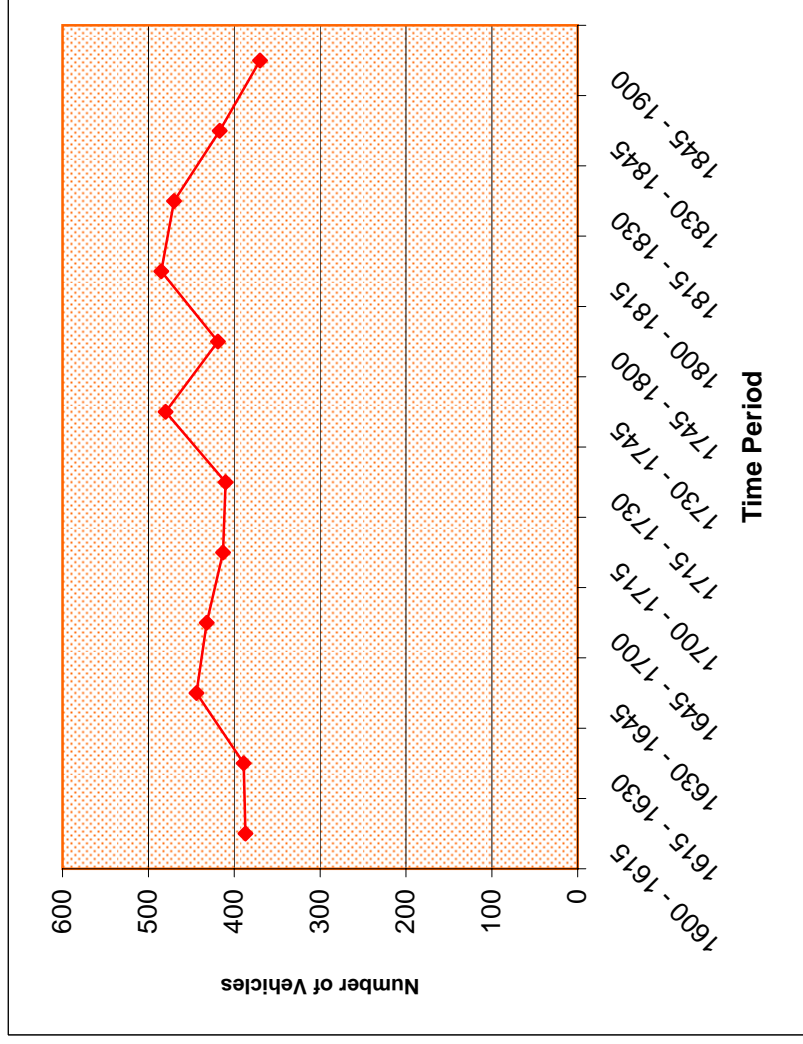
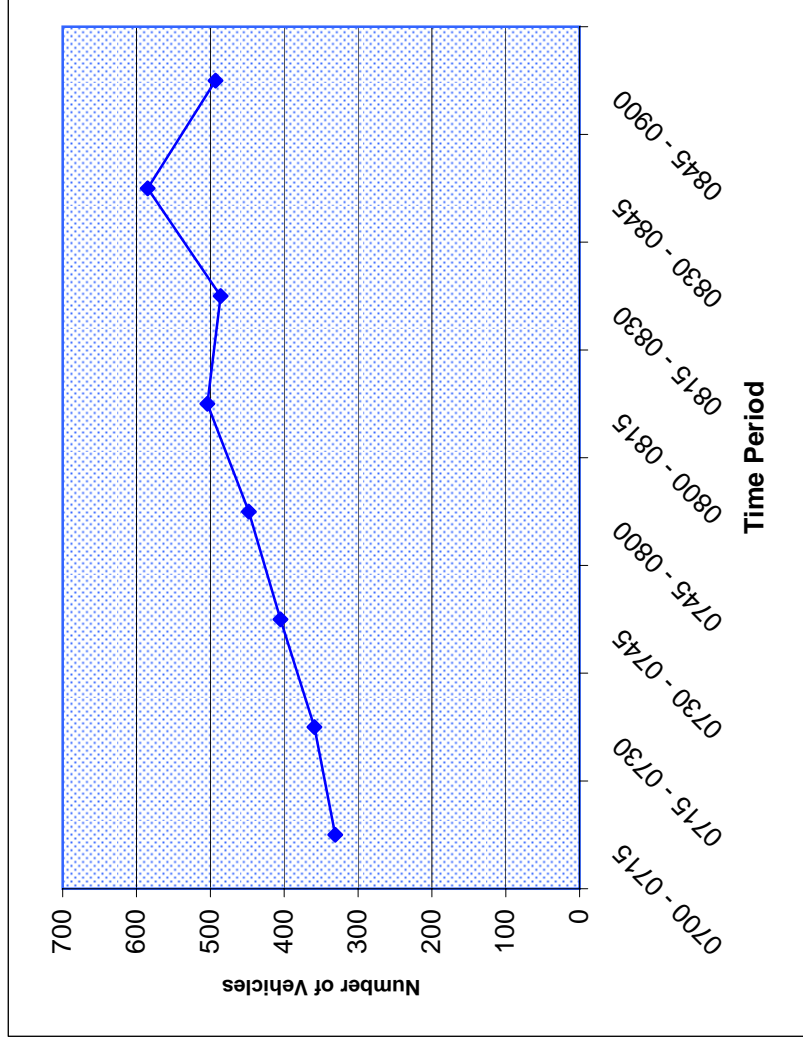
Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

AM

MOORE PARK Cook Rd

PM





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

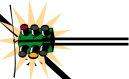
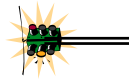
Client : H.M.W.T  
Job No/Name : 2579 MOORE PARK Lang Rd  
Day/Date : Tuesday 17th February 09



