

Golder Associates Ireland

**Proposed Little Island Waste
Recovery Facility**

Traffic Impact Assessment

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Traffic Impact Assessment



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1 Introduction

1.1 General

PMCE Ltd was commissioned in November 2007 by Golder Associates Ireland to undertake a review of the likely traffic impacts at the location of the proposed Construction, Demolition and Excavation Waste Recovery Facility ('CD&E Facility') on a 22Ha site, in the townland of Wallingstown, Little Island in Co. Cork (Figure 1.1).

The proposed development consists of a Construction, Demolition and Excavation Waste Recovery Facility, the end product of which is to be used in the rock-filling of adjacent lands around the site. The development lands are located on the western side of Little Island. The site is to be accessed directly from the R623 Regional Road.

1.2 Information Reviewed

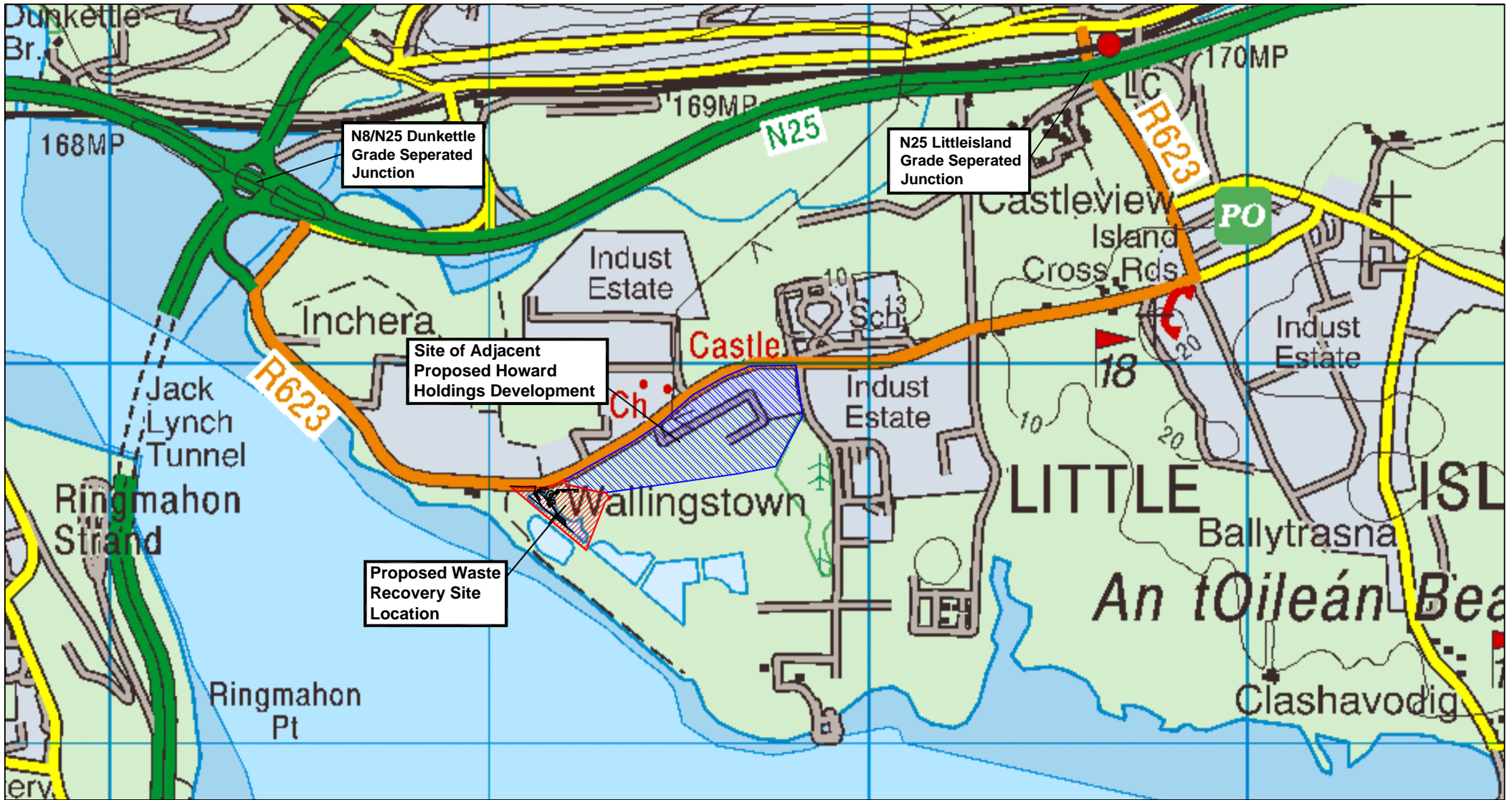
In preparing this report, reference has been made to the following documents:-

- "Traffic and Transport Assessment Guidelines" published by the National Roads Authority;
- "Guidelines for Traffic Impact Assessment" published by the Institution of Highways and Transportation;
- "Future Traffic Forecasts 2002 to 2040" published by the National Roads Authority;
- Traffic Count Survey Data, collected by Abacus Transportation Surveys Ltd (Appendices A and B); and
- Topographical Survey Data and Ordnance Survey Mapping provided by Golder Associates Ireland.

1.3 Scope

The objective of this report is to examine the traffic implications associated with the proposed development in terms of how it can integrate with existing traffic in the area.

The report will determine and quantify the extent of additional trips generated by the development, and the impact on operational performance of such trips on the local road network.



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**Proposed Little Island
Waste Recovery
Facility**

Traffic Report

**Location of Proposed
CD&E Facility**

| | |
|---------------------------|-------------------------|
| Drawn: DGF | Date: 20th March '08 |
| Checked: PJM | Scale: NTS |
| Approved: PJM | Status: Final |
| Drawing No: Figure 1.1 | Rev: F |

1.4 Methodology

The methodology adopted for this appraisal and report involved, in brief:-

- A site visit;
- Classified Traffic Counts undertaken on the 16th January 2008 at two locations as detailed in section 2.3;
- Existing Traffic Assessment – The traffic count data was used to develop a PICADY model for the proposed access; and
- Future Year Assessments – The estimated future year volumes on the study area network, as a result of the increase in background traffic and the additional development related traffic was used to assess the the future operational performance of the R623 & the access junction both at the year of opening of the development and at an assessment year.

2 Existing Conditions

2.1 The Site

The site is located adjacent to the R623 in the townland of Wallingstown. No access currently exists onto the R623 from the site at this location. The site is bounded to the north by the R623 and to the south and east by a waste lagoon site. To the east of the waste lagoon site is the Waterfront Business Park Road.

The site is traversed by overhead power lines close to both the southern and western boundaries. As part of the development it is proposed to construct an access from the site directly onto the R623.

Another site, subject to a recent planning application, is located to the north-east.

2.2 Existing Road Network

2.2.1 N25 National Primary Route

The N25 is the primary Cork-Rosslare route which also serves the east and south of Cork city. In the vicinity of the proposed site the N25 is a dual carriageway with grade separated interchanges. Little Island can be accessed from the N25 by one of two interchanges, to the west the Dunkettle Interchange and from the east the Little Island Interchange.

The National Roads Authority estimate the Annual Average Daily Traffic (AADT) for the N25 to be 51,516 with HGV's accounting for 6.5% of road traffic. These figures are derived from traffic counter data for 2007 and are based on 245 days of recorded data, as published on the NRA website for the traffic counter located at Little Island, on the western side of the Little Island Interchange.

2.2.2 R623 Regional Road

The R623 is a single carriageway route, with footpaths/verges along either one or both sides of the road, that runs from the N25 at the Dunkettle Interchange at its western end to the N25 at the Little Island Interchange at its eastern end. It runs through Little Island village and is the primary route serving the majority of employment centres in the area and is busy during peak periods. It is intended to develop an access onto the R623 from the proposed development site.

2.3 Traffic Volumes

Two classified traffic counts were carried out on the R623 on the 16th January 2008 at the junction of the R623 and the Waterfront Business Park Road to the east of the proposed site, and on the R623 at the three arm roundabout to the north west of the proposed site (Figure 2.1). The counts were carried out between 07:00 and 19:00. This time period encompasses the proposed main operating hours of the construction and demolition waste facility and also includes the peak hours on the R623. Surveyed vehicles were broken down into five categories as follows: -

- Cars;
- LGV's (Light Goods Vehicles);
- OGV1 (Two and three axle goods vehicles);
- OGV2 (Four and five axle goods vehicles); and,
- Buses.

The detailed results of the traffic surveys are given in Appendices A & B and are summarised in Tables 2.1 and 2.2. At the junction of the R623 and the local road servicing the Waterfront Business Park and other business facilities, the morning and evening peak hours have been established as 07:45 to 08:45 and 16:45 to 17:45. The morning and evening peak hours on the R623 at the roundabout junction with the Richmond and Inchera roads have been established as 07:45 to 08:45 and 16:30 to 17:30.

The count data has been converted to Annual Average Daily Traffic (AADT) values, as given in Tables 2.1 and 2.2, using the methods described in "Expansion Factors For Short Period Traffic Counts" (John Devlin/National Roads Authority, 1978, RT 201). Table 1B of the document relating to Urban Commuter Routes was used in the expansion of traffic counts to AADT's.

A combined urban commuter factor of 1.437 was derived by combining the individual hourly factors for the count duration. This factor was then used to determine AADT's for each arm surveyed.

The count data in Tables 2.1 and 2.2 is derived from the survey data in Appendices A and B. The tables in the appendices give the count data in 15 minute intervals. The count data presented in Tables 2.1 and 2.2 is the sum of the two-way approach flows for each arm of each junction. For instance in Table 2.1, column 2, the total traffic on the R623 west of the junction is the sum of movements 1, 2, 3 and 6 (Refer to diagram in Appendix A).



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**Proposed Little Island
Waste Recovery
Facility**

Traffic Report

**Traffic Count
Locations**

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|---------------------------|-------------------------|
| Drawn: DGF | Date: 20th March '08 |
| Checked: PJM | Scale: NTS |
| Approved: PJM | Status: Final |
| Drawing No: Figure 2.1 | Rev: F |

Table 2.1: Surveyed Flows and AADT for R623/Waterfront Business Park Junction

| Hour Ending | R623 West | Local Road | R623 East |
|---------------------------|--------------|---------------|--------------|
| 08:00 | 635 | 305 | 604 |
| 09:00 | 913 | 308 | 871 |
| 10:00 | 428 | 223 | 441 |
| 11:00 | 307 | 173 | 314 |
| 12:00 | 325 | 175 | 320 |
| 13:00 | 363 | 227 | 416 |
| 14:00 | 349 | 209 | 390 |
| 15:00 | 404 | 247 | 443 |
| 16:00 | 400 | 254 | 398 |
| 17:00 | 589 | 336 | 553 |
| 18:00 | 683 | 221 | 666 |
| 19:00 | 369 | 105 | 326 |
| Period Total | 5765 | 2783 | 5742 |
| <i>Period Total HGV's</i> | 497 | 389 | 492 |
| <i>% HGV's</i> | 8.62% | 13.98% | 8.57% |
| Total AADT | 8283 | 3998 | 8250 |

Table 2.2: Surveyed Flows and AADT for R623 Roundabout at Richmond Road/Inchera Road

| Hour Ending | Richmond Road | R623 | Inchera Road |
|---------------------------|---------------|--------------|--------------|
| 08:00 | 494 | 711 | 221 |
| 09:00 | 661 | 1012 | 361 |
| 10:00 | 291 | 449 | 164 |
| 11:00 | 146 | 298 | 162 |
| 12:00 | 143 | 313 | 174 |
| 13:00 | 118 | 351 | 247 |
| 14:00 | 153 | 334 | 183 |
| 15:00 | 169 | 379 | 216 |
| 16:00 | 136 | 384 | 254 |
| 17:00 | 106 | 633 | 535 |
| 18:00 | 57 | 769 | 714 |
| 19:00 | 80 | 379 | 307 |
| Period Total | 2554 | 6012 | 3532 |
| <i>Period Total HGV's</i> | 198 | 483 | 299 |
| <i>% HGV's</i> | 7.75% | 8.03% | 8.47% |
| Total AADT | 3669 | 8638 | 5074 |

Table 2.3 gives the turning movements at each surveyed junction at both the AM and PM peak hour for each junction.

Table 2.3: Peak Hour Turning Movements at Survey Locations

| R623/Waterfront Business Park Road Junction | | | |
|--|----------------------|----------------|----------------|
| Travelling From | Travelling To | AM Peak | PM Peak |
| R623 West | R623 East | 346 | 123 |
| | Business Park | 147 | 12 |
| Business Park | R623 West | 39 | 132 |
| | R623 East | 21 | 109 |
| To R623 East | Business Park | 127 | 23 |
| | R623 West | 421 | 467 |
| R623 at Roundabout Junction with Richmond Road and Inchera Road | | | |
| Travelling From | Travelling To | AM Peak | PM Peak |
| Richmond Road | Inchera Road | 4 | 3 |
| | R623 | 675 | 83 |
| R623 | Richmond Road | 0 | 0 |
| | Inchera Road | 374 | 698 |
| Inchera Road | Richmond Road | 1 | 1 |
| | R623 | 0 | 0 |

3 Proposed Development

3.1 General

The proposed CD&E Facility is located in the north-western corner of a c. 24Ha brownfield site comprising waste lagoons ('the Thornbush Site'). Its development in the 1970s was undertaken by Mitsui Denman and involved the excavation of large artificial lagoons to facilitate waste material from an adjacent industrial plant. It was subsequently bought by Thornbush Holdings, who are obliged to restore the site under the existing planning permission (Planning Ref: 1466/73) and the IPPC licence (No. 389). The proposed CD&E waste recovery facility will facilitate the restoration of the Thornbush Site.

Approximately 1,500,000 tonnes of material will be required for the capping and restoration of the Thornbush site. Annual volumes processed will vary, as the source material will come from construction activities and the maximum volume in any given year is estimated to be 250,000 tonnes. A 10 year duration for the operation has been assumed to account for the sporadic nature of obtaining suitable material.

Construction, Demolition and Excavation material will be primarily sourced locally and all incoming material will be controlled to ensure that it produces a high quality product using screening and segregation processes. To ensure this all material entering the site will be subject to strict controls on site or before arrival on site. On site the primary operations will include:-

- Acceptance and Receipt;
- Primary Sorting;
- Crushing and Screening;
- Finished Product Stockpiling; and
- Transport to Final Application.

The incoming Construction, Demolition and Excavation waste may contain a number of waste products which are unsuitable for recovery. These materials are likely to include, timber, plastics, metals, cardboard, plasterboard and aggregate from the processed waste, in particular the finer crushed aggregate which when placed in the existing lagoons may aid and induce the raising of the existing water table level. Recyclable materials will be segregated out and distributed to licensed recovery agents. It has been estimated that these materials will constitute between 10-20% of the total incoming waste. For the purpose of this assessment it is assumed, conservatively, that 20% of the total imported waste will not be suitable for recovery.

3.2 Proposed Access

It is proposed to provide an access from the site onto the R623 at the location shown in Figure 3.1. The proposed access road will be 6.0 metres in width, and the junction with the R623 will comply with the requirements of the Road Geometry Handbook (NRA). The corner radii will be 10m, and the arrangement will incorporate exit tapers over 30m at 1:5.

Provisions for pedestrians at the proposed access will include tie-ins with the footways to the east and west, and dropped kerbs with associated tactile paving to facilitate mobility and visually impaired pedestrians crossing. The location of the access has been chosen to maximise available sightlines for approaching and exiting vehicles, and at a location not directly below existing overhead electricity cables so as to minimise risks to operatives during construction and following opening.

3.3 Trip Generation

3.3.1 General

At present the site generates no traffic. In determining the trip generation by the proposed development a number of assumptions have made, as follows:-

- The facility will operate for 50 weeks per annum;
- The facility will operate for six days per week (Monday to Saturday inclusive);
- The facility opening times will be 08:00 to 18:00 on Monday to Friday and 08:00 to 16:00 on Saturday; and
- Material will be imported in twenty tonne trucks;

3.3.2 Forecast Development Traffic

With 20% of the total imported material assumed to be unsuitable for recovery as Construction, Demolition and Excavation waste, to attain the target for usable material of 250,000 tonnes per annum a total of 300,000 tonnes of imported material will be required annually. Working on the assumptions outlined above an average of 50 incoming waste deliveries daily are estimated. However the availability of source material will vary over time, and short term peaking associated with construction and development activities are likely. To account for this a peak factor of 2.0 is assumed. This represents a conservative approach, and would give 100 waste deliveries per day during peak times.

Assuming a nine hour working day (operations ceasing between 13:00 and 14:00), an average of six deliveries will arrive on site each hour or 11 per hour for the conservative scenario. For the purposes of this report the conservative scenario has been assessed.

In determining the trip generation for the unsuitable material that is to be transported away from the site, a number of assumptions have been made. These assumptions are considered to be conservative as the transport of the material is unlikely to occur daily, but periodically when sufficient unsuitable material has accumulated. The assumptions are:-

- Material will be incrementally exported when approximately 4,200 tonnes have built up on site in a stockpile; and
- Material will be exported by up to four trucks from the site, resulting in 36 trips in and 36 trips out (1 load per truck per working hour).

Therefore Peak Hour Trips associated with disposal of unsuitable material are 4 in and 4 out.

3.3.3 Staff Trips

It has been assumed that five staff would be based at the site during operations, giving five additional peak hour trips to account for staff movements. It is assumed that 60% of staff car trips will enter/exit to/from the west and that 40% will enter/exit to/from the east.

3.3.4 Miscellaneous Trips

An additional number of four trips (two inbound and two outbound) has been assumed during the AM and PM Peaks to cater for possible miscellaneous trips associated with the site. These miscellaneous trips allow for site supervision meetings, HSA site inspections, maintenance operations for plant and machinery, etc. It is assumed that: -

- 50% of miscellaneous trips enter/exit to/from the west; and
- 50% of miscellaneous trips enter/exit to/from the east.

3.4 Trip Assignment

Two scenarios have been assessed in relation to the trip assignment. Scenario A assumes that 100% of the HGV's importing material into the site would travel to/from the R623 west of the site access. In this case all of the HGV's travelling to/from the site would do so via the Dunkettle Interchange.

Scenario B assumes an 80/20 directional split between HGV's travelling to/from West/East. Therefore 80% would travel to/from the Dunkettle Interchange and 20% would travel to/from the Little Island Interchange.

It is considered that the most (close to 100%) trips will travel to/from the Dunkettle Interchange to avoid delays associated with travelling via the Little Island village area and it represents the shortest route to/from Cork City where a high percentage of the imported material is likely to be sourced. However both scenarios have been assessed in order to provide complete data on the traffic generated by the proposed development.

4 Proposed Adjacent Development

4.1 General

A search of planned future developments which may have an impact on future traffic flows in the vicinity of the proposed development was undertaken. A significant scheme which is currently at planning stage was identified as being potentially significant in relation to traffic flows in the vicinity of the proposed development and its access. This site is located to the east of the proposed development (Refer to Figure 1.1).

The site in question is being developed by Howard Holdings plc and the proposed development is to consist of office and light industrial units of approximately 47,681m² Gross Floor Area. Howard Holdings plc propose to develop 42,123m² of office floor space and 5,579m² of warehouse/light industry floor space.

4.2 Trip Generation

An examination of predicted traffic flows associated with this development was undertaken. Predicted traffic flows are outlined in a report produced by Boreham Consulting Engineers dated November 2007. These were compared to expected trip rates produced using the Trip Rate Information Computer System (TRICS) programme. Table 4.1 compares the peak hour trip rates produced by each source. The TRICS figures in Table 4.1 contain the trips predicted for the office and warehousing elements of the development for the peak hours.

Table 4.1: Trip Rate Comparison for Proposed Adjacent Development

| Peak Hour | Howard Holdings PLC | | TRICS Output | |
|-----------|---------------------|------------|--------------|------------|
| | Arrivals | Departures | Arrivals | Departures |
| AM | 381 | 51 | 354 | 49 |
| PM | 42 | 254 | 55 | 290 |

The predicted flows from TRICS are broadly in line with the Boreham Report and for the purposes of this assessment the Boreham flows are used where the traffic from the adjacent development is included in the assessment.

4.3 Derived Trip Rate

The average total daily trips associated with the Waste Recovery Facility is 186, with HGV's accounting for 92% of these. These are arrived at as follows:-

- 50 daily truck deliveries to the site importing material giving 100 trips (Section 3.3.2);
- 36 HGV trips daily when unusable material is being exported from site (Section 3.3.2);
- 10 staff trips daily (Section 3.3.3); and,
- 4 miscellaneous trips daily (Section 3.3.4).

The conservative number of trips, using the short term peaking factor, is 286 with HGV's 95% of these. These are arrived at as follows:-

- 100 (50 x 2.0) daily truck deliveries to the site importing material giving 200 trips (Section 3.3.2);
- 36 HGV trips daily when unusable material being exported from site (Section 3.3.2);
- 10 staff trips daily (Section 3.3.3); and,
- 4 miscellaneous trips daily (Section 3.3.4).

An assessment of the junction capacity analysis was undertaken based the short term peaking scenario, which represents the worst case.