**Cook Rd**

Intersection Details

**AM PEAK HOUR**  
**0800 - 0900**



**Lang Rd**

| R   | T  | L |    |    |
|-----|----|---|----|----|
|     |    |   | AM | PM |
| 164 | 16 | 7 | 83 | 8  |

| AM | PM  |     |     |    |
|----|-----|-----|-----|----|
|    |     | L   | T   | R  |
| 94 | 149 | 687 | 780 | 76 |

| R | T | L   |    |    |
|---|---|-----|----|----|
|   |   |     | AM | PM |
| 2 | 1 | 912 | 24 | 48 |

| PM | AM |    |    |   |
|----|----|----|----|---|
|    |    | L  | T  | R |
| 56 | 13 | 50 | 27 | 6 |

**Lang Rd**

**PM PEAK HOUR**  
**1730 - 1830**



Weather >>>

**Robertson Rd**



## R.O.A.R. DATA

Reliable, Original & Authentic Results

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

Client : H.M.W.T

Job No/Name : 2579 MOORE PARK Lang Rd

Day/Date : Tuesday 17th February 09

| <u>Peds</u> | NORTH        |              | WEST         |              | SOUTH        |              | EAST         |              |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|             | Cook Rd      | UNCLASSIFIED | Lang Rd      | UNCLASSIFIED | Robertson Rd | UNCLASSIFIED | Lang Rd      | UNCLASSIFIED |
| Time Period | UNCLASSIFIED |              | UNCLASSIFIED |              | UNCLASSIFIED |              | UNCLASSIFIED |              |
| 0700 - 0715 | 0            |              | 2            |              | 18           |              | 1            |              |
| 0715 - 0730 | 3            |              | 2            |              | 32           |              | 1            |              |
| 0730 - 0745 | 1            |              | 3            |              | 56           |              | 1            |              |
| 0745 - 0800 | 2            |              | 3            |              | 32           |              | 0            |              |
| 0800 - 0815 | 5            |              | 1            |              | 26           |              | 1            |              |
| 0815 - 0830 | 4            |              | 0            |              | 17           |              | 0            |              |
| 0830 - 0845 | 3            |              | 0            |              | 11           |              | 0            |              |
| 0845 - 0900 | 2            |              | 6            |              | 13           |              | 0            |              |
| Period End  | 20           |              | 17           |              | 205          |              | 4            |              |
| TOTAL       |              |              |              |              |              |              | 246          |              |

AM PEAK HOUR  
0800 - 0900

| <u>Peds</u> | NORTH        |              | WEST         |              | SOUTH        |              | EAST         |              |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|             | Cook Rd      | UNCLASSIFIED | Lang Rd      | UNCLASSIFIED | Robertson Rd | UNCLASSIFIED | Lang Rd      | UNCLASSIFIED |
| Time Period | UNCLASSIFIED |              | UNCLASSIFIED |              | UNCLASSIFIED |              | UNCLASSIFIED |              |
| 1600 - 1615 | 1            |              | 7            |              | 10           |              | 1            |              |
| 1615 - 1630 | 1            |              | 0            |              | 18           |              | 1            |              |
| 1630 - 1645 | 1            |              | 2            |              | 12           |              | 0            |              |
| 1645 - 1700 | 2            |              | 0            |              | 15           |              | 1            |              |
| 1700 - 1715 | 0            |              | 0            |              | 17           |              | 0            |              |
| 1715 - 1730 | 0            |              | 4            |              | 35           |              | 0            |              |
| 1730 - 1745 | 1            |              | 4            |              | 60           |              | 0            |              |
| 1745 - 1800 | 2            |              | 4            |              | 20           |              | 0            |              |
| 1800 - 1815 | 2            |              | 1            |              | 19           |              | 0            |              |
| 1815 - 1830 | 1            |              | 8            |              | 21           |              | 1            |              |
| 1830 - 1845 | 3            |              | 4            |              | 25           |              | 1            |              |
| 1845 - 1900 | 2            |              | 2            |              | 32           |              | 5            |              |
| Period End  | 16           |              | 36           |              | 284          |              | 10           |              |
| TOTAL       |              |              |              |              |              |              | 346          |              |

PM PEAK HOUR  
1730 - 1830

| <u>Peds</u> | NORTH        |              | WEST         |              | SOUTH        |              | EAST         |              |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|             | Cook Rd      | UNCLASSIFIED | Lang Rd      | UNCLASSIFIED | Robertson Rd | UNCLASSIFIED | Lang Rd      | UNCLASSIFIED |
| Peak Period | UNCLASSIFIED |              | UNCLASSIFIED |              | UNCLASSIFIED |              | UNCLASSIFIED |              |
| 0700 - 0800 | 6            |              | 10           |              | 138          |              | 3            |              |
| 0715 - 0815 | 11           |              | 9            |              | 146          |              | 3            |              |
| 0730 - 0830 | 12           |              | 7            |              | 131          |              | 2            |              |
| 0745 - 0845 | 14           |              | 4            |              | 86           |              | 1            |              |
| 0800 - 0900 | 14           |              | 7            |              | 67           |              | 1            |              |
| TOT         |              |              |              |              |              |              | 89           |              |

| <u>Peds</u> | NORTH        |              | WEST         |              | SOUTH        |              | EAST         |              |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|             | Cook Rd      | UNCLASSIFIED | Lang Rd      | UNCLASSIFIED | Robertson Rd | UNCLASSIFIED | Lang Rd      | UNCLASSIFIED |
| Peak Period | UNCLASSIFIED |              | UNCLASSIFIED |              | UNCLASSIFIED |              | UNCLASSIFIED |              |
| 1600 - 1700 | 5            |              | 9            |              | 55           |              | 3            |              |
| 1615 - 1715 | 4            |              | 2            |              | 62           |              | 2            |              |
| 1630 - 1730 | 3            |              | 6            |              | 79           |              | 1            |              |
| 1645 - 1745 | 3            |              | 8            |              | 127          |              | 1            |              |
| 1700 - 1800 | 3            |              | 12           |              | 132          |              | 0            |              |
| 1715 - 1815 | 5            |              | 13           |              | 134          |              | 0            |              |
| 1730 - 1830 | 6            |              | 17           |              | 120          |              | 1            |              |
| 1745 - 1845 | 8            |              | 17           |              | 85           |              | 2            |              |
| 1800 - 1900 | 8            |              | 15           |              | 97           |              | 7            |              |
| TOT         |              |              |              |              |              |              | 127          |              |