4.4 Committed Development

Under the existing planning permission (Planning Ref: 1466/73) and IPPC license (No. 389), Thornbush Holdings are obliged to restore the waste lagoons on site. To undertake this work, 50 incoming waste daily deliveries are estimated (Refer to 3.3.2). These are trips which will occur on the R623 in the future due to the obligations arising from the existing planning permissions.

Therefore the forecast average 50 HGV deliveries to the site will arise in the future as part of the site remediation without the proposed development. The resulting additional traffic, for the short term peak scenario will be an additional 50 HGV deliveries daily.

5 Traffic Impacts

5.1 Assessment Years

The National Roads Authority's publication "Future Traffic Forecasts 2002-2040" has been used to determine future year traffic flows on the R623 from the 2008 flows. For this assessment the Non-National indices have been used for the R623 traffic forecasts.

The Institution of Highways and Transportation's (IHT) "Guidelines for Traffic Impact Assessment" recommends that traffic impacts be assessed for a period of 10 years beyond the opening year of the development unless a new or modified road infrastructure is required. The "Traffic and Transport Assessment Guidelines" published by the National Roads Authority recommend assessment of traffic in the Opening Year, for the Opening Year +5 Years and the Opening Year +15.

In recognition of the limited lifespan of the proposed development, and of the effects of proposed adjacent developments, it is proposed to carry out assessment for: -

- 2008 - the Opening Year of the Waste Recovery Facility;
- 2009 - the possible Opening Year of the adjacent development; and
- 2018 - the year when operations at the Waste Recovery Facility are expected to cease.

5.2 Link Capacity Assessment

The National Roads Authority's document "Traffic and Transport Assessment Guidelines" (September 2007) states that a full Traffic and Transport Assessment is not required if the development traffic does not exceed 5% of the two way flow on the adjoining road where congestion exists or in sensitive locations. Table 5.1 gives the development traffic as a percentage of the traffic on the R623.

The level of development trips associated with the proposed scheme does not constitute a traffic impact on the basis of the National Roads Authority's criteria.

Table 5.1: Peak Hour Link Capacity Assessment

| | R623 Existing Traffic (Vehicles per Hour) | | | Development Traffic (Vehicles per Hour) | | | Development Traffic as a % of existing Traffic | | |
|---------------------------------------|--|------|------|--|------|------|---|------|------|
| | 2008 | 2009 | 2018 | 2008 | 2009 | 2018 | 2008 | 2009 | 2018 |
| Excluding Adjacent Development | | | | | | | | | |
| AM | 1050 | 1069 | 1190 | 37 | 37 | 37 | 3.5% | 3.5% | 3.1% |
| PM | 782 | 785 | 886 | 37 | 37 | 37 | 4.7% | 4.7% | 4.2% |
| Including Adjacent Development | | | | | | | | | |
| AM | 1050 | 1232 | 1356 | 37 | 37 | 37 | 3.5% | 3.0% | 2.7% |
| PM | 782 | 944 | 1036 | 37 | 37 | 37 | 4.7% | 3.9% | 3.6% |

5.3 Junction Capacity Analysis

The capacity of the proposed access onto the R623 was assessed using the Transport Research Laboratory's (TRL) computer programme PICADY (**P**riority Intersection Capacity and **D**elay). Junction performance is measured as a ratio between the flow and capacity (RFC). The capacity analysis has been carried out for both the AM and PM Peaks for each of the assessment years (2008, 2009 and 2018). An urban junction with an RFC below 0.85 is considered to be operating within capacity, with an RFC of 0.85 indicating a junction operating at capacity.

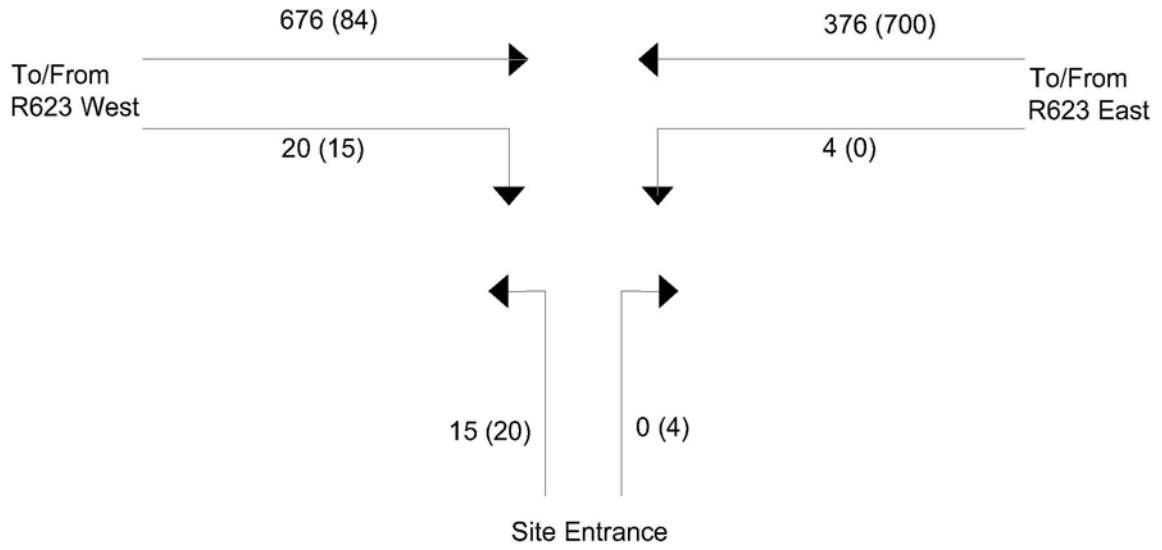
The PICADY analysis outputs are included in Appendices C, D and E to this report. Appendix C contains the output for the 2008 AM and PM Peaks. Appendix D contains the output from the analysis for the 2009 AM and PM peaks. Appendix E contains the output from the analysis for the 2018 AM and PM peaks. The results are summarised in Tables 5.2 to 5.6.

The junction capacity was assessed under the two assignment scenarios:-

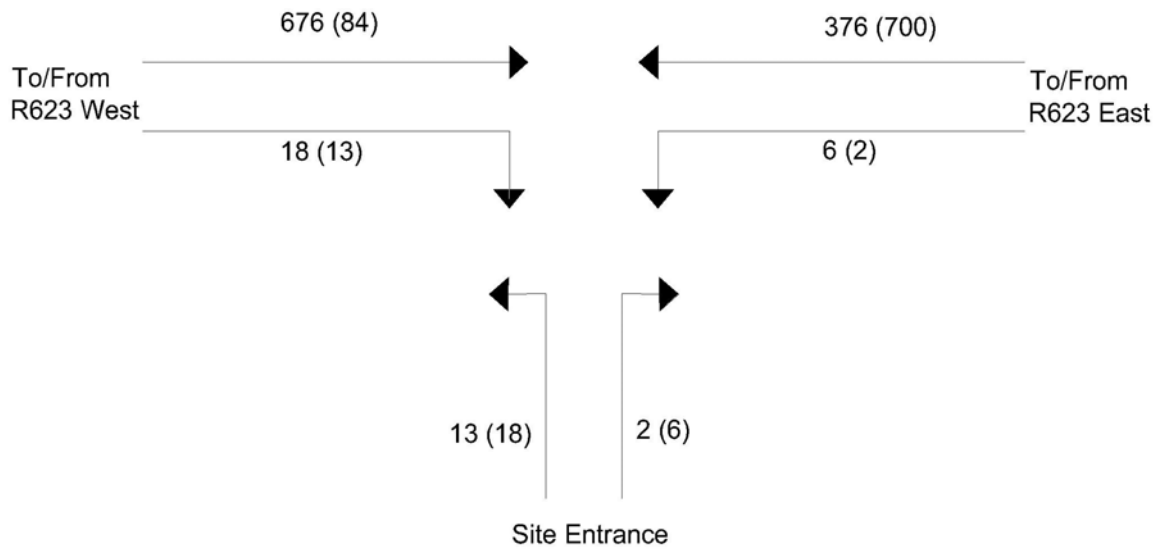
- Scenario A: 100% of trips to/from R623 west; and
- Scenario B: 80/20 West/East directional split.

Figures 5.1 to 5.5 illustrate the predicted peak hour turning movements at the proposed access and correspond to the analysis summaries given in Tables 5.2 to 5.6. The turning movements for both the AM and PM peaks are shown.

The PICADY analysis indicates that the proposed junction will operate within capacity for each of the Assessment Years for all scenarios assessed. Capacity for Scenario A is greater than for Scenario B, although the difference is marginal.

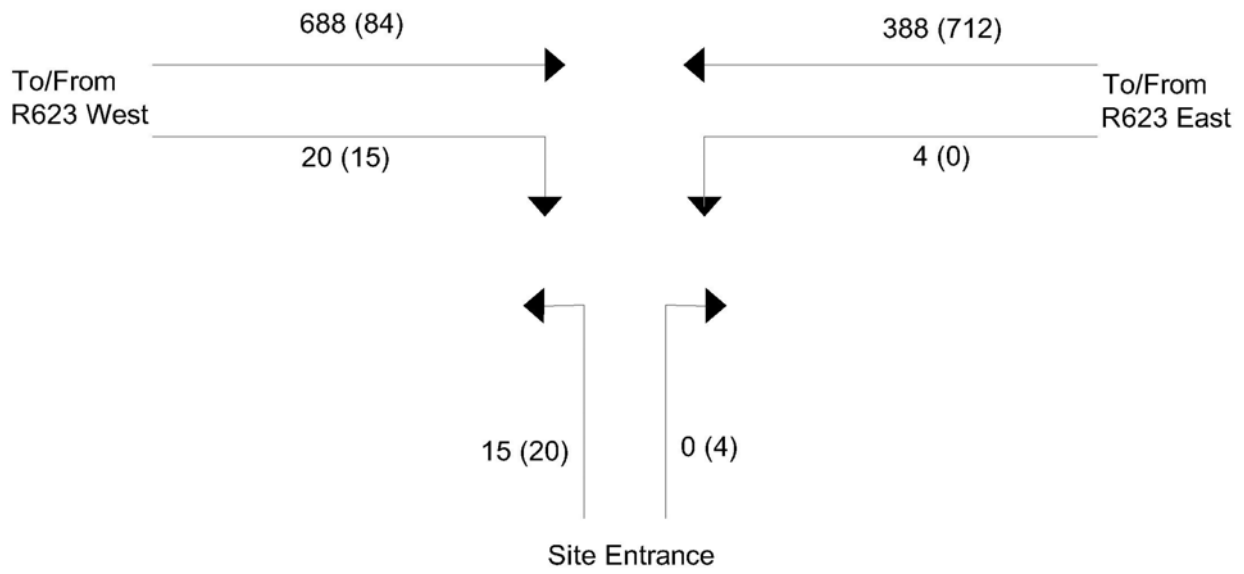


Forecast Turning Movements For Scenario A

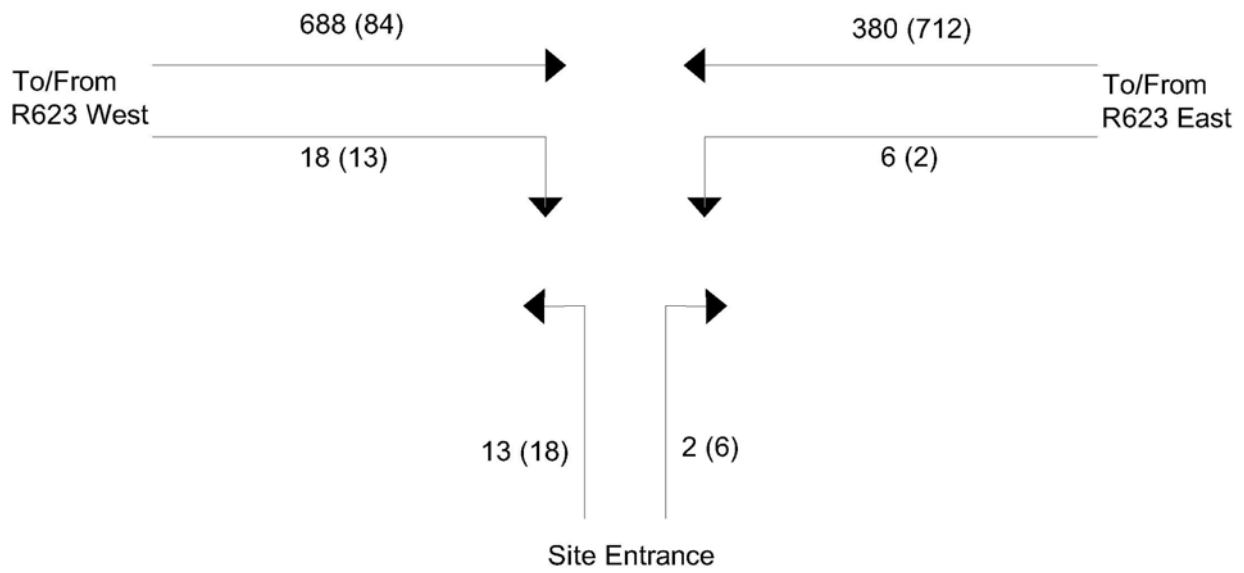


Forecast Turning Movements For Scenario B

Figure 5.1: 2008 Forecast Traffic Movements At Proposed Access



Forecast Turning Movements For Scenario A



Forecast Turning Movements For Scenario B

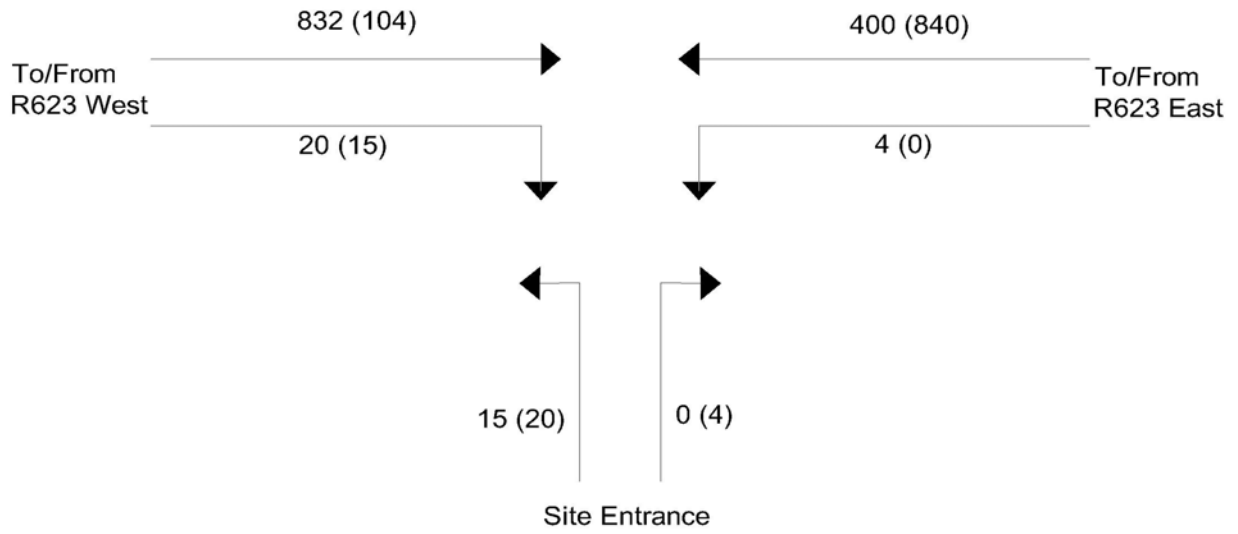
Figure 5.2: 2009 Turning Movements At Proposed Access (Excl. Adjacent Development)

Table 5.2: Summary of PICADY Junction Capacity Analysis for 2008

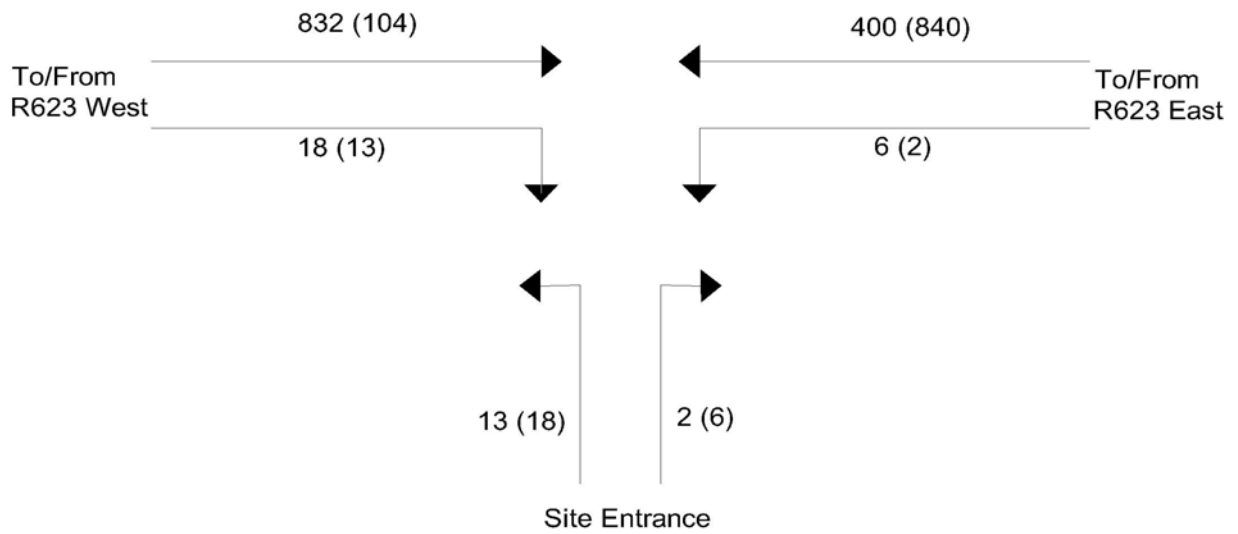
| | Maximum RFC | Maximum Queue (vehicles) | Queuing Delay (Min/Veh) |
|-----------------------------|-------------|--------------------------|-------------------------|
| Scenario A – AM Peak | | | |
| Site Access | 0.056 | 0.1 | 0.22 |
| R623 | 0.068 | 0.1 | 0.22 |
| Scenario A – PM Peak | | | |
| Site Access | 0.082 | 0.1 | 0.22 |
| R623 | 0.067 | 0.1 | 0.29 |
| Scenario B – AM Peak | | | |
| Site Access | 0.062 | 0.1 | 0.25 |
| R623 | 0.060 | 0.1 | 0.21 |
| Scenario B – PM Peak | | | |
| Site Access | 0.105 | 0.1 | 0.25 |
| R623 | 0.232 | 0.4 | 0.34 |

Table 5.3: 2009 PICADY Analysis (Excl. Adjacent Development)

| | Maximum RFC | Maximum Queue (vehicles) | Queuing Delay (Min/Veh) |
|-----------------------------|-------------|--------------------------|-------------------------|
| Scenario A – AM Peak | | | |
| Site Access | 0.060 | 0.1 | 0.24 |
| R623 | 0.068 | 0.1 | 0.22 |
| Scenario A – PM Peak | | | |
| Site Access | 0.088 | 0.1 | 0.24 |
| R623 | 0.068 | 0.1 | 0.29 |
| Scenario B – AM Peak | | | |
| Site Access | 0.067 | 0.1 | 0.27 |
| R623 | 0.060 | 0.1 | 0.21 |
| Scenario B – PM Peak | | | |
| Site Access | 0.108 | 0.1 | 0.26 |
| R623 | 0.058 | 0.1 | 0.29 |