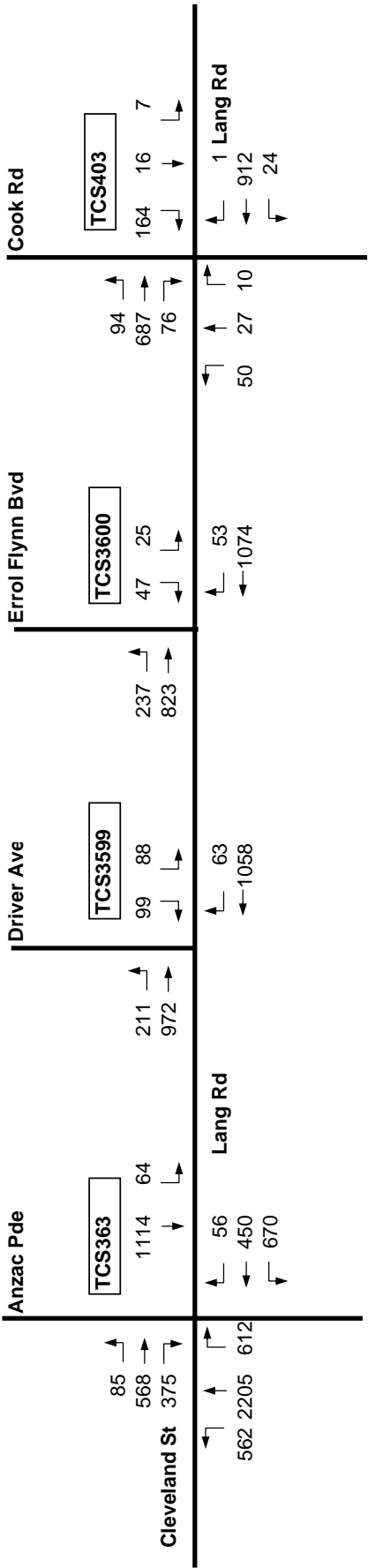
|         |    |   |    |   |    |
|---------|----|---|----|---|----|
| PEAK HR | 14 | 7 | 67 | 1 | 89 |
|---------|----|---|----|---|----|

|         |   |    |     |   |     |
|---------|---|----|-----|---|-----|
| PEAK HR | 6 | 17 | 120 | 1 | 144 |
|---------|---|----|-----|---|-----|

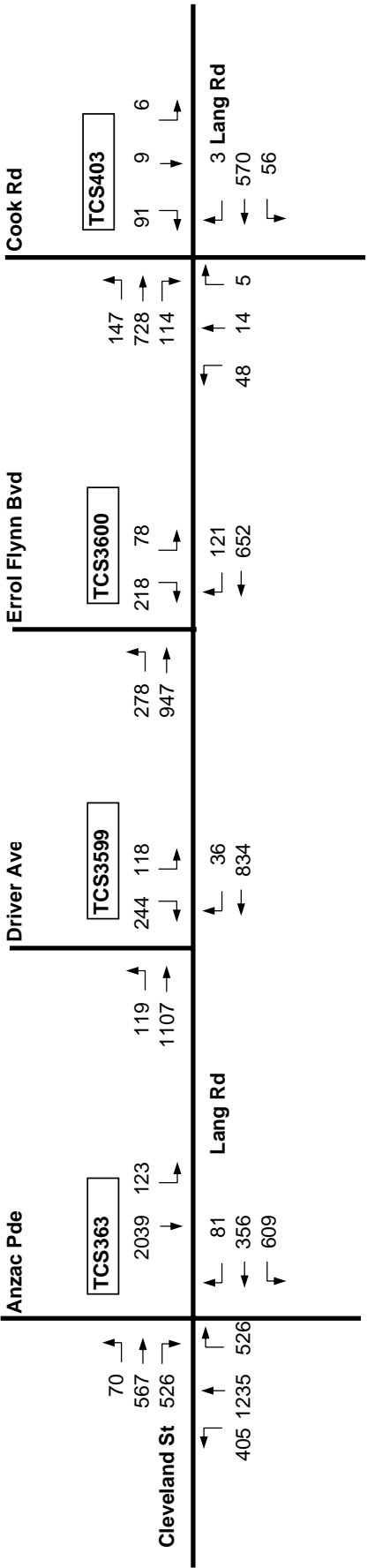
## **Appendix B SCATES Modelled Traffic Flows**

Existing Conditions

BASE1 - AM

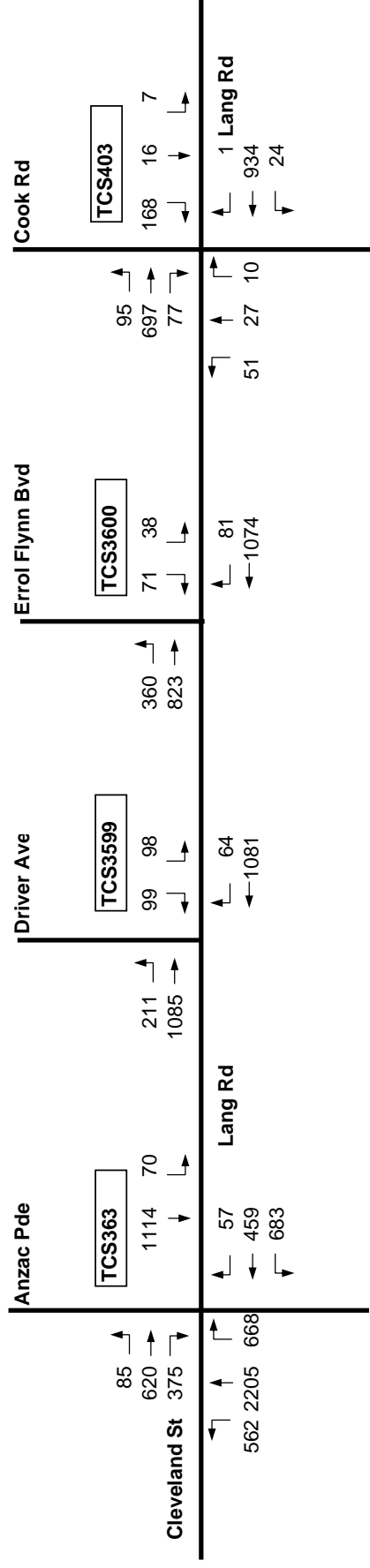


BASE1 - PM

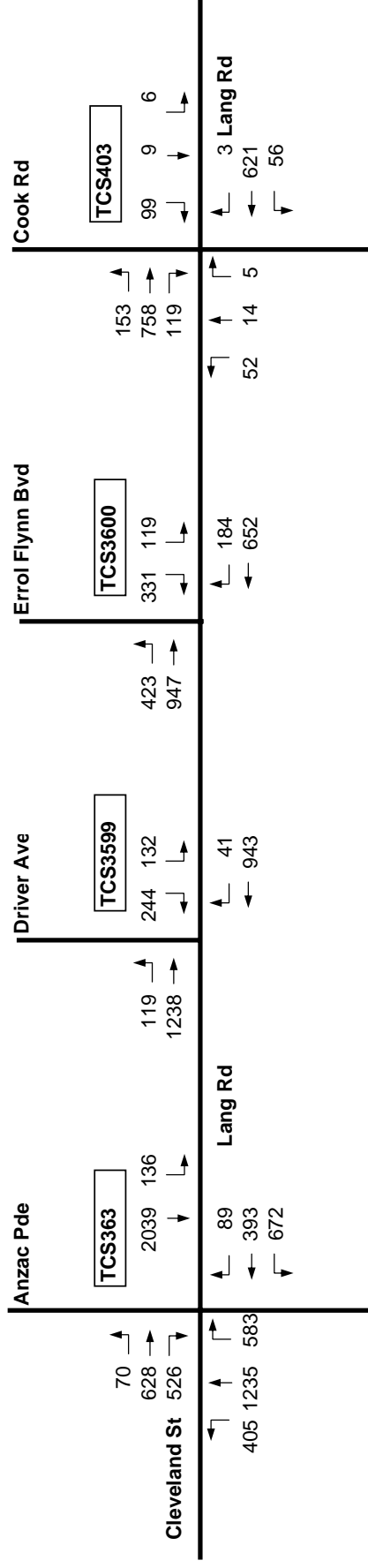


Post Development Conditions - Scenario 1