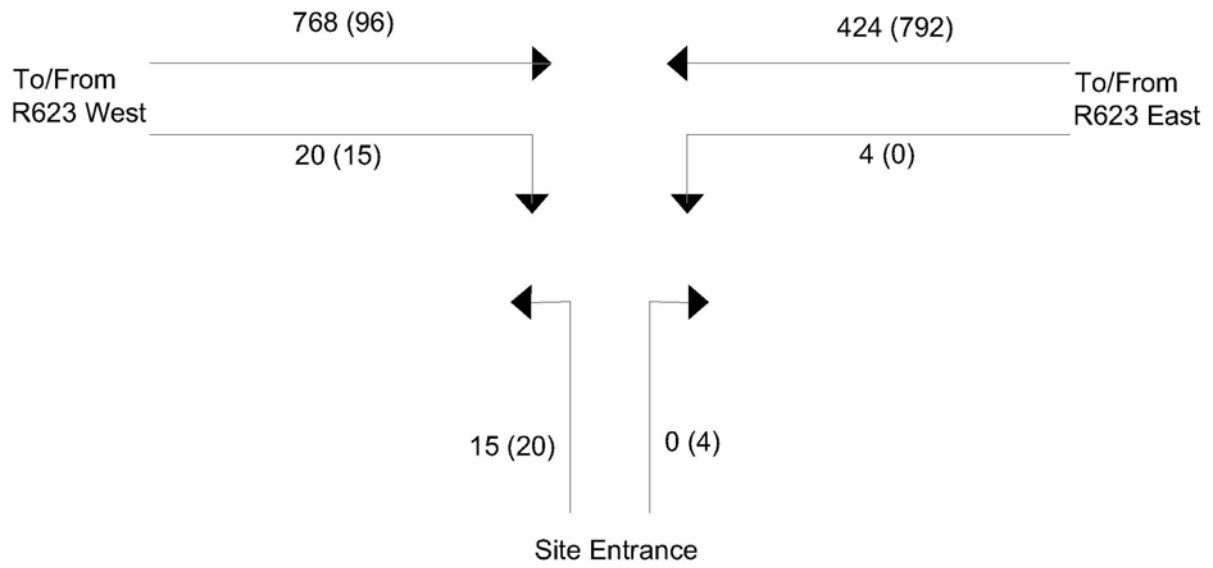


Forecast Turning Movements For Scenario A

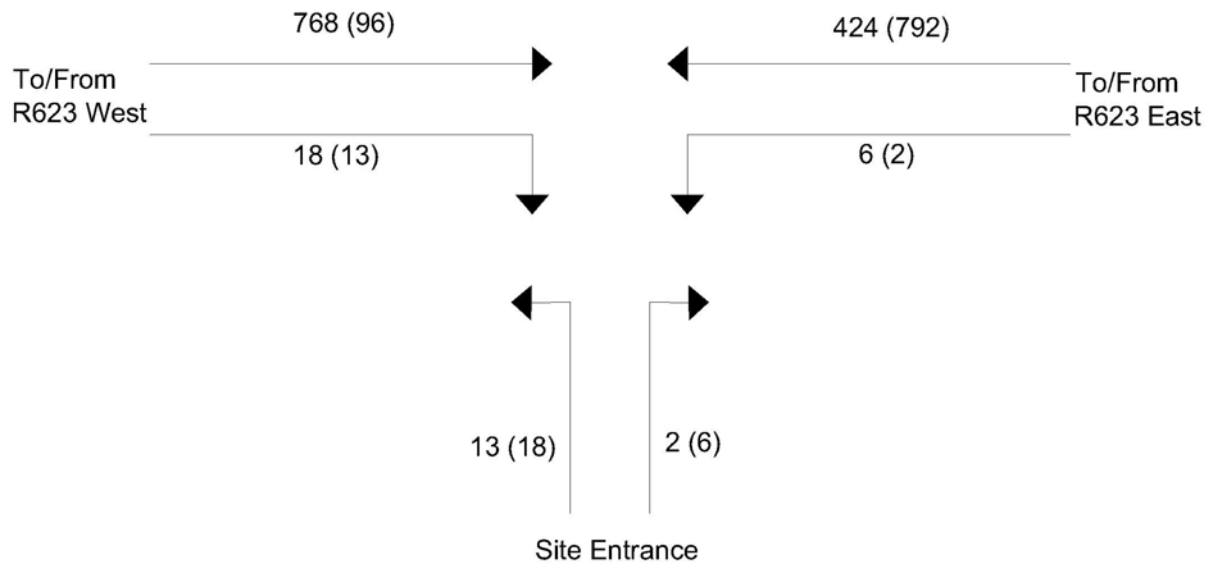


Forecast Turning Movements For Scenario B

Figure 5.3: 2009 Turning Movements At Proposed Access (Incl. Adjacent Development)



Forecast Turning Movements For Scenario A



Forecast Turning Movements For Scenario B

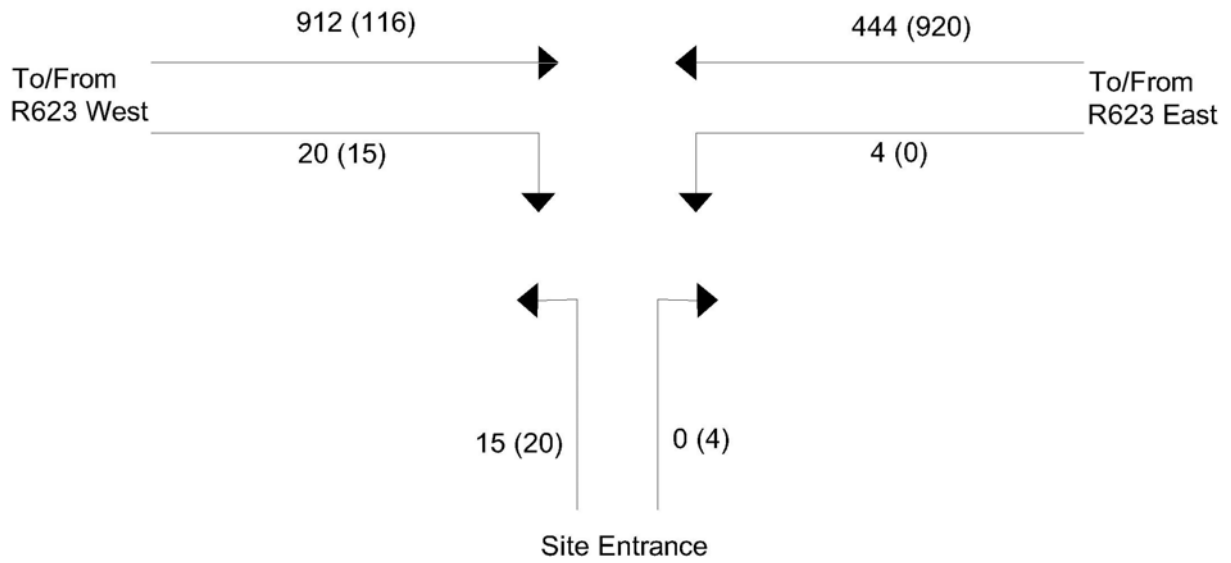
Figure 5.4: 2018 Turning Movements At Proposed Access (Excl. Adjacent Development)

Table 5.4: 2009 PICADY Analysis (Incl. Adjacent Development)

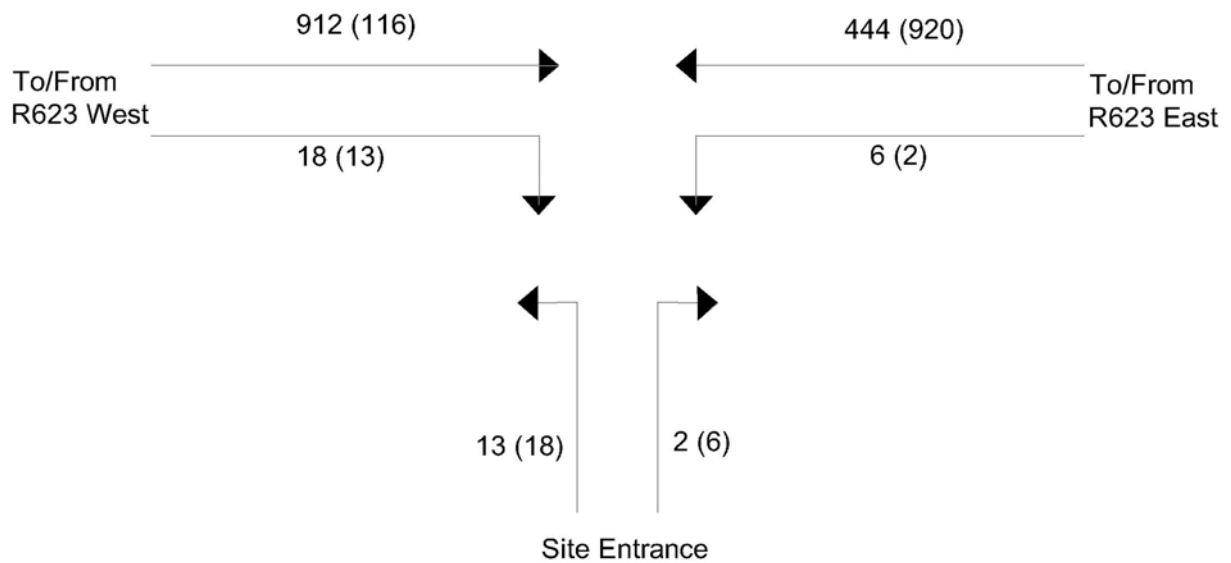
| | Maximum RFC | Maximum Queue (vehicles) | Queuing Delay (Min/Veh) |
|-----------------------------|-------------|--------------------------|-------------------------|
| Scenario A – AM Peak | | | |
| Site Access | 0.060 | 0.1 | 0.24 |
| R623 | 0.069 | 0.1 | 0.22 |
| Scenario A – PM Peak | | | |
| Site Access | 0.095 | 0.1 | 0.26 |
| R623 | 0.072 | 0.1 | 0.31 |
| Scenario B – AM Peak | | | |
| Site Access | 0.068 | 0.1 | 0.27 |
| R623 | 0.061 | 0.1 | 0.22 |
| Scenario B – PM Peak | | | |
| Site Access | 0.117 | 0.1 | 0.28 |
| R623 | 0.062 | 0.1 | 0.30 |

Table 5.5: 2018PICADY Analysis (Excl. Adjacent Development)

| | Maximum RFC | Maximum Queue (vehicles) | Queuing Delay (Min/Veh) |
|-----------------------------|-------------|--------------------------|-------------------------|
| Scenario A – AM Peak | | | |
| Site Access | 0.061 | 0.1 | 0.24 |
| R623 | 0.069 | 0.1 | 0.22 |
| Scenario A – PM Peak | | | |
| Site Access | 0.092 | 0.1 | 0.25 |
| R623 | 0.071 | 0.1 | 0.30 |
| Scenario B – AM Peak | | | |
| Site Access | 0.069 | 0.1 | 0.28 |
| R623 | 0.062 | 0.1 | 0.22 |
| Scenario B – PM Peak | | | |
| Site Access | 0.113 | 0.1 | 0.27 |
| R623 | 0.060 | 0.1 | 0.30 |



Forecast Turning Movements For Scenario A



Forecast Turning Movements For Scenario B

Figure 5.5: 2018 Turning Movements At Proposed Access (Incl. Adjacent Development)

Table 5.6: 2018 PICADY Analysis (Incl. Adjacent Development)

| | Maximum RFC | Maximum Queue (vehicles) | Queuing Delay (Min/Veh) |
|-----------------------------|-------------|--------------------------|-------------------------|
| Scenario A – AM Peak | | | |
| Site Access | 0.062 | 0.1 | 0.25 |
| R623 | 0.070 | 0.1 | 0.23 |
| Scenario A – PM Peak | | | |
| Site Access | 0.064 | 0.1 | 0.17 |
| R623 | 0.075 | 0.1 | 0.32 |
| Scenario B – AM Peak | | | |
| Site Access | 0.071 | 0.1 | 0.29 |
| R623 | 0.062 | 0.1 | 0.22 |
| Scenario B – PM Peak | | | |
| Site Access | 0.123 | 0.1 | 0.30 |
| R623 | 0.065 | 0.1 | 0.32 |

6 Conclusions

The analysis of the impact of the traffic to be generated by the proposed development on the adjacent R623 Regional Road, under the two scenarios outlined in Section 5, indicates that the link capacity and the access junction capacity will operate within capacity.

The assessment indicates that the development of the Construction, Demolition and Excavation Waste Recovery Facility and the rock-filling of the adjacent lands will have a small impact on traffic flows on the existing road network due to the low volumes of the traffic to be generated by the proposed development.

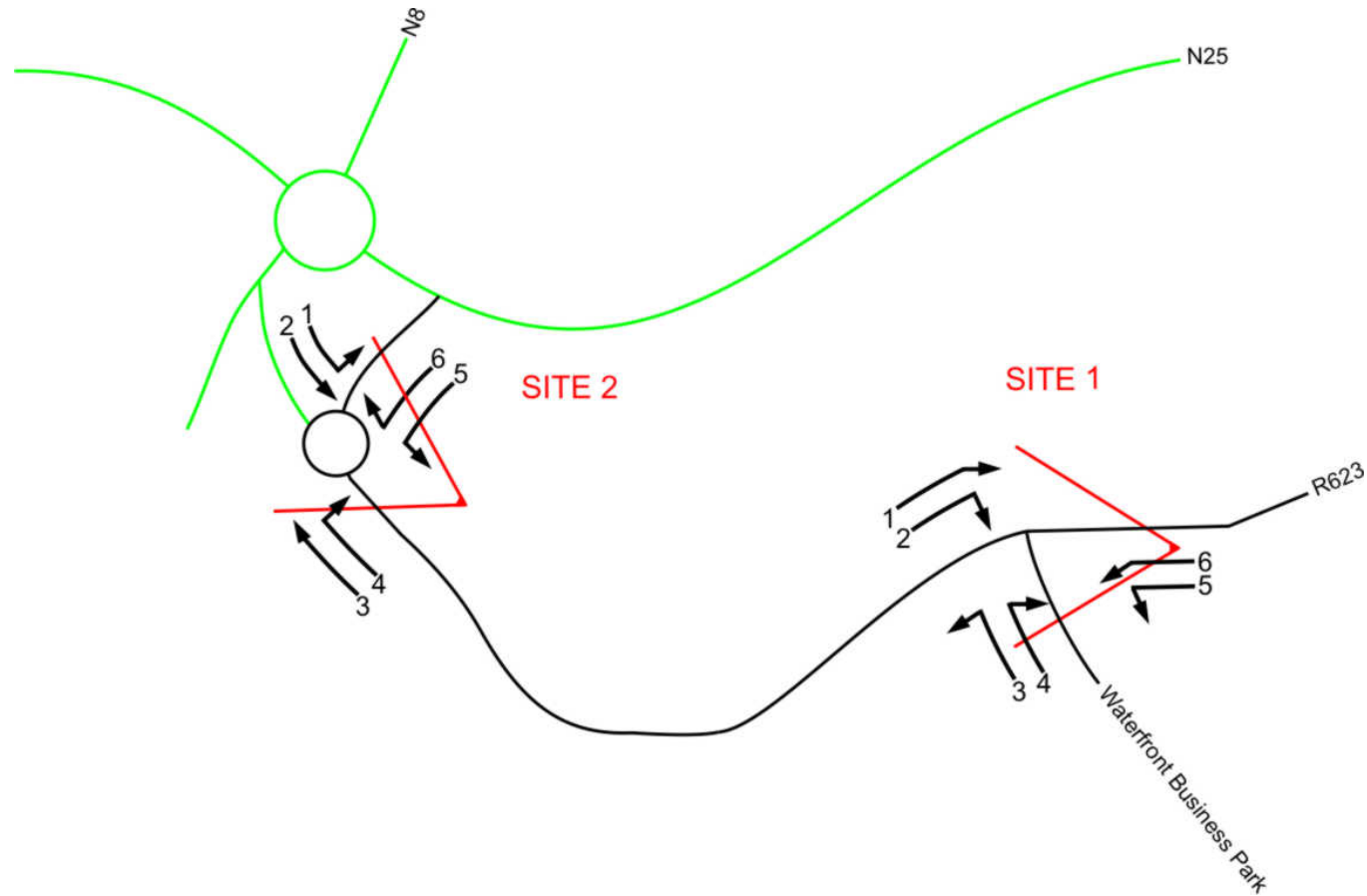
The volume of traffic generated is below the thresholds set out in the “Traffic and Transport Assessment Guidelines” published by the National Roads Authority, and the differences between Scenario A and Scenario B on these thresholds is insignificant. In light of the negative effects that HGV traffic could have on Little Island village, it is recommended that a Operational Traffic Management Plan be developed to encourage heavy vehicles to travel to/from the site via the Dunkettle Interchange.



The priority junction formed by the proposed access to the site with the adjacent R623 Regional Road will be capable of accommodating the generated traffic in both the opening and assessment years.

In addition, an assessment of the proposed access including traffic flows from the possible future planned adjacent development, the access junction will operate within capacity over the proposed lifespan of the Waste Recovery Facility.

Appendix A – Traffic Count Data for R623/Local Road Junction

Movement Numbers & Directions



| | | | | |
|---|---------------------------|--|-----------------------------|---|
|  | Job number: ATH/08/006 | Job date: 16 th January 2008 | Drawing No: ATH/08/006-2 |  |
| | Client: PMCE Ltd | Job day Wednesday | Author: BCK | |

ABACUS TRANSPORTATION SURVEYS

LITTLE ISLAND TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION COUNTS

JANAURY 2008
ATH/08/006

SITE: 02

DATE: 16th January 2008

LOCATION: R623/Waterfront Business Park

DAY: Wednesday

| TIME | MOVEMENT 1 | | | | | TOT | MOVEMENT 2 | | | | | TOT | MOVEMENT 3 | | | | | TOT | |
|--------------|------------|----------|----------|----------|----------|----------|------------|-----------|-----------|----------|----------|------------|------------|----------|----------|----------|----------|----------|----------|
| | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | | |
| 07:00 | 0 | 0 | 0 | 0 | 0 | 0 | 62 | 2 | 0 | 0 | 0 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:15 | 2 | 0 | 0 | 0 | 0 | 2 | 139 | 10 | 1 | 0 | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 | 0 | 0 | 0 | 0 | 0 | 0 | 103 | 9 | 1 | 1 | 0 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 | 0 | 0 | 0 | 0 | 0 | 0 | 138 | 16 | 6 | 4 | 0 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 2 | 0 | 0 | 0 | 0 | 2 | 442 | 37 | 8 | 5 | 0 | 492 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 | 0 | 0 | 0 | 0 | 0 | 0 | 156 | 13 | 3 | 1 | 0 | 173 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 | 0 | 0 | 0 | 0 | 0 | 0 | 150 | 14 | 2 | 3 | 0 | 169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 | 3 | 0 | 1 | 0 | 0 | 4 | 152 | 12 | 4 | 1 | 0 | 169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 | 0 | 1 | 0 | 0 | 0 | 1 | 128 | 8 | 8 | 1 | 0 | 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 3 | 1 | 1 | 0 | 0 | 5 | 586 | 47 | 17 | 6 | 0 | 656 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:00 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 10 | 2 | 1 | 0 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:15 | 0 | 1 | 0 | 0 | 0 | 1 | 59 | 8 | 1 | 0 | 0 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:30 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 10 | 6 | 2 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:45 | 0 | 1 | 0 | 0 | 0 | 1 | 33 | 9 | 8 | 1 | 0 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 0 | 2 | 0 | 0 | 0 | 2 | 230 | 37 | 17 | 4 | 0 | 288 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 0 | 0 | 0 | 0 | 1 | 26 | 4 | 8 | 2 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 5 | 4 | 2 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 2 | 0 | 0 | 0 | 0 | 2 | 21 | 7 | 3 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 1 | 0 | 0 | 0 | 0 | 1 | 21 | 8 | 3 | 1 | 0 | 33 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| H/TOT | 4 | 0 | 0 | 0 | 0 | 4 | 93 | 24 | 18 | 5 | 0 | 140 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:00 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 8 | 2 | 3 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 1 | 0 | 0 | 0 | 0 | 1 | 22 | 8 | 4 | 2 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 8 | 6 | 2 | 0 | 39 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:45 | 1 | 0 | 0 | 0 | 0 | 1 | 26 | 3 | 1 | 2 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 2 | 0 | 0 | 0 | 0 | 2 | 91 | 27 | 13 | 9 | 0 | 140 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12:00 | 2 | 0 | 1 | 0 | 0 | 3 | 15 | 6 | 7 | 1 | 0 | 29 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12:15 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 11 | 2 | 0 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:30 | 2 | 0 | 0 | 0 | 0 | 2 | 14 | 5 | 3 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:45 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 6 | 1 | 1 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 4 | 0 | 1 | 0 | 0 | 5 | 67 | 28 | 13 | 2 | 0 | 110 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |

ABACUS TRANSPORTATION SURVEYS

LITTLE ISLAND TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION COUNTS

JANAURY 2008
ATH/08/006

SITE: 02

DATE: 16th January 2008

LOCATION: R623/Waterfront Business Park

DAY: Wednesday

| TIME | MOVEMENT 1 | | | | | | TOT | MOVEMENT 2 | | | | | | TOT | MOVEMENT 3 | | | | | | TOT |
|-------|------------|-----|------|------|-----|-----|------|------------|------|------|-----|------|-----|-----|------------|------|-----|---|---|--|-----|
| | CAR | LGV | OGV1 | OGV2 | BUS | CAR | | LGV | OGV1 | OGV2 | BUS | CAR | LGV | | OGV1 | OGV2 | BUS | | | | |
| 13:00 | 0 | 1 | 0 | 0 | 0 | 1 | 25 | 5 | 2 | 1 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 13:15 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 4 | 1 | 2 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 13:30 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 11 | 3 | 1 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 13:45 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 18 | 3 | 0 | 0 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| H/TOT | 0 | 1 | 0 | 0 | 0 | 1 | 101 | 38 | 9 | 4 | 0 | 152 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 14:00 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 12 | 3 | 2 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 14:15 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 9 | 1 | 1 | 0 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 14:30 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 13 | 4 | 1 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 14:45 | 1 | 1 | 0 | 0 | 0 | 2 | 22 | 9 | 5 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| H/TOT | 1 | 1 | 0 | 0 | 0 | 2 | 106 | 43 | 13 | 4 | 0 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 15:00 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 15 | 4 | 1 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 15:15 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 8 | 5 | 2 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 15:30 | 0 | 0 | 1 | 0 | 0 | 1 | 19 | 13 | 7 | 0 | 0 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 15:45 | 1 | 0 | 1 | 0 | 0 | 2 | 19 | 6 | 5 | 0 | 1 | 31 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| H/TOT | 1 | 0 | 2 | 0 | 0 | 3 | 65 | 42 | 21 | 3 | 1 | 132 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | | |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 8 | 2 | 2 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 16:15 | 1 | 0 | 0 | 0 | 0 | 1 | 18 | 7 | 4 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 16:30 | 3 | 0 | 0 | 0 | 0 | 3 | 14 | 10 | 1 | 1 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 7 | 2 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| H/TOT | 4 | 0 | 0 | 0 | 0 | 4 | 58 | 32 | 9 | 3 | 0 | 102 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 7 | 2 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 3 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 17:30 | 1 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 2 | 0 | 1 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| H/TOT | 1 | 0 | 0 | 0 | 0 | 1 | 40 | 12 | 2 | 2 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 1 | 2 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 18:15 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 3 | 1 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 18:30 | 1 | 0 | 0 | 0 | 0 | 1 | 22 | 2 | 2 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 18:45 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 2 | 1 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| H/TOT | 1 | 0 | 0 | 0 | 0 | 1 | 65 | 8 | 6 | 0 | 0 | 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| P/TOT | 23 | 5 | 4 | 0 | 0 | 32 | 1944 | 375 | 146 | 47 | 1 | 2513 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | | |

ABACUS TRANSPORTATION SURVEYS

LITTLE ISLAND TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION COUNTS

JANAUARY 2008
ATH/08/006

SITE: 02

DATE: 16th January 2008

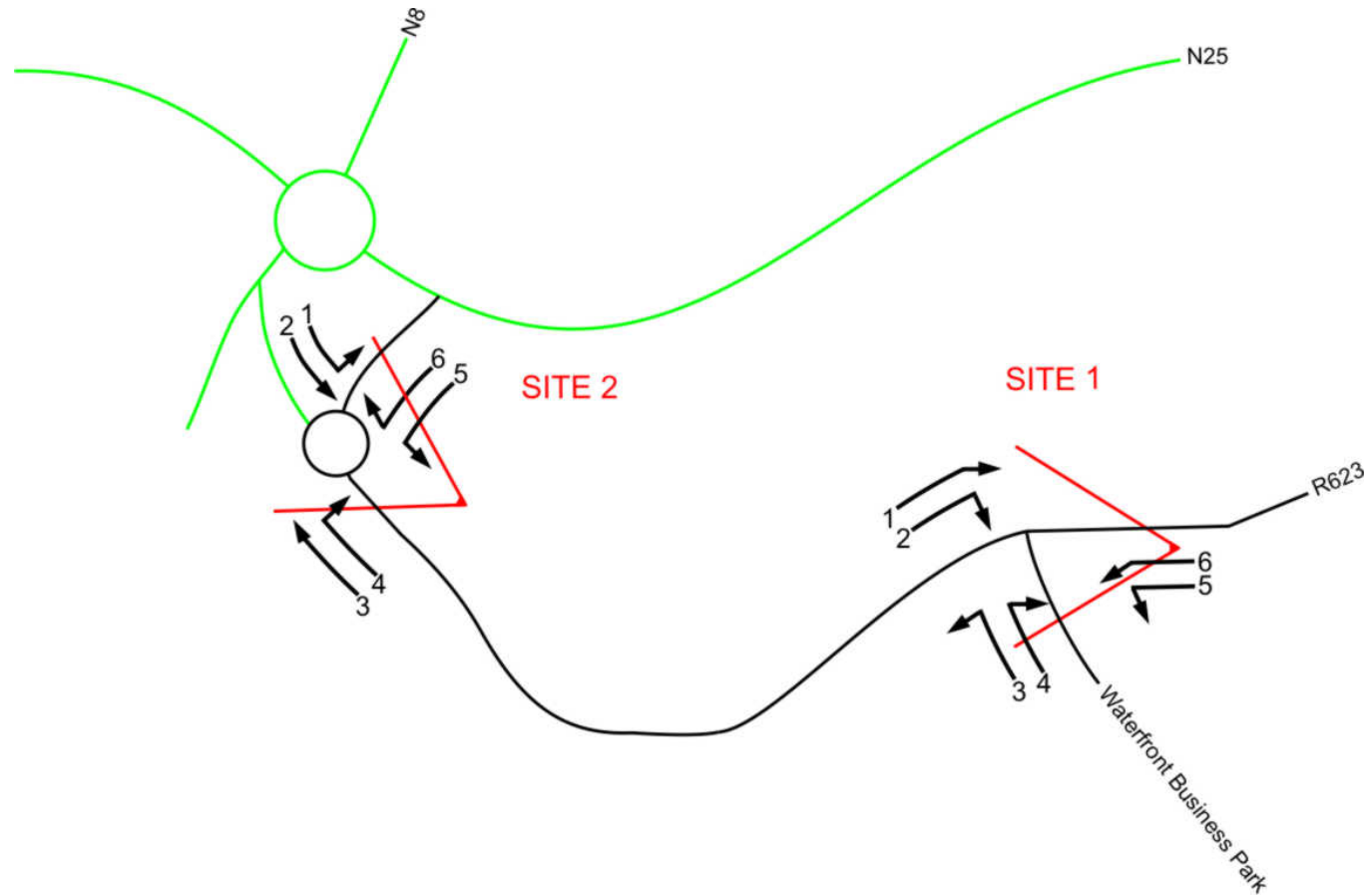
LOCATION: R623/Waterfront Business Park



DAY: Wednesday

| TIME | MOVEMENT 4 | | | | | TOT | MOVEMENT 5 | | | | | TOT | MOVEMENT 6 | | | | | TOT | | |
|--------------|------------|-----------|-----------|-----------|----------|------------|------------|----------|----------|----------|----------|-----------|------------|----------|----------|----------|----------|----------|----------|----------|
| | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | | | |
| 07:00 | 12 | 2 | 1 | 1 | 0 | 16 | 4 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:15 | 33 | 5 | 4 | 2 | 0 | 44 | 2 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 | 56 | 12 | 3 | 3 | 0 | 74 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:45 | 54 | 8 | 8 | 4 | 0 | 74 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 155 | 27 | 16 | 10 | 0 | 208 | 7 | 3 | 0 | 1 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:00 | 95 | 12 | 6 | 3 | 0 | 116 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 | 73 | 20 | 8 | 2 | 0 | 103 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 | 65 | 8 | 7 | 1 | 0 | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:45 | 36 | 10 | 5 | 5 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 269 | 50 | 26 | 11 | 0 | 356 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:00 | 35 | 9 | 7 | 3 | 0 | 54 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:15 | 14 | 9 | 1 | 2 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:30 | 19 | 8 | 4 | 4 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09:45 | 28 | 9 | 5 | 1 | 0 | 43 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| H/TOT | 96 | 35 | 17 | 10 | 0 | 158 | 2 | 0 | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 10:00 | 27 | 6 | 3 | 2 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 27 | 7 | 7 | 4 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 23 | 13 | 5 | 2 | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 10:45 | 16 | 9 | 3 | 2 | 0 | 30 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 93 | 35 | 18 | 10 | 0 | 156 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 11:00 | 21 | 11 | 5 | 2 | 0 | 39 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 20 | 14 | 7 | 2 | 0 | 43 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 25 | 12 | 4 | 2 | 0 | 43 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 29 | 5 | 5 | 1 | 0 | 40 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H/TOT | 95 | 42 | 21 | 7 | 0 | 165 | 5 | 1 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 | 27 | 19 | 5 | 0 | 0 | 51 | 3 | 0 | 3 | 1 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:15 | 26 | 6 | 5 | 5 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:30 | 55 | 14 | 4 | 2 | 0 | 75 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:45 | 45 | 13 | 3 | 2 | 0 | 63 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| H/TOT | 153 | 52 | 17 | 9 | 0 | 231 | 5 | 0 | 3 | 1 | 0 | 9 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |

Appendix B – Traffic Count Data for R623 at Roundabout

Movement Numbers & Directions



| | | | | |
|---|---------------------------|--|-----------------------------|---|
|  | Job number: ATH/08/006 | Job date: 16 th January 2008 | Drawing No: ATH/08/006-2 |  |
| | Client: PMCE Ltd | Job day Wednesday | Author: BCK | |

ABACUS TRANSPORTATION SURVEYS

LITTLE ISLAND TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION COUNTS

JANUARY 2008
ATH/08/006

SITE: 01

DATE: 16th January 2008

LOCATION: Link to Jack Lynch Tunnel/Link to N25

DAY: Wednesday

| TIME | MOVEMENT 1 | | | | | TOT | MOVEMENT 2 | | | | | TOT | MOVEMENT 3 | | | | | TOT |
|--------------|------------|-----------|-----------|----------|----------|------------|------------|-----------|-----------|----------|----------|------------|------------|-----------|----------|----------|----------|-----------|
| | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | |
| 07:00 | 14 | 3 | 0 | 0 | 0 | 17 | 23 | 2 | 0 | 0 | 0 | 25 | 0 | 0 | 1 | 1 | 0 | 2 |
| 07:15 | 42 | 8 | 1 | 0 | 0 | 51 | 39 | 3 | 0 | 0 | 0 | 42 | 7 | 0 | 2 | 0 | 0 | 9 |
| 07:30 | 47 | 6 | 1 | 2 | 0 | 56 | 22 | 3 | 0 | 0 | 0 | 25 | 2 | 1 | 1 | 0 | 0 | 4 |
| 07:45 | 59 | 9 | 3 | 4 | 0 | 75 | 44 | 5 | 3 | 0 | 0 | 52 | 5 | 2 | 1 | 1 | 0 | 9 |
| H/TOT | 162 | 26 | 5 | 6 | 0 | 199 | 128 | 13 | 3 | 0 | 0 | 144 | 14 | 3 | 5 | 2 | 0 | 24 |
| 08:00 | 66 | 11 | 1 | 0 | 0 | 78 | 33 | 2 | 2 | 0 | 0 | 37 | 3 | 3 | 4 | 2 | 0 | 12 |
| 08:15 | 81 | 10 | 2 | 3 | 0 | 96 | 24 | 6 | 0 | 0 | 0 | 30 | 4 | 6 | 4 | 0 | 0 | 14 |
| 08:30 | 91 | 5 | 1 | 0 | 0 | 97 | 20 | 5 | 3 | 0 | 0 | 28 | 2 | 2 | 0 | 0 | 0 | 4 |
| 08:45 | 85 | 11 | 4 | 0 | 0 | 100 | 32 | 3 | 5 | 1 | 0 | 41 | 5 | 4 | 0 | 0 | 0 | 9 |
| H/TOT | 323 | 37 | 8 | 3 | 0 | 371 | 109 | 16 | 10 | 1 | 0 | 136 | 14 | 15 | 8 | 2 | 0 | 39 |
| 09:00 | 53 | 6 | 2 | 0 | 0 | 61 | 23 | 4 | 0 | 1 | 0 | 28 | 4 | 4 | 2 | 1 | 0 | 11 |
| 09:15 | 40 | 5 | 0 | 0 | 0 | 45 | 8 | 3 | 1 | 0 | 0 | 12 | 0 | 3 | 0 | 1 | 0 | 4 |
| 09:30 | 22 | 5 | 4 | 1 | 0 | 32 | 8 | 2 | 2 | 1 | 0 | 13 | 6 | 4 | 2 | 2 | 0 | 14 |
| 09:45 | 31 | 3 | 6 | 1 | 0 | 41 | 9 | 4 | 2 | 1 | 0 | 16 | 3 | 4 | 0 | 0 | 0 | 7 |
| H/TOT | 146 | 19 | 12 | 2 | 0 | 179 | 48 | 13 | 5 | 3 | 0 | 69 | 13 | 15 | 4 | 4 | 0 | 36 |
| 10:00 | 9 | 3 | 7 | 0 | 0 | 19 | 2 | 3 | 2 | 2 | 0 | 9 | 4 | 3 | 2 | 2 | 0 | 11 |
| 10:15 | 17 | 3 | 3 | 0 | 0 | 23 | 11 | 1 | 3 | 2 | 0 | 17 | 3 | 1 | 2 | 2 | 0 | 8 |
| 10:30 | 17 | 3 | 1 | 0 | 0 | 21 | 7 | 0 | 1 | 0 | 0 | 8 | 6 | 5 | 3 | 1 | 0 | 15 |
| 10:45 | 22 | 6 | 1 | 0 | 0 | 29 | 4 | 2 | 2 | 1 | 0 | 9 | 2 | 1 | 1 | 2 | 0 | 6 |
| H/TOT | 65 | 15 | 12 | 0 | 0 | 92 | 24 | 6 | 8 | 5 | 0 | 43 | 15 | 10 | 8 | 7 | 0 | 40 |
| 11:00 | 19 | 3 | 2 | 1 | 0 | 25 | 4 | 3 | 0 | 2 | 0 | 9 | 4 | 2 | 1 | 2 | 0 | 9 |
| 11:15 | 18 | 6 | 2 | 1 | 0 | 27 | 3 | 3 | 2 | 1 | 0 | 9 | 8 | 6 | 3 | 2 | 0 | 19 |
| 11:30 | 19 | 4 | 3 | 2 | 0 | 28 | 6 | 3 | 3 | 0 | 0 | 12 | 2 | 2 | 1 | 2 | 0 | 7 |
| 11:45 | 21 | 1 | 1 | 0 | 0 | 23 | 4 | 2 | 1 | 2 | 0 | 9 | 5 | 8 | 2 | 1 | 0 | 16 |
| H/TOT | 77 | 14 | 8 | 4 | 0 | 103 | 17 | 11 | 6 | 5 | 0 | 39 | 19 | 18 | 7 | 7 | 0 | 51 |
| 12:00 | 15 | 4 | 6 | 0 | 0 | 25 | 6 | 4 | 1 | 2 | 0 | 13 | 6 | 5 | 2 | 0 | 0 | 13 |
| 12:15 | 18 | 5 | 2 | 0 | 0 | 25 | 6 | 5 | 0 | 0 | 0 | 11 | 8 | 2 | 1 | 3 | 0 | 14 |
| 12:30 | 20 | 6 | 2 | 0 | 0 | 28 | 0 | 0 | 1 | 0 | 0 | 1 | 8 | 4 | 1 | 1 | 0 | 14 |
| 12:45 | 25 | 3 | 1 | 0 | 0 | 29 | 1 | 1 | 0 | 1 | 0 | 3 | 11 | 5 | 1 | 1 | 0 | 18 |
| H/TOT | 78 | 18 | 11 | 0 | 0 | 107 | 13 | 10 | 2 | 3 | 0 | 28 | 33 | 16 | 5 | 5 | 0 | 59 |

ABACUS TRANSPORTATION SURVEYS

LITTLE ISLAND TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION COUNTS

JANAURY 2008
ATH/08/006

SITE: 01

DATE: 16th January 2008

LOCATION: Link to Jack Lynch Tunnel/Link to N25

DAY: Wednesday

| TIME | MOVEMENT 1 | | | | | TOT | MOVEMENT 2 | | | | | TOT | MOVEMENT 3 | | | | | TOT |
|-------|------------|-----|------|------|-----|------|------------|-----|------|------|-----|-----|------------|-----|------|------|-----|-----|
| | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | |
| 13:00 | 30 | 4 | 2 | 0 | 0 | 36 | 6 | 2 | 1 | 1 | 0 | 10 | 10 | 5 | 1 | 0 | 0 | 16 |
| 13:15 | 19 | 2 | 1 | 2 | 0 | 24 | 7 | 1 | 0 | 0 | 0 | 8 | 7 | 2 | 2 | 0 | 0 | 11 |
| 13:30 | 21 | 5 | 0 | 0 | 0 | 26 | 10 | 0 | 3 | 1 | 0 | 14 | 3 | 1 | 1 | 0 | 0 | 5 |
| 13:45 | 24 | 10 | 0 | 0 | 0 | 34 | 7 | 4 | 3 | 0 | 0 | 14 | 3 | 1 | 1 | 1 | 0 | 6 |
| H/TOT | 94 | 21 | 3 | 2 | 0 | 120 | 30 | 7 | 7 | 2 | 0 | 46 | 23 | 9 | 5 | 1 | 0 | 38 |
| 14:00 | 21 | 3 | 2 | 1 | 0 | 27 | 9 | 6 | 1 | 1 | 0 | 17 | 5 | 2 | 3 | 1 | 0 | 11 |
| 14:15 | 31 | 8 | 1 | 1 | 0 | 41 | 8 | 4 | 1 | 0 | 0 | 13 | 5 | 2 | 3 | 0 | 0 | 10 |
| 14:30 | 24 | 9 | 4 | 1 | 0 | 38 | 3 | 5 | 0 | 0 | 0 | 8 | 9 | 2 | 4 | 1 | 0 | 16 |
| 14:45 | 17 | 6 | 3 | 0 | 0 | 26 | 6 | 7 | 2 | 0 | 0 | 15 | 9 | 3 | 2 | 0 | 0 | 14 |
| H/TOT | 93 | 26 | 10 | 3 | 0 | 132 | 26 | 22 | 4 | 1 | 0 | 53 | 28 | 9 | 12 | 2 | 0 | 51 |
| 15:00 | 8 | 3 | 0 | 0 | 0 | 11 | 8 | 5 | 4 | 1 | 0 | 18 | 15 | 1 | 0 | 0 | 0 | 16 |
| 15:15 | 22 | 5 | 2 | 0 | 0 | 29 | 4 | 3 | 3 | 2 | 0 | 12 | 13 | 3 | 0 | 1 | 0 | 17 |
| 15:30 | 18 | 6 | 4 | 0 | 0 | 28 | 5 | 4 | 3 | 0 | 0 | 12 | 17 | 3 | 1 | 0 | 0 | 21 |
| 15:45 | 29 | 5 | 3 | 0 | 1 | 38 | 3 | 0 | 2 | 0 | 0 | 5 | 23 | 3 | 0 | 1 | 0 | 27 |
| H/TOT | 77 | 19 | 9 | 0 | 1 | 106 | 20 | 12 | 12 | 3 | 0 | 47 | 68 | 10 | 1 | 2 | 0 | 81 |
| 16:00 | 25 | 7 | 2 | 2 | 0 | 36 | 5 | 5 | 0 | 0 | 0 | 10 | 25 | 2 | 3 | 0 | 0 | 30 |
| 16:15 | 31 | 7 | 3 | 0 | 0 | 41 | 4 | 5 | 1 | 0 | 0 | 10 | 37 | 2 | 0 | 1 | 0 | 40 |
| 16:30 | 36 | 8 | 0 | 0 | 0 | 44 | 7 | 0 | 1 | 1 | 0 | 9 | 41 | 3 | 1 | 0 | 0 | 45 |
| 16:45 | 37 | 3 | 1 | 0 | 0 | 41 | 0 | 2 | 1 | 0 | 0 | 3 | 31 | 3 | 1 | 4 | 0 | 39 |
| H/TOT | 129 | 25 | 6 | 2 | 0 | 162 | 16 | 12 | 3 | 1 | 0 | 32 | 134 | 10 | 5 | 5 | 0 | 154 |
| 17:00 | 29 | 2 | 1 | 0 | 0 | 32 | 1 | 3 | 1 | 0 | 0 | 5 | 35 | 5 | 0 | 0 | 0 | 40 |
| 17:15 | 28 | 4 | 0 | 0 | 0 | 32 | 1 | 0 | 0 | 0 | 0 | 1 | 25 | 0 | 1 | 1 | 0 | 27 |
| 17:30 | 16 | 2 | 0 | 0 | 0 | 18 | 2 | 0 | 0 | 1 | 0 | 3 | 25 | 0 | 0 | 1 | 0 | 26 |
| 17:45 | 18 | 2 | 0 | 1 | 0 | 21 | 0 | 1 | 0 | 0 | 0 | 1 | 16 | 0 | 0 | 0 | 0 | 16 |
| H/TOT | 91 | 10 | 1 | 1 | 0 | 103 | 4 | 4 | 1 | 1 | 0 | 10 | 101 | 5 | 1 | 2 | 0 | 109 |
| 18:00 | 22 | 5 | 1 | 0 | 0 | 28 | 1 | 0 | 1 | 0 | 0 | 2 | 13 | 3 | 2 | 1 | 0 | 19 |
| 18:15 | 21 | 3 | 0 | 0 | 0 | 24 | 1 | 2 | 1 | 0 | 0 | 4 | 10 | 2 | 1 | 1 | 0 | 14 |
| 18:30 | 14 | 2 | 0 | 0 | 0 | 16 | 5 | 1 | 2 | 0 | 0 | 8 | 10 | 1 | 1 | 0 | 0 | 12 |
| 18:45 | 12 | 2 | 0 | 0 | 0 | 14 | 3 | 1 | 1 | 0 | 0 | 5 | 9 | 1 | 0 | 0 | 0 | 10 |
| H/TOT | 69 | 12 | 1 | 0 | 0 | 82 | 10 | 4 | 5 | 0 | 0 | 19 | 42 | 7 | 4 | 2 | 0 | 55 |
| P/TOT | 1404 | 242 | 86 | 23 | 1 | 1756 | 445 | 130 | 66 | 25 | 0 | 666 | 504 | 127 | 65 | 41 | 0 | 737 |