SCEN1 - AM



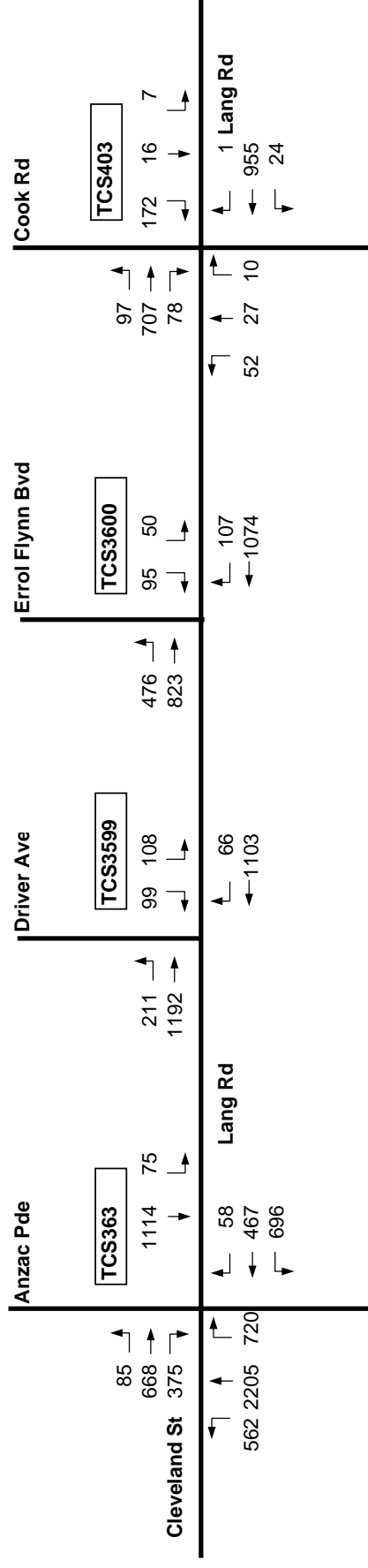
SCEN1 - PM



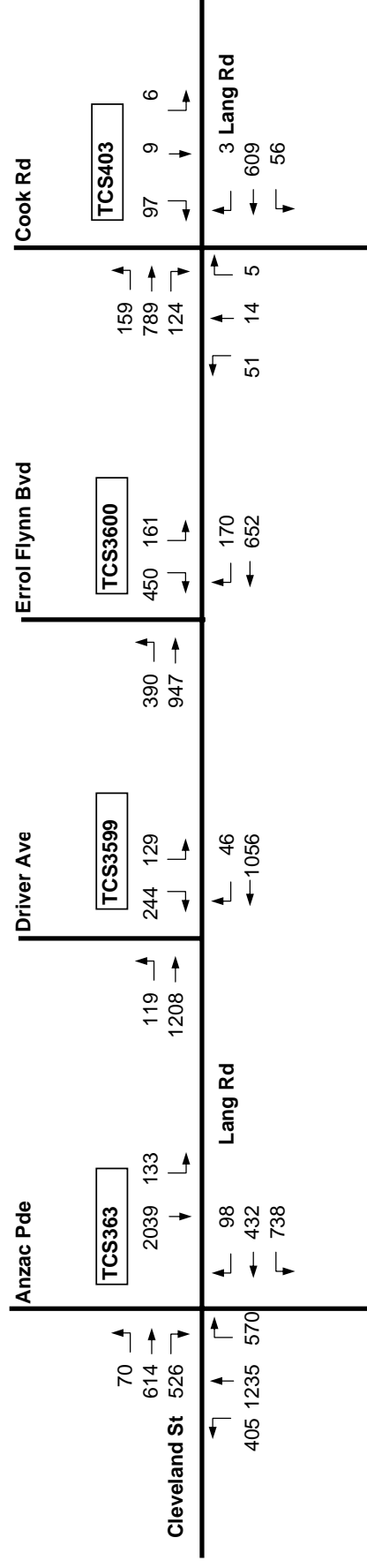


Post Development Conditions - Scenario 2