ABACUS TRANSPORTATION SURVEYS

LITTLE ISLAND TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION COUNTS

JANUARY 2008
ATH/08/006

SITE: 01

DATE: 16th January 2008

LOCATION: Link to Jack Lynch Tunnel/Link to N25

DAY: Wednesday

| TIME | MOVEMENT 4 | | | | | TOT | MOVEMENT 5 | | | | | TOT | MOVEMENT 6 | | | | | TOT |
|-------|------------|-----|------|------|-----|-----|------------|-----|------|------|-----|-----|------------|-----|------|------|-----|-----|
| | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | |
| 07:00 | 0 | 1 | 2 | 1 | 0 | 4 | 8 | 0 | 0 | 0 | 0 | 8 | 19 | 5 | 0 | 0 | 0 | 24 |
| 07:15 | 7 | 0 | 0 | 0 | 1 | 8 | 25 | 2 | 0 | 0 | 0 | 27 | 48 | 6 | 2 | 3 | 0 | 59 |
| 07:30 | 5 | 0 | 0 | 0 | 0 | 5 | 30 | 4 | 0 | 0 | 0 | 34 | 63 | 8 | 2 | 3 | 0 | 76 |
| 07:45 | 4 | 0 | 1 | 0 | 0 | 5 | 41 | 3 | 2 | 0 | 0 | 46 | 88 | 9 | 8 | 4 | 0 | 109 |
| H/TOT | 16 | 1 | 3 | 1 | 1 | 22 | 104 | 9 | 2 | 0 | 0 | 115 | 218 | 28 | 12 | 10 | 0 | 268 |
| 08:00 | 5 | 1 | 2 | 0 | 0 | 8 | 27 | 6 | 1 | 0 | 0 | 34 | 97 | 10 | 4 | 1 | 0 | 112 |
| 08:15 | 2 | 3 | 1 | 0 | 0 | 6 | 30 | 1 | 1 | 0 | 0 | 32 | 91 | 20 | 6 | 1 | 0 | 118 |
| 08:30 | 2 | 0 | 0 | 0 | 0 | 2 | 13 | 1 | 0 | 1 | 0 | 15 | 58 | 17 | 6 | 1 | 0 | 82 |
| 08:45 | 4 | 2 | 1 | 0 | 0 | 7 | 26 | 1 | 0 | 2 | 0 | 29 | 34 | 9 | 7 | 5 | 0 | 55 |
| H/TOT | 13 | 6 | 4 | 0 | 0 | 23 | 96 | 9 | 2 | 3 | 0 | 110 | 280 | 56 | 23 | 8 | 0 | 367 |
| 09:00 | 1 | 5 | 3 | 1 | 0 | 10 | 15 | 5 | 1 | 1 | 0 | 22 | 27 | 10 | 2 | 1 | 0 | 40 |
| 09:15 | 3 | 5 | 1 | 0 | 0 | 9 | 10 | 3 | 2 | 0 | 0 | 15 | 21 | 12 | 2 | 1 | 0 | 36 |
| 09:30 | 5 | 2 | 1 | 0 | 0 | 8 | 7 | 1 | 7 | 1 | 0 | 16 | 15 | 12 | 1 | 2 | 0 | 30 |
| 09:45 | 7 | 3 | 7 | 1 | 0 | 18 | 11 | 5 | 4 | 0 | 0 | 20 | 25 | 8 | 5 | 0 | 0 | 38 |
| H/TOT | 16 | 15 | 12 | 2 | 0 | 45 | 43 | 14 | 14 | 2 | 0 | 73 | 88 | 42 | 10 | 4 | 0 | 144 |
| 10:00 | 5 | 1 | 2 | 0 | 0 | 8 | 7 | 4 | 5 | 3 | 0 | 19 | 23 | 10 | 7 | 2 | 0 | 42 |
| 10:15 | 5 | 0 | 4 | 0 | 0 | 9 | 10 | 3 | 3 | 0 | 0 | 16 | 12 | 8 | 6 | 1 | 0 | 27 |
| 10:30 | 2 | 6 | 4 | 0 | 0 | 12 | 2 | 2 | 0 | 0 | 0 | 4 | 24 | 12 | 3 | 1 | 0 | 40 |
| 10:45 | 3 | 2 | 2 | 2 | 0 | 9 | 7 | 1 | 5 | 0 | 0 | 13 | 15 | 7 | 1 | 0 | 0 | 23 |
| H/TOT | 15 | 9 | 12 | 2 | 0 | 38 | 26 | 10 | 13 | 3 | 0 | 52 | 74 | 37 | 17 | 4 | 0 | 132 |
| 11:00 | 9 | 1 | 2 | 1 | 0 | 13 | 6 | 5 | 1 | 1 | 0 | 13 | 26 | 6 | 4 | 1 | 0 | 37 |
| 11:15 | 5 | 1 | 2 | 1 | 0 | 9 | 7 | 5 | 2 | 0 | 0 | 14 | 22 | 5 | 3 | 0 | 0 | 30 |
| 11:30 | 4 | 2 | 1 | 0 | 0 | 7 | 1 | 1 | 3 | 1 | 0 | 6 | 22 | 4 | 3 | 0 | 0 | 29 |
| 11:45 | 4 | 1 | 1 | 2 | 0 | 8 | 11 | 2 | 2 | 0 | 0 | 15 | 25 | 9 | 2 | 0 | 0 | 36 |
| H/TOT | 22 | 5 | 6 | 4 | 0 | 37 | 25 | 13 | 8 | 2 | 0 | 48 | 95 | 24 | 12 | 1 | 0 | 132 |
| 12:00 | 6 | 7 | 2 | 0 | 0 | 15 | 6 | 8 | 2 | 0 | 0 | 16 | 17 | 7 | 3 | 0 | 0 | 27 |
| 12:15 | 11 | 3 | 1 | 0 | 1 | 16 | 4 | 2 | 3 | 0 | 0 | 9 | 33 | 5 | 4 | 2 | 0 | 44 |
| 12:30 | 8 | 5 | 2 | 0 | 0 | 15 | 9 | 8 | 2 | 1 | 0 | 20 | 39 | 8 | 4 | 1 | 0 | 52 |
| 12:45 | 29 | 7 | 1 | 1 | 0 | 38 | 5 | 4 | 2 | 0 | 0 | 11 | 41 | 2 | 2 | 1 | 0 | 46 |
| H/TOT | 54 | 22 | 6 | 1 | 1 | 84 | 24 | 22 | 9 | 1 | 0 | 56 | 130 | 22 | 13 | 4 | 0 | 169 |

ABACUS TRANSPORTATION SURVEYS

LITTLE ISLAND TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION COUNTS

JANAURY 2008
ATH/08/006

SITE: 01

DATE: 16th January 2008

LOCATION: Link to Jack Lynch Tunnel/Link to N25

DAY: Wednesday

| TIME | MOVEMENT 4 | | | | | TOT | MOVEMENT 5 | | | | | TOT | MOVEMENT 6 | | | | | TOT |
|-------|------------|-----|------|------|-----|-----|------------|-----|------|------|-----|-----|------------|-----|------|------|-----|------|
| | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | | CAR | LGV | OGV1 | OGV2 | BUS | |
| 13:00 | 16 | 3 | 1 | 0 | 0 | 20 | 18 | 1 | 0 | 1 | 0 | 20 | 39 | 8 | 4 | 0 | 0 | 51 |
| 13:15 | 8 | 3 | 0 | 0 | 0 | 11 | 14 | 5 | 0 | 0 | 0 | 19 | 22 | 2 | 0 | 0 | 0 | 24 |
| 13:30 | 6 | 1 | 0 | 0 | 0 | 7 | 10 | 3 | 1 | 0 | 0 | 14 | 23 | 7 | 3 | 1 | 0 | 34 |
| 13:45 | 8 | 2 | 1 | 0 | 0 | 11 | 15 | 4 | 1 | 3 | 0 | 23 | 31 | 5 | 0 | 0 | 0 | 36 |
| H/TOT | 38 | 9 | 2 | 0 | 0 | 49 | 57 | 13 | 2 | 4 | 0 | 76 | 115 | 22 | 7 | 1 | 0 | 145 |
| 14:00 | 10 | 4 | 4 | 0 | 0 | 18 | 22 | 3 | 5 | 1 | 0 | 31 | 26 | 6 | 3 | 1 | 0 | 36 |
| 14:15 | 9 | 3 | 2 | 2 | 0 | 16 | 9 | 1 | 4 | 1 | 0 | 15 | 29 | 8 | 4 | 0 | 0 | 41 |
| 14:30 | 10 | 4 | 2 | 0 | 0 | 16 | 9 | 5 | 6 | 0 | 0 | 20 | 33 | 9 | 5 | 2 | 0 | 49 |
| 14:45 | 7 | 3 | 1 | 0 | 0 | 11 | 7 | 6 | 2 | 1 | 0 | 16 | 31 | 7 | 3 | 1 | 0 | 42 |
| H/TOT | 36 | 14 | 9 | 2 | 0 | 61 | 47 | 15 | 17 | 3 | 0 | 82 | 119 | 30 | 15 | 4 | 0 | 168 |
| 15:00 | 8 | 4 | 2 | 1 | 0 | 15 | 11 | 2 | 1 | 0 | 0 | 14 | 19 | 7 | 2 | 0 | 0 | 28 |
| 15:15 | 7 | 8 | 3 | 1 | 0 | 19 | 8 | 3 | 1 | 1 | 0 | 13 | 29 | 10 | 2 | 4 | 0 | 45 |
| 15:30 | 11 | 5 | 1 | 1 | 0 | 18 | 11 | 2 | 2 | 0 | 0 | 15 | 27 | 4 | 3 | 3 | 0 | 37 |
| 15:45 | 11 | 3 | 2 | 0 | 0 | 16 | 7 | 5 | 3 | 1 | 0 | 16 | 39 | 13 | 1 | 3 | 0 | 56 |
| H/TOT | 37 | 20 | 8 | 3 | 0 | 68 | 37 | 12 | 7 | 2 | 0 | 58 | 114 | 34 | 8 | 10 | 0 | 166 |
| 16:00 | 8 | 3 | 1 | 1 | 0 | 13 | 9 | 2 | 3 | 0 | 0 | 14 | 37 | 6 | 3 | 1 | 0 | 47 |
| 16:15 | 19 | 5 | 0 | 0 | 0 | 24 | 10 | 5 | 1 | 0 | 0 | 16 | 43 | 9 | 1 | 0 | 0 | 53 |
| 16:30 | 24 | 3 | 0 | 1 | 0 | 28 | 6 | 2 | 0 | 0 | 0 | 8 | 55 | 7 | 1 | 0 | 0 | 63 |
| 16:45 | 27 | 7 | 2 | 0 | 0 | 36 | 5 | 3 | 3 | 0 | 0 | 11 | 69 | 6 | 2 | 0 | 1 | 78 |
| H/TOT | 78 | 18 | 3 | 2 | 0 | 101 | 30 | 12 | 7 | 0 | 0 | 49 | 204 | 28 | 7 | 1 | 1 | 241 |
| 17:00 | 26 | 5 | 0 | 1 | 0 | 32 | 2 | 0 | 0 | 0 | 0 | 2 | 107 | 10 | 2 | 0 | 0 | 119 |
| 17:15 | 10 | 5 | 0 | 0 | 0 | 15 | 3 | 1 | 2 | 1 | 0 | 7 | 108 | 10 | 2 | 1 | 0 | 121 |
| 17:30 | 20 | 4 | 2 | 0 | 0 | 26 | 2 | 0 | 0 | 1 | 0 | 3 | 134 | 10 | 5 | 0 | 0 | 149 |
| 17:45 | 12 | 3 | 0 | 0 | 0 | 15 | 2 | 0 | 0 | 0 | 0 | 2 | 65 | 7 | 0 | 0 | 0 | 72 |
| H/TOT | 68 | 17 | 2 | 1 | 0 | 88 | 9 | 1 | 2 | 2 | 0 | 14 | 414 | 37 | 9 | 1 | 0 | 461 |
| 18:00 | 7 | 0 | 0 | 0 | 0 | 7 | 4 | 2 | 0 | 0 | 0 | 6 | 58 | 8 | 3 | 0 | 0 | 69 |
| 18:15 | 1 | 1 | 0 | 0 | 0 | 2 | 3 | 1 | 1 | 0 | 0 | 5 | 49 | 6 | 2 | 1 | 0 | 58 |
| 18:30 | 5 | 1 | 0 | 0 | 0 | 6 | 1 | 0 | 1 | 0 | 0 | 2 | 46 | 9 | 2 | 1 | 0 | 58 |
| 18:45 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 5 | 1 | 0 | 0 | 28 |
| H/TOT | 15 | 3 | 0 | 0 | 0 | 18 | 8 | 3 | 2 | 0 | 0 | 13 | 175 | 28 | 8 | 2 | 0 | 213 |
| P/TOT | 408 | 139 | 67 | 18 | 2 | 634 | 506 | 133 | 85 | 22 | 0 | 746 | 2026 | 388 | 141 | 50 | 1 | 2606 |

Appendix C – PICADY Outputs for 2008

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"\\Pmcesrv1\project\2007\0710\PICADY\0710_PICADY_2008 Assessments.vpi"
(drive-on-the-left) at 11:06:27 on Friday, 29 February 2008

.RUN INFORMATION

RUN TITLE: Little Island Traffic Assessment
LOCATION: Little Island, Co. Cork
DATE: 28/02/08
CLIENT: Golder Associates Ireland
ENUMERATOR: DGF
JOB NUMBER: 0710
STATUS: Draft 2
DESCRIPTION: 2008 Assessments

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)

I
I
I
I
I
I
I

MINOR ROAD (ARM B)

ARM A IS R623 East
ARM B IS Site Access
ARM C IS R623 West

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC

.GEOMETRIC DATA

| I | DATA ITEM | I | MINOR ROAD B | I |
|---|------------------------------------|----------|--------------|---|
| I | TOTAL MAJOR ROAD CARRIAGEWAY WIDTH | I (W) | 7.30 M. | I |
| I | CENTRAL RESERVE WIDTH | I (WCR) | 0.00 M. | I |
| I | | I | | I |
| I | MAJOR ROAD RIGHT TURN - WIDTH | I (WC-B) | 2.20 M. | I |
| I | - VISIBILITY | I (VC-B) | 60.0 M. | I |
| I | - BLOCKS TRAFFIC | I | YES | I |
| I | | I | | I |
| I | MINOR ROAD - VISIBILITY TO LEFT | I (VB-C) | 80.0 M. | I |
| I | - VISIBILITY TO RIGHT | I (VB-A) | 80.0 M. | I |
| I | - LANE 1 WIDTH | I (WB-C) | 3.00 M. | I |
| I | - LANE 2 WIDTH | I (WB-A) | 0.00 M. | I |

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 674.30 | 0.25 | 0.10 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 543.66 | 0.24 | 0.09 | 0.15 | 0.34 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2008 AM Peak Traffic Flows (50 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.010 | 0.990 |
| | | 0.0 | 4.0 | 380.0 |
| | | (0.0) | (0.0) | (10.0) |
| | ARM B | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 8.0 |
| | | (0.0) | (0.0) | (100.0) |
| | ARM C | 0.977 | 0.023 | 0.000 |
| | | 676.0 | 16.0 | 0.0 |
| | | (4.0) | (73.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2008 AM Peak Traffic Flows (50 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.13 | 4.77 | 0.028 | | 0.00 | 0.03 | 0.4 | | 0.22 | I |
| I | C-AB | 0.27 | 4.97 | 0.054 | | 0.00 | 0.06 | 0.9 | | 0.21 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.27 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.13 | 4.77 | 0.028 | | 0.03 | 0.03 | 0.4 | | 0.22 | I |
| I | C-AB | 0.27 | 4.97 | 0.054 | | 0.06 | 0.06 | 0.9 | | 0.21 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.27 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.13 | 4.77 | 0.028 | | 0.03 | 0.03 | 0.4 | | 0.22 | I |
| I | C-AB | 0.27 | 4.97 | 0.054 | | 0.06 | 0.06 | 1.0 | | 0.21 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.27 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.13 | 4.77 | 0.028 | | 0.03 | 0.03 | 0.4 | | 0.22 | I |
| I | C-AB | 0.27 | 4.97 | 0.054 | | 0.06 | 0.06 | 1.0 | | 0.21 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.27 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.0 |
| 08.15 | 0.0 |
| 08.30 | 0.0 |
| 08.45 | 0.0 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 8.0 I 8.0 I 1.7 I 0.21 I 1.7 I 0.21 I
I C-AB I 16.0 I 16.0 I 3.8 I 0.24 I 3.8 I 0.24 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 376.0 I 376.0 I I I I I
-----
I ALL I 1080.0 I 1080.0 I 5.5 I 0.01 I 5.5 I 0.01 I
-----

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- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 674.30 | 0.25 | 0.10 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 543.66 | 0.24 | 0.09 | 0.15 | 0.34 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2008 PM Peak Traffic Flows Demand Set (50 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|-------|--------|
| | | ARM A | ARM B | ARM C |
| 16.30 - 17.30 | ARM A | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 700.0 |
| | (| 0.0) | (| 0.0) |
| | | | | (|
| | ARM B | 0.200 | 0.000 | 0.800 |
| | | 4.0 | 0.0 | 16.0 |
| | (| 0.0) | (| 0.0) |
| | | | | (|
| | ARM C | 0.913 | 0.087 | 0.000 |
| | | 84.0 | 8.0 | 0.0 |
| | (| 7.0) | (| 100.0) |
| | | | | (|

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2008 PM Peak Traffic Flows Demand Set (50 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.99 | 0.067 | | 0.00 | 0.07 | 1.0 | | 0.21 | I |
| I | C-AB | 0.13 | 3.75 | 0.036 | | 0.00 | 0.04 | 0.5 | | 0.28 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.99 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | C-AB | 0.13 | 3.75 | 0.036 | | 0.04 | 0.04 | 0.6 | | 0.28 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.99 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | C-AB | 0.13 | 3.75 | 0.036 | | 0.04 | 0.04 | 0.6 | | 0.28 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.99 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | C-AB | 0.13 | 3.75 | 0.036 | | 0.04 | 0.04 | 0.6 | | 0.28 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.67 | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.0 |
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 20.0 I 20.0 I 4.2 I 0.21 I 4.2 I 0.21 I
I C-AB I 8.0 I 8.0 I 2.2 I 0.28 I 2.2 I 0.28 I
I A-B I 0.0 I 0.0 I I I I I
I A-C I 700.0 I 700.0 I I I I I
-----
I ALL I 812.0 I 812.0 I 6.4 I 0.01 I 6.4 I 0.01 I
-----