SCEN2 - AM



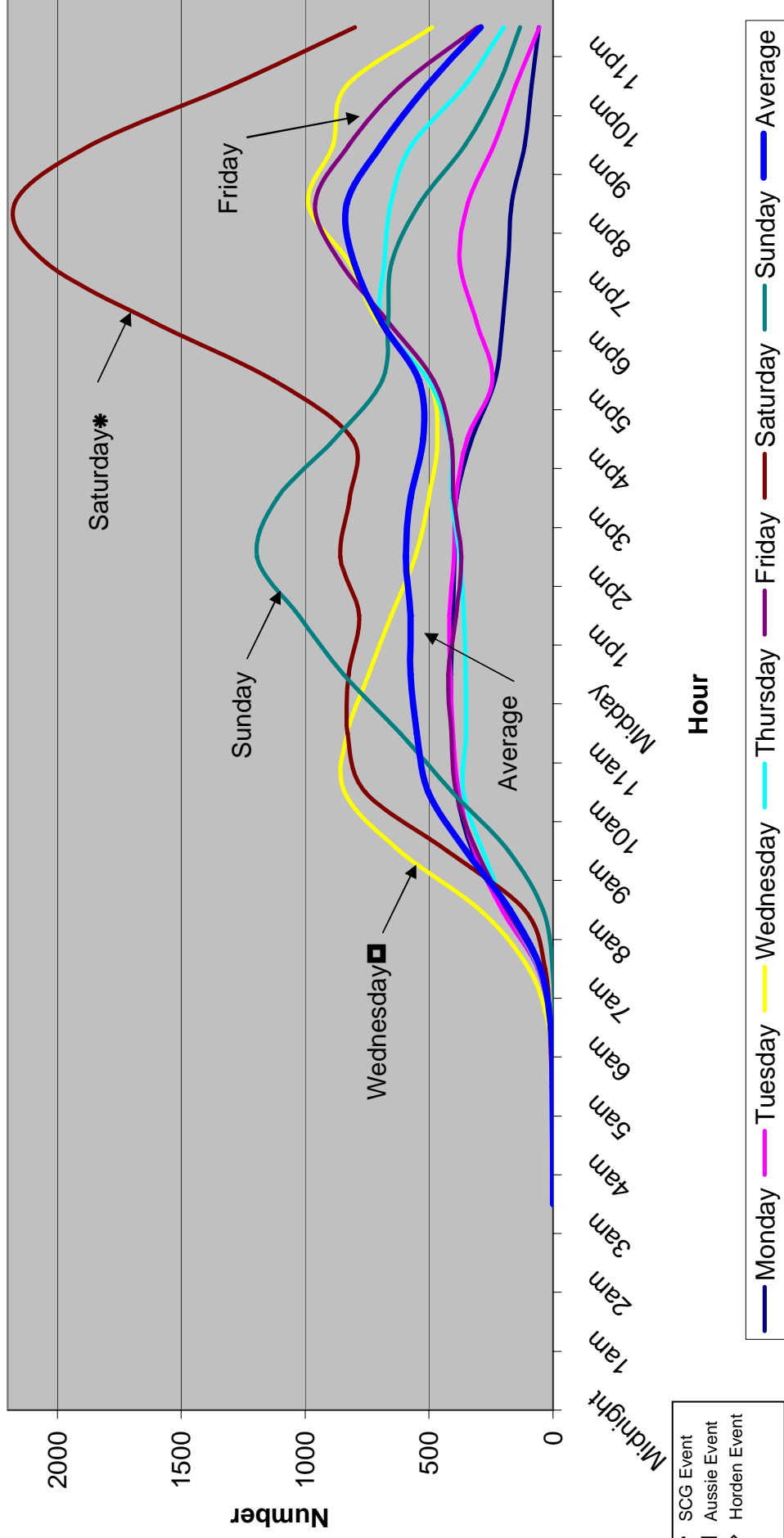
SCEN2 - PM



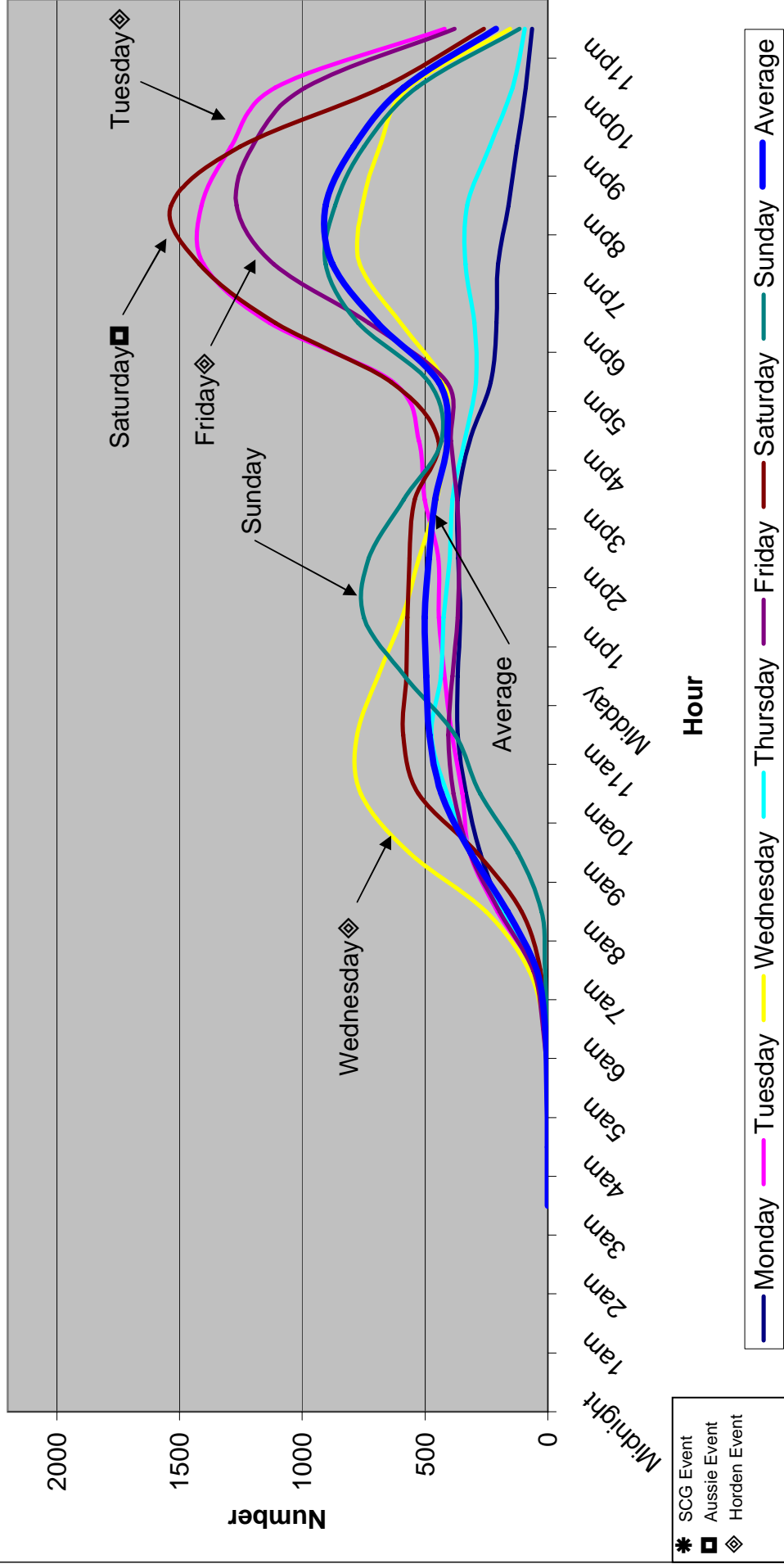
## **Appendix C Multi Storey Car Park Utilisation**

# Monday 15th to Sunday 21st May 2006

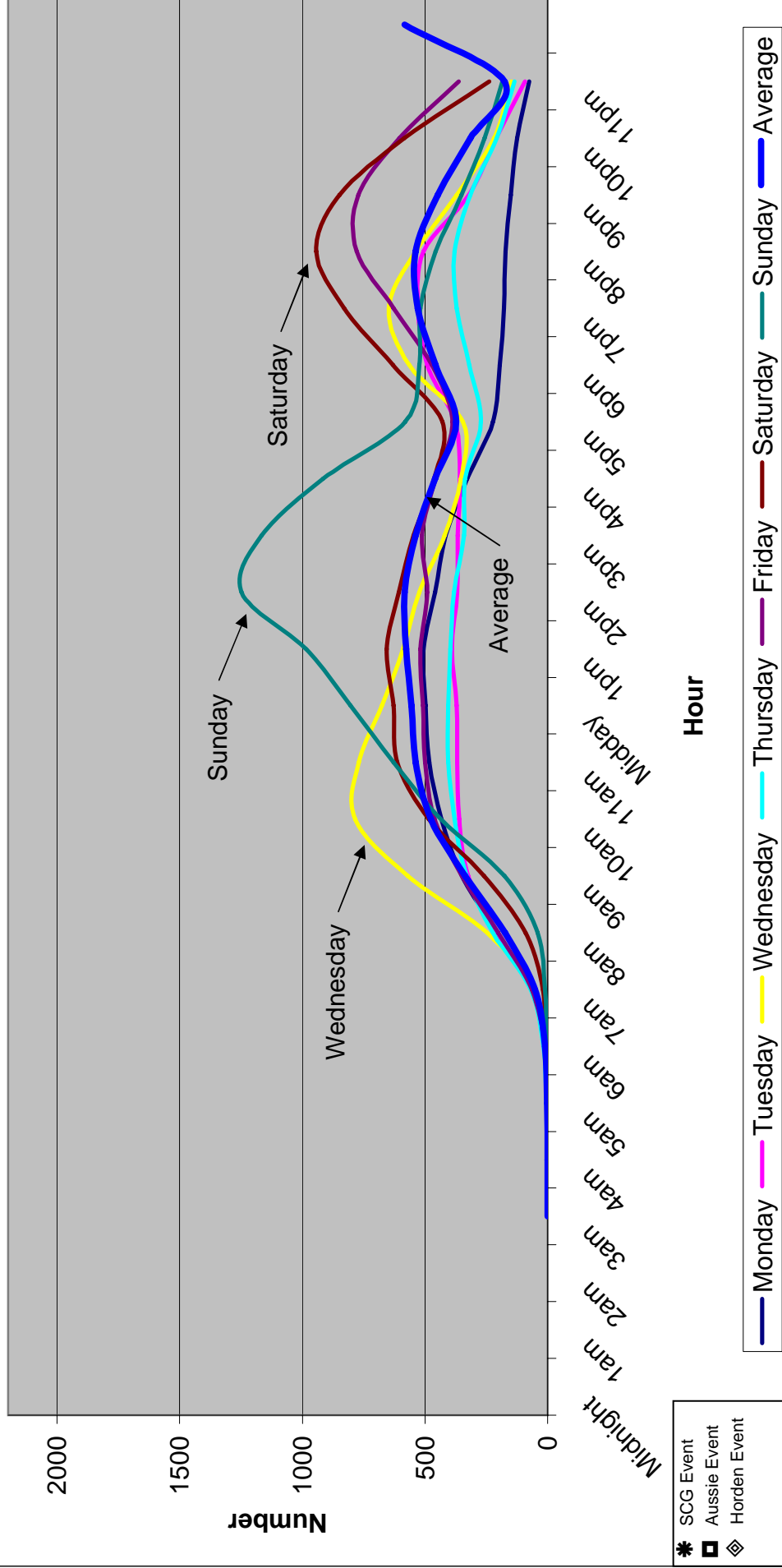
## Car Park Demand



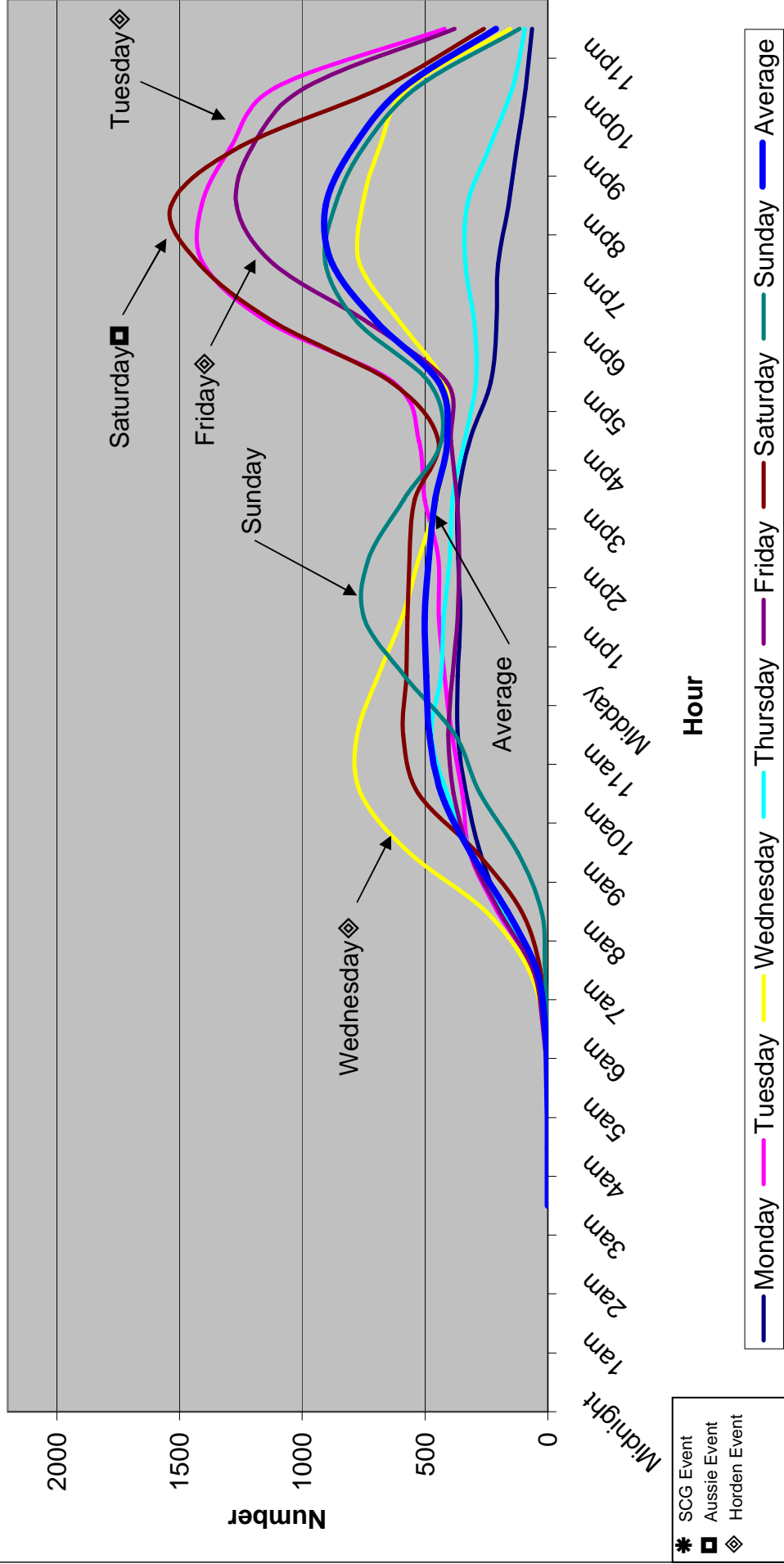
# Monday 8th to Sunday 14th May 2006 Car Park Demand