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- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 674.30 | 0.25 | 0.10 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 543.66 | 0.24 | 0.09 | 0.15 | 0.34 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2008 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.016 | 0.984 |
| | | 0.0 | 6.0 | 376.0 |
| | | (0.0) | (33.0) | (10.0) |
| | ARM B | 0.133 | 0.000 | 0.867 |
| | | 2.0 | 0.0 | 13.0 |
| | | (100.0) | (0.0) | (100.0) |
| | ARM C | 0.974 | 0.026 | 0.000 |
| | | 676.0 | 18.0 | 0.0 |
| | | (4.0) | (72.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2008 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.34 | 0.062 | | 0.00 | 0.06 | 0.9 | | 0.25 | I |
| I | C-AB | 0.30 | 4.98 | 0.060 | | 0.00 | 0.07 | 1.1 | | 0.21 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.30 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.33 | 0.062 | | 0.06 | 0.06 | 1.0 | | 0.25 | I |
| I | C-AB | 0.30 | 4.98 | 0.060 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.30 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.33 | 0.062 | | 0.06 | 0.07 | 1.0 | | 0.25 | I |
| I | C-AB | 0.30 | 4.98 | 0.060 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.30 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.33 | 0.062 | | 0.07 | 0.07 | 1.0 | | 0.25 | I |
| I | C-AB | 0.30 | 4.98 | 0.060 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.30 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 3.8 I 0.24 I 3.8 I 0.24 I
I C-AB I 18.1 I 18.1 I 4.3 I 0.24 I 4.3 I 0.24 I
I A-B I 6.0 I 6.0 I I I I I
I A-C I 378.0 I 378.0 I I I I I
-----
I ALL I 1096.0 I 1096.0 I 8.2 I 0.01 I 8.2 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 674.30 | 0.25 | 0.10 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 543.66 | 0.24 | 0.09 | 0.15 | 0.34 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2008 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| ----- | | | | | | | | | | |
|-------|---------------|---------|-------|-------|---------|---|---------|---|---------|---|
| I | I | | | | | | I | | | |
| I | I | | | | | | I | | | |
| I | I | | | | | | I | | | |
| I | I | | | | | | I | | | |
| I | TIME | FROM/TO | ARM A | ARM B | ARM C | I | | | | |
| ----- | | | | | | | | | | |
| I | 16.30 - 17.30 | I | I | I | I | I | | | | |
| I | | I | ARM A | I | 0.000 | I | 0.003 | I | 0.997 | I |
| I | | I | | I | 0.0 | I | 2.0 | I | 700.0 | I |
| I | | I | | I | (0.0) | I | (100.0) | I | (2.0) | I |
| I | | I | | I | | I | | I | | I |
| I | | I | ARM B | I | 0.250 | I | 0.000 | I | 0.750 | I |
| I | | I | | I | 6.0 | I | 0.0 | I | 18.0 | I |
| I | | I | | I | (33.0) | I | (0.0) | I | (72.0) | I |
| I | | I | | I | | I | | I | | I |
| I | | I | ARM C | I | 0.866 | I | 0.134 | I | 0.000 | I |
| I | | I | | I | 84.0 | I | 13.0 | I | 0.0 | I |
| I | | I | | I | (7.0) | I | (100.0) | I | (0.0) | I |
| I | | I | | I | | I | | I | | I |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2008 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.44 | 0.105 | | 0.00 | 0.12 | 1.6 | | 0.25 | I |
| I | C-AB | 0.87 | 3.74 | 0.232 | | 0.00 | 0.39 | 5.5 | | 0.34 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 11.70 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.43 | 0.105 | | 0.12 | 0.12 | 1.7 | | 0.25 | I |
| I | C-AB | 0.87 | 3.74 | 0.232 | | 0.39 | 0.40 | 6.1 | | 0.35 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 11.70 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.43 | 0.105 | | 0.12 | 0.12 | 1.8 | | 0.25 | I |
| I | C-AB | 0.87 | 3.74 | 0.232 | | 0.40 | 0.40 | 6.1 | | 0.35 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 11.70 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.43 | 0.105 | | 0.12 | 0.12 | 1.8 | | 0.25 | I |
| I | C-AB | 0.87 | 3.74 | 0.232 | | 0.40 | 0.40 | 6.1 | | 0.35 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 11.70 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.4 |
| 17.00 | 0.4 |
| 17.15 | 0.4 |
| 17.30 | 0.4 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 28.0 I 28.0 I 6.9 I 0.25 I 6.9 I 0.25 I
I C-AB I 52.0 I 52.0 I 23.7 I 0.46 I 23.8 I 0.46 I
I A-B I 2.0 I 2.0 I I I I I
I A-C I 702.0 I 702.0 I I I I I
-----
I ALL I 1120.0 I 1120.0 I 30.6 I 0.03 I 30.6 I 0.03 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 674.30 | 0.25 | 0.10 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 543.66 | 0.24 | 0.09 | 0.15 | 0.34 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2008 AM Peak Traffic Flows (100 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.011 | 0.989 |
| | | 0.0 | 4.0 | 376.0 |
| | | (0.0) | (0.0) | (10.0) |
| | ARM B | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 15.0 |
| | | (0.0) | (0.0) | (100.0) |
| | ARM C | 0.971 | 0.029 | 0.000 |
| | | 676.0 | 20.0 | 0.0 |
| | | (4.0) | (75.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2008 AM Peak Traffic Flows (100 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.77 | 0.056 | | 0.00 | 0.06 | 0.8 | | 0.22 | I |
| I | C-AB | 0.33 | 4.91 | 0.068 | | 0.00 | 0.08 | 1.2 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.27 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.77 | 0.056 | | 0.06 | 0.06 | 0.9 | | 0.22 | I |
| I | C-AB | 0.33 | 4.91 | 0.068 | | 0.08 | 0.08 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.27 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.77 | 0.056 | | 0.06 | 0.06 | 0.9 | | 0.22 | I |
| I | C-AB | 0.33 | 4.91 | 0.068 | | 0.08 | 0.08 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.27 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.77 | 0.056 | | 0.06 | 0.06 | 0.9 | | 0.22 | I |
| I | C-AB | 0.33 | 4.91 | 0.068 | | 0.08 | 0.08 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.27 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 3.5 I 0.22 I 3.5 I 0.22 I
I C-AB I 20.0 I 20.0 I 5.0 I 0.25 I 5.0 I 0.25 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 376.0 I 376.0 I I I I I
-----
I ALL I 1092.0 I 1092.0 I 8.5 I 0.01 I 8.5 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 674.30 | 0.25 | 0.10 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 543.66 | 0.24 | 0.09 | 0.15 | 0.34 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2008 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| I | | | | | | | |
|---------------------------|---------------|-----------|----------|-----------|-----------|---|---|
| I TURNING PROPORTIONS I | | | | | | | |
| I TURNING COUNTS I | | | | | | | |
| I (PERCENTAGE OF H.V.S) I | | | | | | | |
| I | | | | | | | |
| I | TIME | I FROM/TO | I ARM A | I ARM B | I ARM C | I | I |
| I | 16.30 - 17.30 | I | I | I | I | I | I |
| I | | I ARM A | I 0.000 | I 0.000 | I 1.000 | I | I |
| I | | I | I 0.0 | I 0.0 | I 700.0 | I | I |
| I | | I | I (0.0) | I (0.0) | I (2.0) | I | I |
| I | | I | I | I | I | I | I |
| I | | I ARM B | I 0.167 | I 0.000 | I 0.833 | I | I |
| I | | I | I 4.0 | I 0.0 | I 20.0 | I | I |
| I | | I | I (0.0) | I (0.0) | I (75.0) | I | I |
| I | | I | I | I | I | I | I |
| I | | I ARM C | I 0.848 | I 0.152 | I 0.000 | I | I |
| I | | I | I 84.0 | I 15.0 | I 0.0 | I | I |
| I | | I | I (7.0) | I (100.0) | I (0.0) | I | I |
| I | | I | I | I | I | I | I |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2008 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.90 | 0.082 | | 0.00 | 0.09 | 1.2 | | 0.22 | I |
| I | C-AB | 0.25 | 3.75 | 0.067 | | 0.00 | 0.07 | 1.1 | | 0.29 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.90 | 0.082 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | C-AB | 0.25 | 3.75 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.29 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.90 | 0.082 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | C-AB | 0.25 | 3.75 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.29 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.90 | 0.082 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | C-AB | 0.25 | 3.75 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.29 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.67 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 24.0 I 24.0 I 5.2 I 0.22 I 5.2 I 0.22 I
I C-AB I 15.2 I 15.2 I 4.4 I 0.29 I 4.4 I 0.29 I
I A-B I 0.0 I 0.0 I I I I I
I A-C I 700.0 I 700.0 I I I I I
-----
I ALL I 824.0 I 824.0 I 9.6 I 0.01 I 9.6 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

Appendix D – PICADY Outputs For 2009

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

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FOR SALES AND DISTRIBUTION INFORMATION,
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      TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
      EMAIL: SoftwareBureau@trl.co.uk
-----

```

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"\\Pmcesrv1\project\2007\0710\PICADY\0710_PICADY_2009 Assessments.vpi"
(drive-on-the-left) at 11:04:23 on Friday, 29 February 2008

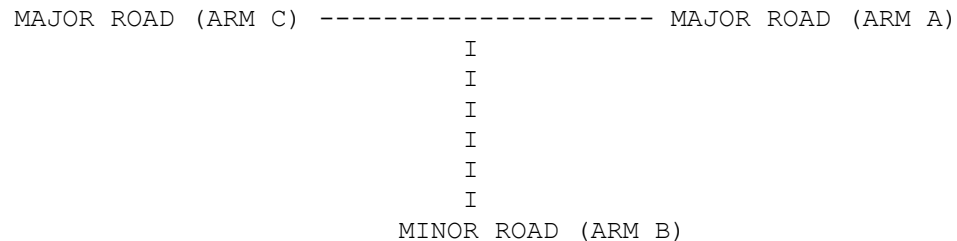
.RUN INFORMATION

```

RUN TITLE: Little Island Traffic Assessment
LOCATION: Little Island, Co. Cork
DATE: 28/02/08
CLIENT: Golder Associates Ireland
ENUMERATOR: DGF
JOB NUMBER: 0710
STATUS: Draft 2
DESCRIPTION: 2009 Assessments
MAJOR/MINOR JUNCTION CAPACITY AND DELAY
*****

```

INPUT DATA



ARM A IS R623 East
 ARM B IS Site Access
 ARM C IS R623 West

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
 STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

.GEOMETRIC DATA

| I | DATA ITEM | I | MINOR ROAD B | I |
|---|------------------------------------|----------|--------------|---|
| I | TOTAL MAJOR ROAD CARRIAGEWAY WIDTH | I (W) | 7.30 M. | I |
| I | CENTRAL RESERVE WIDTH | I (WCR) | 0.00 M. | I |
| I | | I | | I |
| I | MAJOR ROAD RIGHT TURN - WIDTH | I (WC-B) | 2.20 M. | I |
| I | - VISIBILITY | I (VC-B) | 60.0 M. | I |
| I | - BLOCKS TRAFFIC | I | YES | I |
| I | | I | | I |
| I | MINOR ROAD - VISIBILITY TO LEFT | I (VB-C) | 10.0 M. | I |
| I | - VISIBILITY TO RIGHT | I (VB-A) | 11.0 M. | I |
| I | - LANE 1 WIDTH | I (WB-C) | 3.00 M. | I |
| I | - LANE 2 WIDTH | I (WB-A) | 0.00 M. | I |

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

```

-----
I ARM I FLOW SCALE (%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

Demand set: 2009 AM Peak Traffic Flows (50 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

```

-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I I
I I
I I FROM/TO I ARM A I ARM B I ARM C I
-----
I 07.45 - 08.45 I I I I I
I I ARM A I 0.000 I 0.010 I 0.990 I
I I I 0.0 I 4.0 I 380.0 I
I I I ( 0.0) I ( 0.0) I ( 10.0) I
I I I I I I
I I ARM B I 0.000 I 0.000 I 1.000 I
I I I 0.0 I 0.0 I 12.0 I
I I I ( 0.0) I ( 0.0) I (100.0) I
I I I I I I
I I ARM C I 0.976 I 0.024 I 0.000 I
I I I 688.0 I 17.0 I 0.0 I
I I I ( 3.0) I ( 73.0) I ( 0.0) I
I I I I I I
    
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 AM Peak Traffic Flows (50 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.45 | 0.045 | | 0.00 | 0.05 | 0.7 | | 0.23 | I |
| I | C-AB | 0.28 | 4.96 | 0.057 | | 0.00 | 0.07 | 1.0 | | 0.21 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.45 | 0.045 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.96 | 0.057 | | 0.07 | 0.07 | 1.0 | | 0.21 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.45 | 0.045 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.96 | 0.057 | | 0.07 | 0.07 | 1.0 | | 0.21 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.45 | 0.045 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.96 | 0.057 | | 0.07 | 0.07 | 1.0 | | 0.21 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.33 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.0 |
| 08.15 | 0.0 |
| 08.30 | 0.0 |
| 08.45 | 0.0 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 12.0 I 12.0 I 2.8 I 0.23 I 2.8 I 0.23 I
I C-AB I 17.0 I 17.0 I 4.1 I 0.24 I 4.1 I 0.24 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 380.0 I 380.0 I I I I I
-----
I ALL I 1100.0 I 1100.0 I 6.8 I 0.01 I 6.8 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

```

-----
I ARM I FLOW SCALE (%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

Demand set: 2009 PM Peak Traffic Flows Demand Set (50 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

```

-----
I TURNING PROPORTIONS I
I TURNING COUNTS I
I (PERCENTAGE OF H.V.S) I
I
I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 16.30 - 17.30 I I I I I
I ARM A I 0.000 I 0.000 I 1.000 I
I I I 0.0 I 0.0 I 712.0 I
I I I ( 0.0) I ( 0.0) I ( 2.0) I
I I I I I I
I ARM B I 0.190 I 0.000 I 0.810 I
I I I 4.0 I 0.0 I 17.0 I
I I I ( 0.0) I ( 0.0) I ( 73.0) I
I I I I I I
I ARM C I 0.875 I 0.125 I 0.000 I
I I I 84.0 I 12.0 I 0.0 I
I I I ( 7.0) I (100.0) I ( 0.0) I
I I I I I I
    
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 PM Peak Traffic Flows Demand Set (50 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.59 | 0.073 | | 0.00 | 0.08 | 1.1 | | 0.23 | I |
| I | C-AB | 0.20 | 3.73 | 0.054 | | 0.00 | 0.06 | 0.8 | | 0.28 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.87 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.59 | 0.073 | | 0.08 | 0.08 | 1.2 | | 0.24 | I |
| I | C-AB | 0.20 | 3.73 | 0.054 | | 0.06 | 0.06 | 0.9 | | 0.28 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.87 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.59 | 0.073 | | 0.08 | 0.08 | 1.2 | | 0.24 | I |
| I | C-AB | 0.20 | 3.73 | 0.054 | | 0.06 | 0.06 | 0.9 | | 0.28 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.87 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.59 | 0.073 | | 0.08 | 0.08 | 1.2 | | 0.24 | I |
| I | C-AB | 0.20 | 3.73 | 0.054 | | 0.06 | 0.06 | 0.9 | | 0.28 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.87 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I
I         I (VEH)  (VEH/H) I (MIN)    (MIN/VEH) I (MIN)    (MIN/VEH) I
-----
I B-AC I  20.0 I  20.0 I  4.6 I  0.23 I  4.6 I  0.23 I
I C-AB I  12.0 I  12.0 I  3.4 I  0.29 I  3.4 I  0.29 I
I A-B I   0.0 I   0.0 I   I   I   I   I   I
I A-C I  712.0 I  712.0 I   I   I   I   I   I
-----
I ALL I  828.0 I  828.0 I  8.0 I  0.01 I  8.0 I  0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2009 AM Peak Traffic Flows (50 loads) (100% West) (Incl HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.010 | 0.990 |
| | | 0.0 | 4.0 | 400.0 |
| | | (0.0) | (0.0) | (10.0) |
| | ARM B | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 12.0 |
| | | (0.0) | (0.0) | (100.0) |
| | ARM C | 0.980 | 0.020 | 0.000 |
| | | 832.0 | 17.0 | 0.0 |
| | | (4.0) | (73.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 AM Peak Traffic Flows (50 loads) (100% West) (Incl HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.41 | 0.045 | | 0.00 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.91 | 0.058 | | 0.00 | 0.07 | 1.0 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.41 | 0.045 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.91 | 0.058 | | 0.07 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.41 | 0.045 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.91 | 0.058 | | 0.07 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.67 | | | | | | | | | I |

```

-----
I  TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY  GEOMETRIC DELAY  AVERAGE DELAY I
I          (VEH/MIN) (VEH/MIN) CAPACITY  FLOW        QUEUE  QUEUE    (VEH.MIN/ (VEH.MIN/  PER ARRIVING I
I          (RFC)      (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT)  VEHICLE (MIN) I
I 08.30-08.45
I   B-AC          0.20     4.41     0.045          0.05  0.05     0.7          0.24          0.24          I
I   C-AB          0.28     4.91     0.058          0.07  0.07     1.1          0.22          0.22          I
I   A-B          0.07
I   A-C          6.67
I
-----

```

QUEUE FOR STREAM B-AC

```

-----
TIME SEGMENT  NO. OF
ENDING        VEHICLES
              IN QUEUE
08.00         0.0
08.15         0.0
08.30         0.0
08.45         0.0

```

QUEUE FOR STREAM C-AB

```

-----
TIME SEGMENT  NO. OF
ENDING        VEHICLES
              IN QUEUE
08.00         0.1
08.15         0.1
08.30         0.1
08.45         0.1

```


QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 12.0 I 12.0 I 2.8 I 0.23 I 2.8 I 0.23 I
I C-AB I 17.0 I 17.0 I 4.2 I 0.25 I 4.2 I 0.25 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 400.0 I 400.0 I I I I I
-----
I ALL I 1264.0 I 1264.0 I 7.0 I 0.01 I 7.0 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2009 PM Peak Traffic Flows Demand Set (50 loads) (100% West) (Incl HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| I | | | | | | | |
|---------------------------|---------------|-----------|----------|-----------|-----------|---|---|
| I TURNING PROPORTIONS I | | | | | | | |
| I TURNING COUNTS I | | | | | | | |
| I (PERCENTAGE OF H.V.S) I | | | | | | | |
| I | | | | | | | |
| I | TIME | I FROM/TO | I ARM A | I ARM B | I ARM C | I | I |
| I | 16.30 - 17.30 | I | I | I | I | I | I |
| I | | I ARM A | I 0.000 | I 0.000 | I 1.000 | I | I |
| I | | I | I 0.0 | I 0.0 | I 840.0 | I | I |
| I | | I | I (0.0) | I (0.0) | I (2.0) | I | I |
| I | | I | I | I | I | I | I |
| I | | I ARM B | I 0.190 | I 0.000 | I 0.810 | I | I |
| I | | I | I 4.0 | I 0.0 | I 17.0 | I | I |
| I | | I | I (0.0) | I (0.0) | I (73.0) | I | I |
| I | | I | I | I | I | I | I |
| I | | I ARM C | I 0.897 | I 0.103 | I 0.000 | I | I |
| I | | I | I 104.0 | I 12.0 | I 0.0 | I | I |
| I | | I | I (7.0) | I (100.0) | I (0.0) | I | I |
| I | | I | I | I | I | I | I |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 PM Peak Traffic Flows Demand Set (50 loads) (100% West) (Incl HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.27 | 0.078 | | 0.00 | 0.08 | 1.2 | | 0.25 | I |
| I | C-AB | 0.20 | 3.48 | 0.057 | | 0.00 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 14.00 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.27 | 0.078 | | 0.08 | 0.08 | 1.3 | | 0.25 | I |
| I | C-AB | 0.20 | 3.48 | 0.057 | | 0.06 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 14.00 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.27 | 0.078 | | 0.08 | 0.08 | 1.3 | | 0.25 | I |
| I | C-AB | 0.20 | 3.48 | 0.057 | | 0.06 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 14.00 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.27 | 0.078 | | 0.08 | 0.08 | 1.3 | | 0.25 | I |
| I | C-AB | 0.20 | 3.48 | 0.057 | | 0.06 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 14.00 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I             I   * DELAY *       I   * DELAY *       I
I         I-----I
I         I (VEH)   (VEH/H) I (MIN)   (MIN/VEH) I (MIN)   (MIN/VEH) I
-----
I B-AC I  20.0 I  20.0 I  5.0 I  0.25 I  5.0 I  0.25 I
I C-AB I  12.0 I  12.0 I  3.7 I  0.31 I  3.7 I  0.31 I
I A-B I   0.0 I   0.0 I   I   I   I   I
I A-C I 840.0 I 840.0 I   I   I   I   I
-----
I ALL I 976.0 I 976.0 I 8.7 I 0.01 I 8.7 I 0.01 I
-----
    
```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2009 AM Peak Traffic Flows (100 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.010 | 0.990 |
| | | 0.0 | 4.0 | 380.0 |
| | | (0.0) | (0.0) | (10.0) |
| | ARM B | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 15.0 |
| | | (0.0) | (0.0) | (100.0) |
| | ARM C | 0.972 | 0.028 | 0.000 |
| | | 688.0 | 20.0 | 0.0 |
| | | (3.0) | (75.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 AM Peak Traffic Flows (100 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.45 | 0.060 | | 0.00 | 0.06 | 0.9 | | 0.24 | I |
| I | C-AB | 0.33 | 4.90 | 0.068 | | 0.00 | 0.08 | 1.2 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.45 | 0.060 | | 0.06 | 0.06 | 0.9 | | 0.24 | I |
| I | C-AB | 0.33 | 4.90 | 0.068 | | 0.08 | 0.08 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.45 | 0.060 | | 0.06 | 0.06 | 0.9 | | 0.24 | I |
| I | C-AB | 0.33 | 4.90 | 0.068 | | 0.08 | 0.08 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.45 | 0.060 | | 0.06 | 0.06 | 1.0 | | 0.24 | I |
| I | C-AB | 0.33 | 4.90 | 0.068 | | 0.08 | 0.08 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.33 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I             I   * DELAY *       I   * DELAY *       I
I         I-----I
I         I (VEH)   (VEH/H) I (MIN)   (MIN/VEH) I (MIN)   (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 3.7 I 0.23 I 3.7 I 0.23 I
I C-AB I 20.0 I 20.0 I 5.0 I 0.25 I 5.0 I 0.25 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 380.0 I 380.0 I I I I I
-----
I ALL I 1108.0 I 1108.0 I 8.8 I 0.01 I 8.8 I 0.01 I
-----

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- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2009 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| ----- | | | | | | | | | | |
|-------|---------------|---|---------|---|---------|---|-----------------------|---|---------|---|
| I | I | | | | | | TURNING PROPORTIONS | I | | |
| I | I | | | | | | TURNING COUNTS | I | | |
| I | I | | | | | | (PERCENTAGE OF H.V.S) | I | | |
| I | ----- | | | | | | | | | |
| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I |
| ----- | | | | | | | | | | |
| I | 07.45 - 08.45 | I | | I | | I | | I | | I |
| I | | I | ARM A | I | 0.000 | I | 0.016 | I | 0.984 | I |
| I | | I | | I | 0.0 | I | 6.0 | I | 380.0 | I |
| I | | I | | I | (0.0) | I | (33.0) | I | (10.0) | I |
| I | | I | | I | | I | | I | | I |
| I | | I | ARM B | I | 0.133 | I | 0.000 | I | 0.867 | I |
| I | | I | | I | 2.0 | I | 0.0 | I | 13.0 | I |
| I | | I | | I | (100.0) | I | (0.0) | I | (100.0) | I |
| I | | I | | I | | I | | I | | I |
| I | | I | ARM C | I | 0.975 | I | 0.025 | I | 0.000 | I |
| I | | I | | I | 688.0 | I | 18.0 | I | 0.0 | I |
| I | | I | | I | (3.0) | I | (72.0) | I | (0.0) | I |
| I | | I | | I | | I | | I | | I |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.01 | 0.067 | | 0.00 | 0.07 | 1.0 | | 0.27 | I |
| I | C-AB | 0.30 | 4.98 | 0.060 | | 0.00 | 0.07 | 1.1 | | 0.21 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.37 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.01 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.27 | I |
| I | C-AB | 0.30 | 4.98 | 0.060 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.37 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.01 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.27 | I |
| I | C-AB | 0.30 | 4.98 | 0.060 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.37 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.01 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.27 | I |
| I | C-AB | 0.30 | 4.98 | 0.060 | | 0.07 | 0.07 | 1.1 | | 0.21 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.37 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 4.2 I 0.26 I 4.2 I 0.26 I
I C-AB I 18.1 I 18.1 I 4.3 I 0.24 I 4.3 I 0.24 I
I A-B I 6.0 I 6.0 I I I I I
I A-C I 382.0 I 382.0 I I I I I
-----
I ALL I 1112.0 I 1112.0 I 8.5 I 0.01 I 8.5 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2009 AM Peak Traffic Flows (100 loads) (100% West) (Incl HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| ----- | | | | | | | | | | |
|-------|---------------|-------|-----------------------|---|--------|---|---------|---|---------|---|
| I | | I | TURNING PROPORTIONS | | | I | | | | |
| I | | I | TURNING COUNTS | | | I | | | | |
| I | | I | (PERCENTAGE OF H.V.S) | | | I | | | | |
| I | | ----- | | | | | | | | |
| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I |
| ----- | | | | | | | | | | |
| I | 07.45 - 08.45 | I | | I | | I | | I | | I |
| I | | I | ARM A | I | 0.000 | I | 0.010 | I | 0.990 | I |
| I | | I | | I | 0.0 | I | 4.0 | I | 400.0 | I |
| I | | I | | I | (0.0) | I | (0.0) | I | (10.0) | I |
| I | | I | | I | | I | | I | | I |
| I | | I | ARM B | I | 0.000 | I | 0.000 | I | 1.000 | I |
| I | | I | | I | 0.0 | I | 0.0 | I | 15.0 | I |
| I | | I | | I | (0.0) | I | (0.0) | I | (100.0) | I |
| I | | I | | I | | I | | I | | I |
| I | | I | ARM C | I | 0.977 | I | 0.023 | I | 0.000 | I |
| I | | I | | I | 832.0 | I | 20.0 | I | 0.0 | I |
| I | | I | | I | (4.0) | I | (75.0) | I | (0.0) | I |
| I | | I | | I | | I | | I | | I |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 AM Peak Traffic Flows (100 loads) (100% West) (Incl HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.41 | 0.060 | | 0.00 | 0.06 | 0.9 | | 0.24 | I |
| I | C-AB | 0.33 | 4.86 | 0.069 | | 0.00 | 0.09 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.41 | 0.060 | | 0.06 | 0.06 | 1.0 | | 0.24 | I |
| I | C-AB | 0.33 | 4.86 | 0.069 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.41 | 0.060 | | 0.06 | 0.06 | 1.0 | | 0.24 | I |
| I | C-AB | 0.33 | 4.86 | 0.069 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.67 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.41 | 0.060 | | 0.06 | 0.06 | 1.0 | | 0.24 | I |
| I | C-AB | 0.33 | 4.86 | 0.069 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 6.67 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH)   (VEH/H) I (MIN)   (MIN/VEH) I (MIN)   (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 3.8 I 0.24 I 3.8 I 0.24 I
I C-AB I 20.0 I 20.0 I 5.2 I 0.26 I 5.2 I 0.26 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 400.0 I 400.0 I I I I I
-----
I ALL I 1272.0 I 1272.0 I 9.0 I 0.01 I 9.0 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2009 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 16.30 - 17.30 | ARM A | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 712.0 |
| | | (0.0) | (0.0) | (2.0) |
| | ARM B | 0.167 | 0.000 | 0.833 |
| | | 4.0 | 0.0 | 20.0 |
| | | (0.0) | (0.0) | (75.0) |
| | ARM C | 0.848 | 0.152 | 0.000 |
| | | 84.0 | 15.0 | 0.0 |
| | | (7.0) | (100.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.53 | 0.088 | | 0.00 | 0.10 | 1.4 | | 0.24 | I |
| I | C-AB | 0.25 | 3.73 | 0.068 | | 0.00 | 0.07 | 1.1 | | 0.29 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.87 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.53 | 0.088 | | 0.10 | 0.10 | 1.4 | | 0.24 | I |
| I | C-AB | 0.25 | 3.73 | 0.068 | | 0.07 | 0.07 | 1.1 | | 0.29 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.87 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.53 | 0.088 | | 0.10 | 0.10 | 1.4 | | 0.24 | I |
| I | C-AB | 0.25 | 3.73 | 0.068 | | 0.07 | 0.07 | 1.1 | | 0.29 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.87 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.53 | 0.088 | | 0.10 | 0.10 | 1.4 | | 0.24 | I |
| I | C-AB | 0.25 | 3.73 | 0.068 | | 0.07 | 0.07 | 1.1 | | 0.29 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 11.87 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 24.0 I 24.0 I 5.7 I 0.24 I 5.7 I 0.24 I
I C-AB I 15.2 I 15.2 I 4.4 I 0.29 I 4.4 I 0.29 I
I A-B I 0.0 I 0.0 I I I I I
I A-C I 712.0 I 712.0 I I I I I
-----
I ALL I 836.0 I 836.0 I 10.1 I 0.01 I 10.1 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

```

-----
I ARM I FLOW SCALE (%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

Demand set: 2009 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

```

-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I
I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 16.30 - 17.30 I I I I I
I I ARM A I 0.000 I 0.003 I 0.997 I
I I I 0.0 I 2.0 I 712.0 I
I I I ( 0.0) I (100.0) I ( 2.0) I
I I I I I I
I I ARM B I 0.250 I 0.000 I 0.750 I
I I I 6.0 I 0.0 I 18.0 I
I I I ( 33.0) I ( 0.0) I ( 72.0) I
I I I I I I
I I ARM C I 0.866 I 0.134 I 0.000 I
I I I 84.0 I 13.0 I 0.0 I
I I I ( 7.0) I (100.0) I ( 0.0) I
I I I I I I
    
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.33 | 0.108 | | 0.00 | 0.12 | 1.7 | | 0.26 | I |
| I | C-AB | 0.21 | 3.71 | 0.058 | | 0.00 | 0.06 | 0.9 | | 0.29 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 11.90 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.33 | 0.108 | | 0.12 | 0.12 | 1.8 | | 0.26 | I |
| I | C-AB | 0.21 | 3.71 | 0.058 | | 0.06 | 0.06 | 0.9 | | 0.29 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 11.90 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.33 | 0.108 | | 0.12 | 0.12 | 1.8 | | 0.26 | I |
| I | C-AB | 0.21 | 3.71 | 0.058 | | 0.06 | 0.06 | 0.9 | | 0.29 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 11.90 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.33 | 0.108 | | 0.12 | 0.12 | 1.8 | | 0.26 | I |
| I | C-AB | 0.21 | 3.71 | 0.058 | | 0.06 | 0.06 | 0.9 | | 0.29 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 11.90 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 28.0 I 28.0 I 7.1 I 0.25 I 7.1 I 0.25 I
I C-AB I 12.9 I 12.9 I 3.7 I 0.29 I 3.7 I 0.29 I
I A-B I 2.0 I 2.0 I I I I I
I A-C I 714.0 I 714.0 I I I I I
-----
I ALL I 840.0 I 840.0 I 10.8 I 0.01 I 10.8 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

```

-----
I ARM I FLOW SCALE (%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

Demand set: 2009 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Incl HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

```

-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I
I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 16.30 - 17.30 I I I I I
I I ARM A I 0.000 I 0.000 I 1.000 I
I I I 0.0 I 0.0 I 840.0 I
I I I ( 0.0) I ( 0.0) I ( 2.0) I
I I I I I I
I I ARM B I 0.167 I 0.000 I 0.833 I
I I I 4.0 I 0.0 I 20.0 I
I I I ( 0.0) I ( 0.0) I ( 75.0) I
I I I I I I
I I ARM C I 0.874 I 0.126 I 0.000 I
I I I 104.0 I 15.0 I 0.0 I
I I I ( 7.0) I (100.0) I ( 0.0) I
I I I I I I
    
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Incl HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.21 | 0.095 | | 0.00 | 0.10 | 1.5 | | 0.26 | I |
| I | C-AB | 0.25 | 3.48 | 0.072 | | 0.00 | 0.08 | 1.2 | | 0.31 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 14.00 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.21 | 0.095 | | 0.10 | 0.10 | 1.6 | | 0.26 | I |
| I | C-AB | 0.25 | 3.48 | 0.072 | | 0.08 | 0.08 | 1.2 | | 0.31 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 14.00 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.21 | 0.095 | | 0.10 | 0.10 | 1.6 | | 0.26 | I |
| I | C-AB | 0.25 | 3.48 | 0.072 | | 0.08 | 0.08 | 1.2 | | 0.31 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 14.00 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.21 | 0.095 | | 0.10 | 0.10 | 1.6 | | 0.26 | I |
| I | C-AB | 0.25 | 3.48 | 0.072 | | 0.08 | 0.08 | 1.2 | | 0.31 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 14.00 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I
I         I (VEH)   (VEH/H) I (MIN)   (MIN/VEH) I (MIN)   (MIN/VEH) I
-----
I B-AC I  24.0 I  24.0 I   6.1 I   0.26 I   6.1 I   0.26 I
I C-AB I  15.1 I  15.1 I   4.8 I   0.32 I   4.8 I   0.32 I
I A-B  I   0.0 I   0.0 I       I       I       I       I
I A-C  I 840.0 I 840.0 I       I       I       I       I
-----
I ALL  I 984.0 I 984.0 I  10.9 I   0.01 I  10.9 I   0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2009 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Incl HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 16.30 - 17.30 | ARM A | 0.000 | 0.015 | 0.985 |
| | | 0.0 | 6.0 | 400.0 |
| | | (0.0) | (33.0) | (10.0) |
| | ARM B | 0.133 | 0.000 | 0.867 |
| | | 2.0 | 0.0 | 13.0 |
| | | (100.0) | (0.0) | (100.0) |
| | ARM C | 0.979 | 0.021 | 0.000 |
| | | 832.0 | 18.0 | 0.0 |
| | | (4.0) | (72.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Incl HH dev)
AND FOR TIME PERIOD 465

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.90 | 0.068 | | 0.00 | 0.07 | 1.0 | | 0.27 | I |
| I | C-AB | 0.30 | 4.93 | 0.061 | | 0.00 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.70 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.90 | 0.068 | | 0.07 | 0.07 | 1.1 | | 0.28 | I |
| I | C-AB | 0.30 | 4.93 | 0.061 | | 0.07 | 0.08 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.70 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.90 | 0.068 | | 0.07 | 0.07 | 1.1 | | 0.28 | I |
| I | C-AB | 0.30 | 4.93 | 0.061 | | 0.08 | 0.08 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.70 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.90 | 0.068 | | 0.07 | 0.07 | 1.1 | | 0.28 | I |
| I | C-AB | 0.30 | 4.93 | 0.061 | | 0.08 | 0.08 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 6.70 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 4.3 I 0.27 I 4.3 I 0.27 I
I C-AB I 18.0 I 18.0 I 4.5 I 0.25 I 4.5 I 0.25 I
I A-B I 6.0 I 6.0 I I I I I
I A-C I 402.0 I 402.0 I I I I I
-----
I ALL I 1276.0 I 1276.0 I 8.8 I 0.01 I 8.8 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2009 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Incl HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 16.30 - 17.30 | ARM A | 0.000 | 0.002 | 0.998 |
| | | 0.0 | 2.0 | 840.0 |
| | | (0.0) | (100.0) | (2.0) |
| | ARM B | 0.250 | 0.000 | 0.750 |
| | | 6.0 | 0.0 | 18.0 |
| | | (33.0) | (0.0) | (72.0) |
| | ARM C | 0.889 | 0.111 | 0.000 |
| | | 104.0 | 13.0 | 0.0 |
| | | (7.0) | (100.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2009 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Incl HH dev)
AND FOR TIME PERIOD 990

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.00 | 0.117 | | 0.00 | 0.13 | 1.8 | | 0.28 | I |
| I | C-AB | 0.21 | 3.47 | 0.062 | | 0.00 | 0.07 | 1.0 | | 0.31 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 14.03 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.00 | 0.117 | | 0.13 | 0.13 | 1.9 | | 0.28 | I |
| I | C-AB | 0.21 | 3.47 | 0.062 | | 0.07 | 0.07 | 1.0 | | 0.31 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 14.03 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.00 | 0.117 | | 0.13 | 0.13 | 2.0 | | 0.28 | I |
| I | C-AB | 0.21 | 3.47 | 0.062 | | 0.07 | 0.07 | 1.0 | | 0.31 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 14.03 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.00 | 0.117 | | 0.13 | 0.13 | 2.0 | | 0.28 | I |
| I | C-AB | 0.21 | 3.47 | 0.062 | | 0.07 | 0.07 | 1.0 | | 0.31 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 14.03 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *     I   * DELAY *     I
I         I-----I-----I
I         I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 28.0 I 28.0 I 7.7 I 0.27 I 7.7 I 0.27 I
I C-AB I 12.9 I 12.9 I 4.0 I 0.31 I 4.0 I 0.31 I
I A-B I 2.0 I 2.0 I I I I I
I A-C I 842.0 I 842.0 I I I I I
-----
I ALL I 988.0 I 988.0 I 11.7 I 0.01 I 11.7 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

Appendix D – PICADY Outputs For 2018

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
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TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"\\Pmcesrv1\project\2007\0710\PICADY\0710_PICADY_2018 Assessments.vpi"
(drive-on-the-left) at 11:06:05 on Friday, 29 February 2008

.RUN INFORMATION

RUN TITLE: Little Island Traffic Assessment
LOCATION: Little Island, Co. Cork
DATE: 28/02/08
CLIENT: Golder Associates Ireland
ENUMERATOR: DGF
JOB NUMBER: 0710
STATUS: Draft 2
DESCRIPTION: 2018 Assessments
MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)

I
I
I
I
I
I
I

MINOR ROAD (ARM B)

ARM A IS R623 East
ARM B IS Site Access
ARM C IS R623 West

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

| ----- | | | | |
|-------|------------------------------------|----------|--------------|---|
| I | DATA ITEM | I | MINOR ROAD B | I |
| ----- | | | | |
| I | TOTAL MAJOR ROAD CARRIAGEWAY WIDTH | I (W) | 7.30 M. | I |
| I | CENTRAL RESERVE WIDTH | I (WCR) | 0.00 M. | I |
| I | | I | | I |
| I | MAJOR ROAD RIGHT TURN - WIDTH | I (WC-B) | 2.20 M. | I |
| I | - VISIBILITY | I (VC-B) | 60.0 M. | I |
| I | - BLOCKS TRAFFIC | I | YES | I |
| I | | I | | I |
| I | MINOR ROAD - VISIBILITY TO LEFT | I (VB-C) | 10.0 M. | I |
| I | - VISIBILITY TO RIGHT | I (VB-A) | 11.0 M. | I |
| I | - LANE 1 WIDTH | I (WB-C) | 3.00 M. | I |
| I | - LANE 2 WIDTH | I (WB-A) | 0.00 M. | I |

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2018 AM Peak Traffic Flows (50 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.009 | 0.991 |
| | | 0.0 | 4.0 | 424.0 |
| | | (0.0) | (0.0) | (10.0) |
| | ARM B | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 12.0 |
| | | (0.0) | (0.0) | (100.0) |
| | ARM C | 0.978 | 0.022 | 0.000 |
| | | 768.0 | 17.0 | 0.0 |
| | | (4.0) | (73.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 AM Peak Traffic Flows (50 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.36 | 0.046 | | 0.00 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.86 | 0.058 | | 0.00 | 0.07 | 1.0 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.07 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.36 | 0.046 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.86 | 0.058 | | 0.07 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.07 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.36 | 0.046 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.86 | 0.058 | | 0.07 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.07 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.36 | 0.046 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.86 | 0.058 | | 0.07 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.07 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.0 |
| 08.15 | 0.0 |
| 08.30 | 0.0 |
| 08.45 | 0.0 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 12.0 I 12.0 I 2.8 I 0.23 I 2.8 I 0.24 I
I C-AB I 17.0 I 17.0 I 4.2 I 0.25 I 4.2 I 0.25 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 424.0 I 424.0 I I I I I
-----
I ALL I 1224.0 I 1224.0 I 7.0 I 0.01 I 7.0 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2018 PM Peak Traffic Flows Demand Set (50 loads) (100%West) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 16.30 - 17.30 | ARM A | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 792.0 |
| | | (0.0) | (0.0) | (2.0) |
| | ARM B | 0.190 | 0.000 | 0.810 |
| | | 4.0 | 0.0 | 17.0 |
| | | (0.0) | (0.0) | (73.0) |
| | ARM C | 0.889 | 0.111 | 0.000 |
| | | 96.0 | 12.0 | 0.0 |
| | | (7.0) | (100.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 PM Peak Traffic Flows Demand Set (50 loads) (100%West) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.39 | 0.076 | | 0.00 | 0.08 | 1.1 | | 0.25 | I |
| I | C-AB | 0.20 | 3.57 | 0.056 | | 0.00 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 13.20 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.39 | 0.076 | | 0.08 | 0.08 | 1.2 | | 0.25 | I |
| I | C-AB | 0.20 | 3.57 | 0.056 | | 0.06 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 13.20 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.39 | 0.076 | | 0.08 | 0.08 | 1.2 | | 0.25 | I |
| I | C-AB | 0.20 | 3.57 | 0.056 | | 0.06 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 13.20 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.39 | 0.076 | | 0.08 | 0.08 | 1.2 | | 0.25 | I |
| I | C-AB | 0.20 | 3.57 | 0.056 | | 0.06 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 13.20 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 20.0 I 20.0 I 4.8 I 0.24 I 4.8 I 0.24 I
I C-AB I 12.0 I 12.0 I 3.6 I 0.30 I 3.6 I 0.30 I
I A-B I 0.0 I 0.0 I I I I I
I A-C I 792.0 I 792.0 I I I I I
-----
I ALL I 920.0 I 920.0 I 8.4 I 0.01 I 8.4 I 0.01 I
-----