# Monday 1st to Sunday 7th May 2006 Car Park Demand

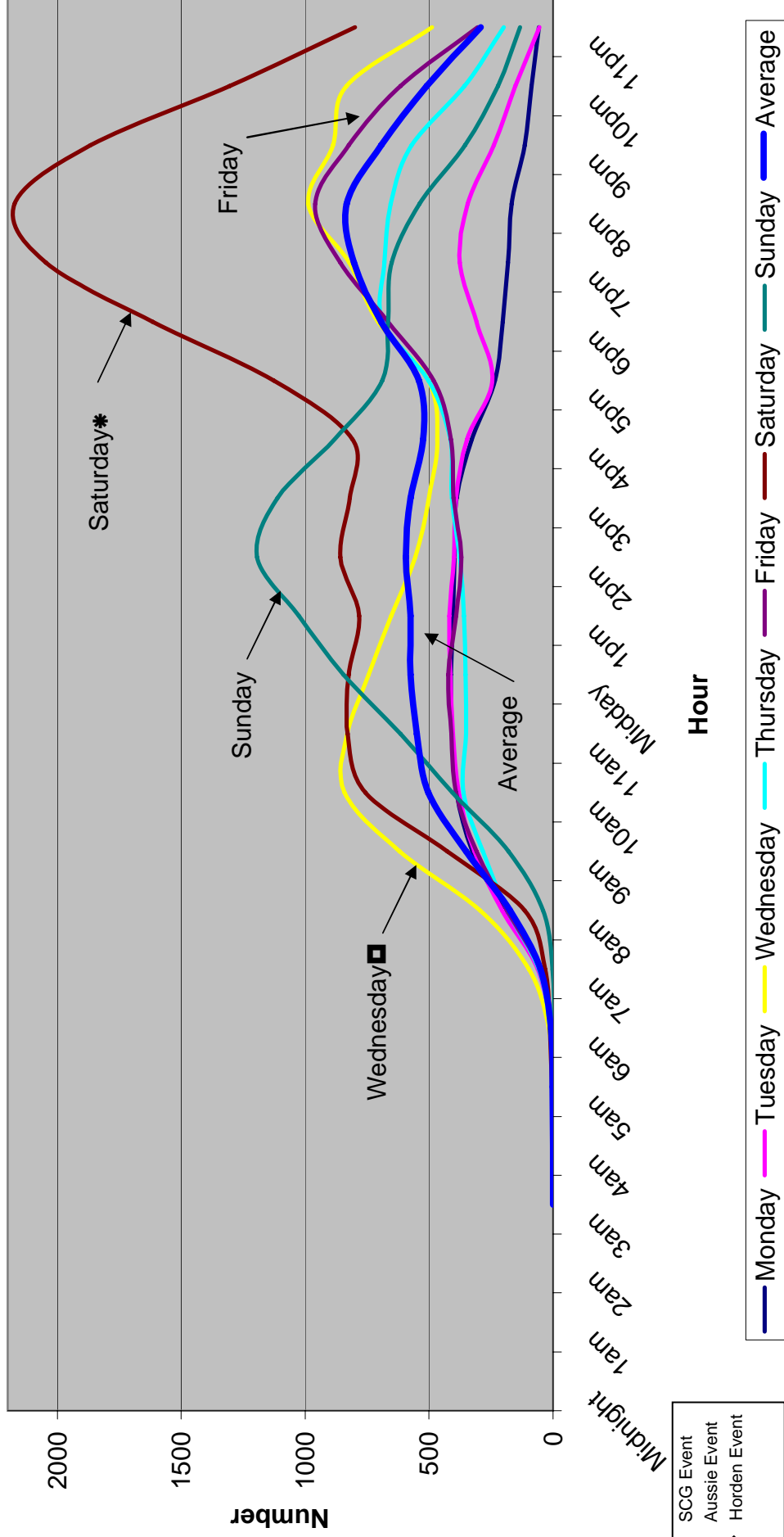


# Monday 8th to Sunday 14th May 2006 Car Park Demand

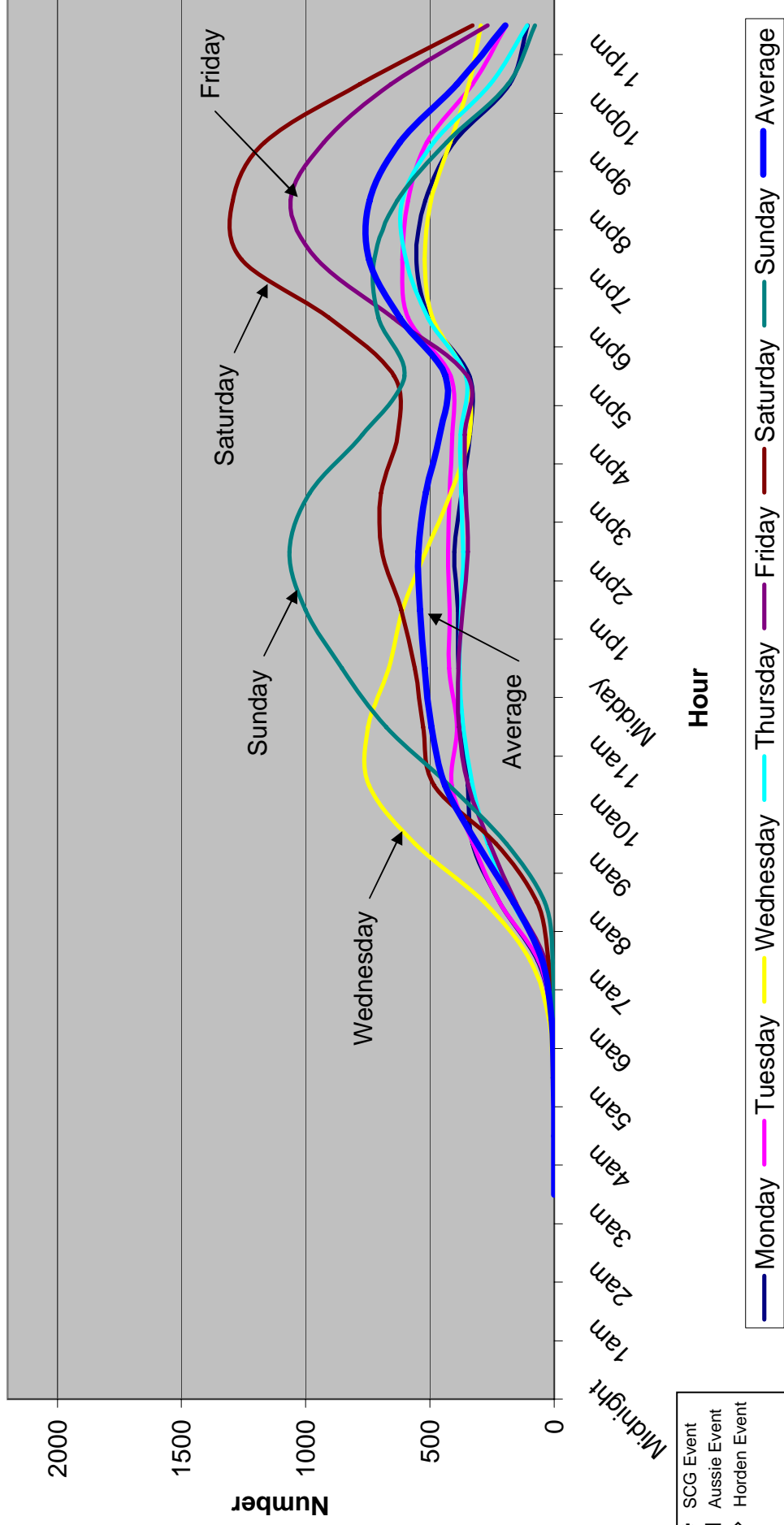


# Monday 15th to Sunday 21st May 2006

## Car Park Demand



# Monday 22nd to Sunday 28th May 2006 Car Park Demand





# Monday 22nd to Sunday 28th May 2006 Car Park Demand