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- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2018 AM Peak Traffic Flows (50 loads) (100% West) (Incl HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.009 | 0.991 |
| | | 0.0 | 4.0 | 444.0 |
| | | (0.0) | (0.0) | (10.0) |
| | ARM B | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 12.0 |
| | | (0.0) | (0.0) | (100.0) |
| | ARM C | 0.982 | 0.018 | 0.000 |
| | | 912.0 | 17.0 | 0.0 |
| | | (4.0) | (73.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 AM Peak Traffic Flows (50 loads) (100% West) (Incl HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.32 | 0.046 | | 0.00 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.81 | 0.059 | | 0.00 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.40 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.32 | 0.046 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.81 | 0.059 | | 0.07 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.40 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.32 | 0.046 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.81 | 0.059 | | 0.07 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.40 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.20 | 4.32 | 0.046 | | 0.05 | 0.05 | 0.7 | | 0.24 | I |
| I | C-AB | 0.28 | 4.81 | 0.059 | | 0.07 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.40 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.0 |
| 08.15 | 0.0 |
| 08.30 | 0.0 |
| 08.45 | 0.0 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I             I   * DELAY *       I   * DELAY *       I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH)   (VEH/H) I (MIN)   (MIN/VEH) I (MIN)   (MIN/VEH) I
-----
I B-AC I 12.0 I 12.0 I 2.8 I 0.24 I 2.8 I 0.24 I
I C-AB I 17.0 I 17.0 I 4.4 I 0.26 I 4.4 I 0.26 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 444.0 I 444.0 I I I I I
-----
I ALL I 1388.0 I 1388.0 I 7.2 I 0.01 I 7.2 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2018 PM Peak Traffic Flows Demand Set (50 loads) (100% West) (Incl HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 16.30 - 17.30 | ARM A | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 920.0 |
| | | (0.0) | (0.0) | (2.0) |
| | ARM B | 0.190 | 0.000 | 0.810 |
| | | 4.0 | 0.0 | 17.0 |
| | | (0.0) | (0.0) | (73.0) |
| | ARM C | 0.906 | 0.094 | 0.000 |
| | | 116.0 | 12.0 | 0.0 |
| | | (7.0) | (100.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 PM Peak Traffic Flows Demand Set (50 loads) (100% West) (Incl HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.07 | 0.082 | | 0.00 | 0.09 | 1.2 | | 0.27 | I |
| I | C-AB | 0.20 | 3.33 | 0.060 | | 0.00 | 0.06 | 0.9 | | 0.32 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 15.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.07 | 0.082 | | 0.09 | 0.09 | 1.3 | | 0.27 | I |
| I | C-AB | 0.20 | 3.33 | 0.060 | | 0.06 | 0.07 | 1.0 | | 0.32 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 15.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.07 | 0.082 | | 0.09 | 0.09 | 1.3 | | 0.27 | I |
| I | C-AB | 0.20 | 3.33 | 0.060 | | 0.07 | 0.07 | 1.0 | | 0.32 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 15.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.33 | 4.07 | 0.082 | | 0.09 | 0.09 | 1.3 | | 0.27 | I |
| I | C-AB | 0.20 | 3.33 | 0.060 | | 0.07 | 0.07 | 1.0 | | 0.32 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 15.33 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 20.0 I 20.0 I 5.2 I 0.26 I 5.2 I 0.26 I
I C-AB I 12.0 I 12.0 I 3.9 I 0.33 I 3.9 I 0.33 I
I A-B I 0.0 I 0.0 I I I I I
I A-C I 920.0 I 920.0 I I I I I
-----
I ALL I 1068.0 I 1068.0 I 9.1 I 0.01 I 9.1 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2018 AM Peak Traffic Flows (100 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.009 | 0.991 |
| | | 0.0 | 4.0 | 424.0 |
| | | (0.0) | (0.0) | (10.0) |
| | ARM B | 0.000 | 0.000 | 1.000 |
| | | 0.0 | 0.0 | 15.0 |
| | | (0.0) | (0.0) | (100.0) |
| | ARM C | 0.975 | 0.025 | 0.000 |
| | | 768.0 | 20.0 | 0.0 |
| | | (4.0) | (75.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 AM Peak Traffic Flows (100 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.36 | 0.061 | | 0.00 | 0.06 | 0.9 | | 0.24 | I |
| I | C-AB | 0.33 | 4.80 | 0.069 | | 0.00 | 0.09 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.07 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.36 | 0.061 | | 0.06 | 0.06 | 1.0 | | 0.24 | I |
| I | C-AB | 0.33 | 4.80 | 0.069 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.07 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.36 | 0.061 | | 0.06 | 0.06 | 1.0 | | 0.24 | I |
| I | C-AB | 0.33 | 4.80 | 0.069 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.07 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.36 | 0.061 | | 0.06 | 0.06 | 1.0 | | 0.24 | I |
| I | C-AB | 0.33 | 4.80 | 0.069 | | 0.09 | 0.09 | 1.3 | | 0.22 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.07 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I
I         I (VEH)   (VEH/H) I (MIN)   (MIN/VEH) I (MIN)   (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 3.8 I 0.24 I 3.8 I 0.24 I
I C-AB I 20.0 I 20.0 I 5.2 I 0.26 I 5.2 I 0.26 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 424.0 I 424.0 I I I I I
-----
I ALL I 1232.0 I 1232.0 I 9.1 I 0.01 I 9.1 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2018 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Ex HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 07.45 - 08.45 | ARM A | 0.000 | 0.014 | 0.986 |
| | | 0.0 | 6.0 | 424.0 |
| | | (0.0) | (33.0) | (10.0) |
| | ARM B | 0.133 | 0.000 | 0.867 |
| | | 2.0 | 0.0 | 13.0 |
| | | (100.0) | (0.0) | (100.0) |
| | ARM C | 0.977 | 0.023 | 0.000 |
| | | 768.0 | 18.0 | 0.0 |
| | | (4.0) | (72.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Ex HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.87 | 0.069 | | 0.00 | 0.07 | 1.0 | | 0.28 | I |
| I | C-AB | 0.30 | 4.87 | 0.062 | | 0.00 | 0.07 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 7.10 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.87 | 0.069 | | 0.07 | 0.07 | 1.1 | | 0.28 | I |
| I | C-AB | 0.30 | 4.87 | 0.062 | | 0.07 | 0.08 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 7.10 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.87 | 0.069 | | 0.07 | 0.07 | 1.1 | | 0.28 | I |
| I | C-AB | 0.30 | 4.87 | 0.062 | | 0.08 | 0.08 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 7.10 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.87 | 0.069 | | 0.07 | 0.07 | 1.1 | | 0.28 | I |
| I | C-AB | 0.30 | 4.87 | 0.062 | | 0.08 | 0.08 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 7.10 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *     I   * DELAY *     I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH)  (VEH/H) I (MIN)      (MIN/VEH) I (MIN)      (MIN/VEH) I
-----
I B-AC I  16.0 I  16.0 I   4.3 I   0.27 I   4.3 I   0.27 I
I C-AB I  18.0 I  18.0 I   4.5 I   0.25 I   4.5 I   0.25 I
I A-B  I   6.0 I   6.0 I       I       I       I       I
I A-C  I 426.0 I 426.0 I       I       I       I       I
-----
I ALL  I 1236.0 I 1236.0 I   8.9 I   0.01 I   8.9 I   0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2018 AM Peak Traffic Flows (100 loads) (100% West) (Incl HH dev)

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| ----- | | | | | | | |
|-------|---------------|-------|-----------------------|---|--------|---|---------|
| I | | I | TURNING PROPORTIONS | | | I | |
| I | | I | TURNING COUNTS | | | I | |
| I | | I | (PERCENTAGE OF H.V.S) | | | I | |
| I | | ----- | | | | | |
| I | TIME | I | FROM/TO | I | ARM A | I | ARM B |
| I | | I | | I | ARM C | I | |
| I | 07.45 - 08.45 | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.009 |
| I | | I | | I | 0.0 | I | 4.0 |
| I | | I | (| I | (0.0) | I | (10.0) |
| I | | I | | I | | I | |
| I | | I | ARM B | I | 0.000 | I | 0.000 |
| I | | I | | I | 0.0 | I | 15.0 |
| I | | I | (| I | (0.0) | I | (100.0) |
| I | | I | | I | | I | |
| I | | I | ARM C | I | 0.979 | I | 0.021 |
| I | | I | | I | 912.0 | I | 20.0 |
| I | | I | (| I | (4.0) | I | (75.0) |
| I | | I | | I | | I | |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 AM Peak Traffic Flows (100 loads) (100% West) (Incl HH dev)
AND FOR TIME PERIOD 1

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 07.45-08.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.32 | 0.062 | | 0.00 | 0.06 | 0.9 | | 0.25 | I |
| I | C-AB | 0.33 | 4.75 | 0.070 | | 0.00 | 0.09 | 1.3 | | 0.23 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.40 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.00-08.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.32 | 0.062 | | 0.06 | 0.07 | 1.0 | | 0.25 | I |
| I | C-AB | 0.33 | 4.75 | 0.070 | | 0.09 | 0.09 | 1.4 | | 0.23 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.40 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.15-08.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.32 | 0.062 | | 0.07 | 0.07 | 1.0 | | 0.25 | I |
| I | C-AB | 0.33 | 4.75 | 0.070 | | 0.09 | 0.09 | 1.4 | | 0.23 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.40 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 08.30-08.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 4.32 | 0.062 | | 0.07 | 0.07 | 1.0 | | 0.25 | I |
| I | C-AB | 0.33 | 4.75 | 0.070 | | 0.09 | 0.09 | 1.4 | | 0.23 | I |
| I | A-B | 0.07 | | | | | | | | | I |
| I | A-C | 7.40 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 08.00 | 0.1 |
| 08.15 | 0.1 |
| 08.30 | 0.1 |
| 08.45 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 3.9 I 0.24 I 3.9 I 0.24 I
I C-AB I 20.0 I 20.0 I 5.5 I 0.27 I 5.5 I 0.27 I
I A-B I 4.0 I 4.0 I I I I I
I A-C I 444.0 I 444.0 I I I I I
-----
I ALL I 1396.0 I 1396.0 I 9.3 I 0.01 I 9.3 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2018 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| ----- | | | | | | | |
|-------|---------------|---------|-------|-------|--------|---|---------|
| I | I | | | | | | I |
| I | I | | | | | | I |
| I | I | | | | | | I |
| I | I | | | | | | I |
| I | TIME | FROM/TO | ARM A | ARM B | ARM C | I | |
| ----- | | | | | | | |
| I | 16.30 - 17.30 | I | I | I | I | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 |
| I | | I | | I | 0.0 | I | 0.0 |
| I | | I | | I | (0.0) | I | (2.0) |
| I | | I | | I | | I | |
| I | | I | ARM B | I | 0.167 | I | 0.000 |
| I | | I | | I | 4.0 | I | 0.0 |
| I | | I | | I | (0.0) | I | (75.0) |
| I | | I | | I | | I | |
| I | | I | ARM C | I | 0.865 | I | 0.135 |
| I | | I | | I | 96.0 | I | 15.0 |
| I | | I | | I | (7.0) | I | (100.0) |
| I | | I | | I | | I | (0.0) |
| I | | I | | I | | I | |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.33 | 0.092 | | 0.00 | 0.10 | 1.4 | | 0.25 | I |
| I | C-AB | 0.25 | 3.57 | 0.071 | | 0.00 | 0.08 | 1.1 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 13.20 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.33 | 0.092 | | 0.10 | 0.10 | 1.5 | | 0.25 | I |
| I | C-AB | 0.25 | 3.57 | 0.071 | | 0.08 | 0.08 | 1.2 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 13.20 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.33 | 0.092 | | 0.10 | 0.10 | 1.5 | | 0.25 | I |
| I | C-AB | 0.25 | 3.57 | 0.071 | | 0.08 | 0.08 | 1.2 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 13.20 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.40 | 4.33 | 0.092 | | 0.10 | 0.10 | 1.5 | | 0.25 | I |
| I | C-AB | 0.25 | 3.57 | 0.071 | | 0.08 | 0.08 | 1.2 | | 0.30 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 13.20 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 24.0 I 24.0 I 6.0 I 0.25 I 6.0 I 0.25 I
I C-AB I 15.1 I 15.1 I 4.6 I 0.31 I 4.6 I 0.31 I
I A-B I 0.0 I 0.0 I I I I I
I A-C I 792.0 I 792.0 I I I I I
-----
I ALL I 928.0 I 928.0 I 10.6 I 0.01 I 10.6 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

```

-----
I ARM I FLOW SCALE (%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

Demand set: 2018 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Ex HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

```

-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I
I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 16.30 - 17.30 I I I I I
I I ARM A I 0.000 I 0.003 I 0.997 I
I I I 0.0 I 2.0 I 792.0 I
I I I ( 0.0) I (100.0) I ( 2.0) I
I I I I I I
I I ARM B I 0.250 I 0.000 I 0.750 I
I I I 6.0 I 0.0 I 18.0 I
I I I ( 33.0) I ( 0.0) I ( 72.0) I
I I I I I I
I I ARM C I 0.881 I 0.119 I 0.000 I
I I I 96.0 I 13.0 I 0.0 I
I I I ( 7.0) I (100.0) I ( 0.0) I
I I I I I I
    
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Ex HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.13 | 0.113 | | 0.00 | 0.12 | 1.8 | | 0.27 | I |
| I | C-AB | 0.21 | 3.56 | 0.060 | | 0.00 | 0.06 | 0.9 | | 0.30 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 13.23 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.13 | 0.113 | | 0.12 | 0.13 | 1.9 | | 0.27 | I |
| I | C-AB | 0.21 | 3.56 | 0.060 | | 0.06 | 0.07 | 1.0 | | 0.30 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 13.23 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.13 | 0.113 | | 0.13 | 0.13 | 1.9 | | 0.27 | I |
| I | C-AB | 0.21 | 3.56 | 0.060 | | 0.07 | 0.07 | 1.0 | | 0.30 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 13.23 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.47 | 4.13 | 0.113 | | 0.13 | 0.13 | 1.9 | | 0.27 | I |
| I | C-AB | 0.21 | 3.56 | 0.060 | | 0.07 | 0.07 | 1.0 | | 0.30 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 13.23 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 28.0 I 28.0 I 7.4 I 0.27 I 7.4 I 0.27 I
I C-AB I 12.9 I 12.9 I 3.9 I 0.30 I 3.9 I 0.30 I
I A-B I 2.0 I 2.0 I I I I I
I A-C I 794.0 I 794.0 I I I I I
-----
I ALL I 932.0 I 932.0 I 11.3 I 0.01 I 11.3 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2018 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Incl HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| ----- | | | | | | | |
|-------|---------------|---------|-------|-------|---------|---|---------|
| I | I | | | | | | I |
| I | I | | | | | | I |
| I | I | | | | | | I |
| I | I | | | | | | I |
| I | TIME | FROM/TO | ARM A | ARM B | ARM C | I | |
| ----- | | | | | | | |
| I | 16.30 - 17.30 | I | I | I | I | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 |
| I | | I | | I | 0.0 | I | 0.0 |
| I | | I | | I | (0.0) | I | (0.0) |
| I | | I | | I | | I | |
| I | | I | ARM B | I | 0.167 | I | 0.000 |
| I | | I | | I | 4.0 | I | 0.0 |
| I | | I | | I | (2.0) | I | (0.0) |
| I | | I | | I | | I | |
| I | | I | ARM C | I | 0.885 | I | 0.115 |
| I | | I | | I | 116.0 | I | 15.0 |
| I | | I | | I | (75.0) | I | (100.0) |
| I | | I | | I | | I | |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 PM Peak Traffic Flows Demand Set (100 loads) (100% West) (Incl HH dev)
AND FOR TIME PERIOD 2

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.40 | 6.28 | 0.064 | | 0.00 | 0.07 | 1.0 | | 0.17 | I |
| I | C-AB | 0.25 | 3.37 | 0.075 | | 0.00 | 0.08 | 1.2 | | 0.32 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 15.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.40 | 6.28 | 0.064 | | 0.07 | 0.07 | 1.0 | | 0.17 | I |
| I | C-AB | 0.25 | 3.37 | 0.075 | | 0.08 | 0.08 | 1.3 | | 0.32 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 15.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.40 | 6.28 | 0.064 | | 0.07 | 0.07 | 1.0 | | 0.17 | I |
| I | C-AB | 0.25 | 3.37 | 0.075 | | 0.08 | 0.08 | 1.3 | | 0.32 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 15.33 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.40 | 6.28 | 0.064 | | 0.07 | 0.07 | 1.0 | | 0.17 | I |
| I | C-AB | 0.25 | 3.37 | 0.075 | | 0.08 | 0.08 | 1.3 | | 0.32 | I |
| I | A-B | 0.00 | | | | | | | | | I |
| I | A-C | 15.33 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

```

-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 24.0 I 24.0 I 4.0 I 0.17 I 4.0 I 0.17 I
I C-AB I 15.1 I 15.1 I 5.0 I 0.33 I 5.0 I 0.33 I
I A-B I 0.0 I 0.0 I I I I
I A-C I 920.0 I 920.0 I I I I
-----
I ALL I 1076.0 I 1076.0 I 9.0 I 0.01 I 9.0 I 0.01 I
-----

```

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE (%) |
|-----|----------------|
| A | 100 |
| B | 100 |
| C | 100 |

Demand set: 2018 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Incl HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| TIME | FROM/TO | TURNING PROPORTIONS | | |
|---------------|---------|---------------------|---------|---------|
| | | ARM A | ARM B | ARM C |
| 16.30 - 17.30 | ARM A | 0.000 | 0.013 | 0.987 |
| | | 0.0 | 6.0 | 444.0 |
| | | (0.0) | (33.0) | (10.0) |
| | ARM B | 0.133 | 0.000 | 0.867 |
| | | 2.0 | 0.0 | 13.0 |
| | | (100.0) | (0.0) | (100.0) |
| | ARM C | 0.981 | 0.019 | 0.000 |
| | | 912.0 | 18.0 | 0.0 |
| | | (4.0) | (72.0) | (0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 AM Peak Traffic Flows (100 loads) (80/20 West/East) (Incl HH dev)
AND FOR TIME PERIOD 465

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.76 | 0.071 | | 0.00 | 0.07 | 1.1 | | 0.29 | I |
| I | C-AB | 0.30 | 4.82 | 0.062 | | 0.00 | 0.08 | 1.1 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 7.43 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.76 | 0.071 | | 0.07 | 0.08 | 1.1 | | 0.29 | I |
| I | C-AB | 0.30 | 4.82 | 0.062 | | 0.08 | 0.08 | 1.2 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 7.43 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.76 | 0.071 | | 0.08 | 0.08 | 1.1 | | 0.29 | I |
| I | C-AB | 0.30 | 4.82 | 0.062 | | 0.08 | 0.08 | 1.2 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 7.43 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.27 | 3.76 | 0.071 | | 0.08 | 0.08 | 1.1 | | 0.29 | I |
| I | C-AB | 0.30 | 4.82 | 0.062 | | 0.08 | 0.08 | 1.2 | | 0.22 | I |
| I | A-B | 0.10 | | | | | | | | | I |
| I | A-C | 7.43 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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-----
I STREAM I TOTAL DEMAND I * QUEUEING * I * INCLUSIVE QUEUEING * I
I I I * DELAY * I * DELAY * I
I I-----I
I I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 16.0 I 16.0 I 4.5 I 0.28 I 4.5 I 0.28 I
I C-AB I 18.0 I 18.0 I 4.7 I 0.26 I 4.7 I 0.26 I
I A-B I 6.0 I 6.0 I I I I I
I A-C I 446.0 I 446.0 I I I I I
-----
I ALL I 1400.0 I 1400.0 I 9.2 I 0.01 I 9.2 I 0.01 I
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- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

| I | Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 630.86 | 0.23 | 0.09 | I |

| I | Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | I |
|---|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| I | 486.34 | 0.21 | 0.08 | 0.13 | 0.30 | I |

| I | Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | I |
|---|--------------------------|-------------------------------|-------------------------------|---|
| I | 608.71 | 0.22 | 0.22 | I |

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

Demand set: 2018 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Incl HH dev)

TIME PERIOD BEGINS 16.30 AND ENDS 17.30

LENGTH OF TIME PERIOD - 60 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

| I | | | | | | | |
|---------------------------|---------------|-----------|-----------|-----------|-----------|---|---|
| I TURNING PROPORTIONS I | | | | | | | |
| I TURNING COUNTS I | | | | | | | |
| I (PERCENTAGE OF H.V.S) I | | | | | | | |
| I | | | | | | | |
| I | TIME | I FROM/TO | I ARM A | I ARM B | I ARM C | I | I |
| I | 16.30 - 17.30 | I | I | I | I | I | I |
| I | | I ARM A | I 0.000 | I 0.002 | I 0.998 | I | I |
| I | | I | I 0.0 | I 2.0 | I 920.0 | I | I |
| I | | I | I (0.0) | I (100.0) | I (2.0) | I | I |
| I | | I | I | I | I | I | I |
| I | | I ARM B | I 0.250 | I 0.000 | I 0.750 | I | I |
| I | | I | I 6.0 | I 0.0 | I 18.0 | I | I |
| I | | I | I (33.0) | I (0.0) | I (72.0) | I | I |
| I | | I | I | I | I | I | I |
| I | | I ARM C | I 0.899 | I 0.101 | I 0.000 | I | I |
| I | | I | I 116.0 | I 13.0 | I 0.0 | I | I |
| I | | I | I (7.0) | I (100.0) | I (0.0) | I | I |
| I | | I | I | I | I | I | I |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 PM Peak Traffic Flows Demand Set (100 loads) (80/20 West/East) (Incl HH dev)
AND FOR TIME PERIOD 990

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.30-16.45 | | | | | | | | | | I |
| I | B-AC | 0.47 | 3.80 | 0.123 | | 0.00 | 0.14 | 1.9 | | 0.30 | I |
| I | C-AB | 0.21 | 3.32 | 0.065 | | 0.00 | 0.07 | 1.0 | | 0.32 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 15.37 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | B-AC | 0.47 | 3.80 | 0.123 | | 0.14 | 0.14 | 2.1 | | 0.30 | I |
| I | C-AB | 0.21 | 3.32 | 0.065 | | 0.07 | 0.07 | 1.1 | | 0.32 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 15.37 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | B-AC | 0.47 | 3.80 | 0.123 | | 0.14 | 0.14 | 2.1 | | 0.30 | I |
| I | C-AB | 0.21 | 3.32 | 0.065 | | 0.07 | 0.07 | 1.1 | | 0.32 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 15.37 | | | | | | | | | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | B-AC | 0.47 | 3.80 | 0.123 | | 0.14 | 0.14 | 2.1 | | 0.30 | I |
| I | C-AB | 0.21 | 3.32 | 0.065 | | 0.07 | 0.07 | 1.1 | | 0.32 | I |
| I | A-B | 0.03 | | | | | | | | | I |
| I | A-C | 15.37 | | | | | | | | | I |
| I | | | | | | | | | | | I |

QUEUE FOR STREAM B-AC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUE FOR STREAM C-AB

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 16.45 | 0.1 |
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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-----
I STREAM I   TOTAL DEMAND I   * QUEUEING *   I * INCLUSIVE QUEUEING * I
I         I               I   * DELAY *       I   * DELAY *       I
I         I-----I-----I-----I-----I-----I-----I
I         I (VEH) (VEH/H) I (MIN) (MIN/VEH) I (MIN) (MIN/VEH) I
-----
I B-AC I 28.0 I 28.0 I 8.1 I 0.29 I 8.2 I 0.29 I
I C-AB I 12.9 I 12.9 I 4.3 I 0.33 I 4.3 I 0.33 I
I A-B I 2.0 I 2.0 I I I I I
I A-C I 922.0 I 922.0 I I I I I
-----
I ALL I 1080.0 I 1080.0 I 12.4 I 0.01 I 12.4 I 0.01 I
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- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB