18036-01-001

PROPOSED RESIDENTIAL DEVELOPMENT AT CROKERS HILL, KENNYSWELL RD, CO. KILKENNY

Traffic Impact Assessment

for

Hayes Higgins Partnership

November 2018

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1 INTRODUCTION

1 Introduction

1.1 INTRODUCTION

Roadplan Consulting were commissioned by Hayes Higgins Partnership to prepare a Traffic Impact Assessment for the proposed social housing development at Crokers Hill, Kennyswell Rd, Co. Kilkenny.

In preparing this report, Roadplan Consulting has made reference to:

- The Kilkenny City and Environs Development Plan 2014 - 2020.
- The Institute of Highways and Transportation *Guidelines on the Preparation of Traffic Impact Assessments*.
- The *TII Transport Assessment Guidelines.*
- The *TII National Traffic Model*.

1.2 OBJECTIVES

The objective of this report is to examine the traffic implications of 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 of such trips on the operational performance of the local road network and junctions, in particular the existing Dominic St / De Loughry / Kennyswell Rd crossroads junction, and the proposed Kennyswell Rd / Development Access priority junctions.

1.3 STUDY METHODOLOGY

The methodology adopted for this report is summarised as follows:

- A traffic count was undertaken by Roadplan Consulting on Tuesday 10th of April 2018 from during the AM and PM peak periods (07:30 to 09:30 & 16:30 to 18:30). Count information was obtained at the existing Dominic St / De Loughry / Kennyswell Rd crossroads junction.
- Existing Traffic Assessment – A spreadsheet model was created which contains the base year DO-NOTHING traffic count data described above. The traffic count data was used to develop a PICADY model of the existing Dominic St / De Loughry / Kennyswell Rd crossroads junction and a PICADY model of the proposed Kennyswell Rd / Development Access priority junction.
- Future Year Assessment – The estimated future year traffic volumes on the study area road network, as a result of the increase in background traffic and the additional development related traffic was used to assess the future operational performance of the junctions both at the year of opening of the development, 5 and 15 years after opening.
- Parking Requirements – Car parking provision for the proposed development was assessed against the parking standards as set out in the Kilkenny County Development Plan 2014 – 2020.

1.4 STRUCTURE OF REPORT

Following this introduction, the report is set out as follows:

- Chapter 2 provides details of the proposed development;
- Chapter 3 provides an overview of the existing traffic conditions and the local road network, identifying any existing issues related to traffic flow or road infrastructure;
- Chapters 4 and 5 outline the analysis as described in the Study Methodology above. The analysis examines trip generation, distribution and resulting junction operational performance with the development in place;

- Chapter 6 establishes the parking requirements for the development and sets out how these needs are provided for;
- Chapter 7 addresses road safety, pedestrian and public transport; and
- Chapter 8 presents the conclusions and a summary of the report.

2 PROPOSED DEVELOPMENT

2 Proposed Development

2.1 SITE LOCATION

The proposed residential development is located at Crokers Hill, Kennyswell Rd Co. Kilkenny. The development is bounded by residential dwellings to the east, agricultural lands to the north and west and Kennyswell Rd to the south as shown on Figure 2.1 'Site Location Map'.

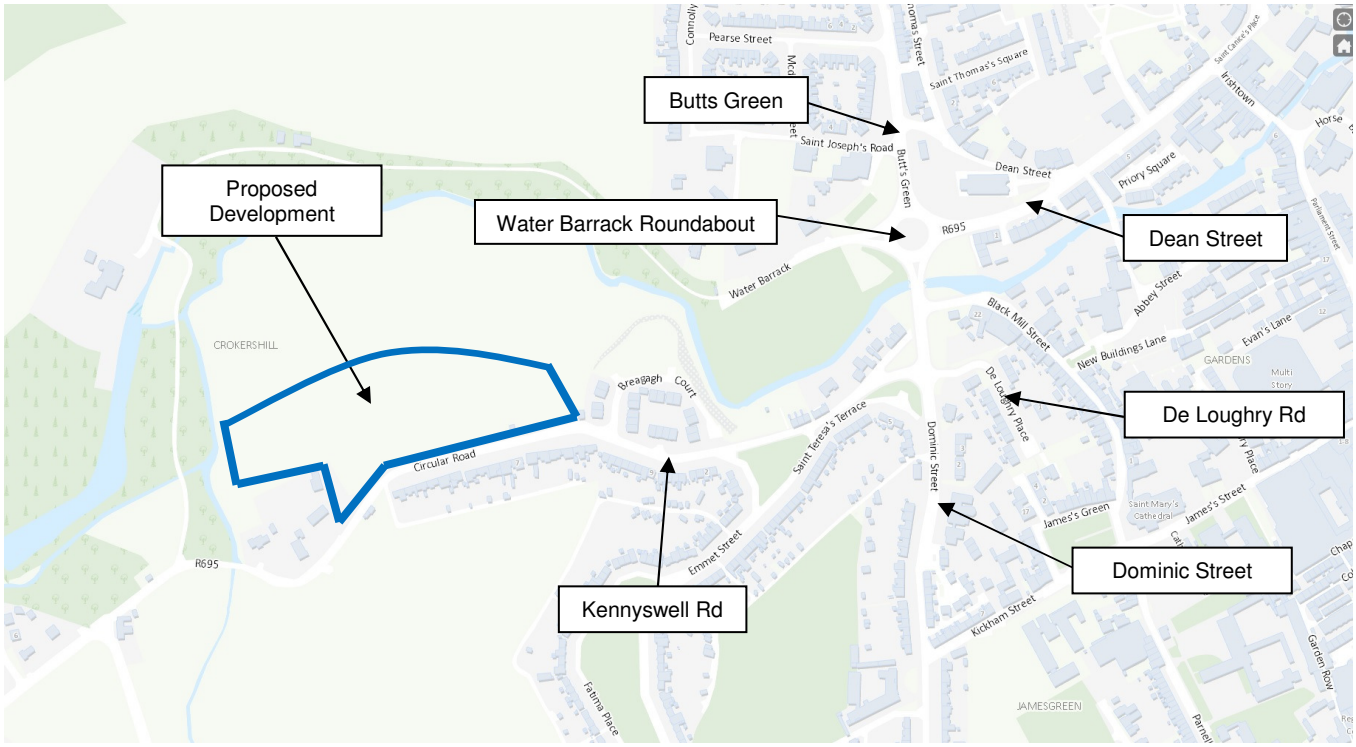


Figure 2.1: Site Location Map

2.2 EXISTING LAND USE

The existing site is currently undeveloped at present.

2.3 DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development consists of 86 social housing units as shown in table 2.1 *Development Schedule*.

Table 2.1 – Development Schedule

Item	Unit	Quantity
Dwelling	3 bed	19
Dwelling	4 bed	4
Dwelling	5 bed	2
Apartment	1 bed	15
Apartment	2 bed	34
Apartment	3 bed	12
Total		86

Access to the proposed social housing development will be via two proposed priority junctions onto Kennyswell Road. A layout of the proposed development is shown on the Architect's drawing which is contained in Appendix A – Drawings.

3 EXISTING AND PROPOSED TRAFFIC CONDITIONS

3 Existing and Proposed Traffic Conditions

3.1 EXISTING TRAFFIC FLOWS

A traffic count was undertaken by Roadplan Consulting on Tuesday 10th of April 2018 during the AM and PM peak periods (07:30 to 09:30 & 16:30 to 18:30). The count data is provided in Appendix B – Traffic Counts. Count information was obtained at the following junction:

- Dominic St / De Loughry / Kennyswell Rd Crossroads Junction

The traffic flows during the AM and PM peak hours were abstracted from the surveyed data and are shown in the following tables:

Dominic St / De Loughry / Kennyswell Rd Crossroads Junction

2018 AM Peak Existing (08:15 – 09:15)

From / To	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell Rd	**Totals**
Dominic St (north)	0	0	539 (9)	183 (19)	**722**
De Loughry	3	0	3	0	**6**
Dominic St (south)	543 (5)	0	0	10	**553**
Kennyswell Rd	261 (15)	0	7	0	**268**
Totals	**807**	**0**	**549**	**193**	**1549**

2018 PM Peak Existing (16:45 – 17:45)

From / To	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell Rd	**Totals**
Dominic St (north)	0	6	585	195 (5)	**786**
De Loughry	2	0	2	2	**6**
Dominic St (south)	642 (7)	1	0	8	**651**
Kennyswell Rd	136 (9)	1	9	0	**146**
Totals	**780**	**8**	**596**	**205**	**1589**

Principal features of the existing traffic flows at the existing Dominic St / De Loughry / Kennyswell Rd Crossroads Junction are as follows:

- Overall traffic flows are high on the Dominic Street.
- Traffic flows are slightly higher in the PM peak compared to the AM peak.
- The overall percentage of HGV flows is low, 3% in the AM peak and 1% in the PM peak.

A summary of the count data for the peak hour flows is contained in Appendix C – Traffic Flow Sheets.

3.2 EXISTING ROAD NETWORK

The proposed development will be accessed via two proposed priority junctions onto the existing Kennyswell Road.

Kennyswell Road has the following characteristics at the location of the proposed access to the development:

- It is a single carriageway road that is approximately 7m wide.
- It has a 1.5m wide footpath on the north and south side of the carriageway which caters for pedestrian movement along Kennyswell Rd.
- Public lighting is provided on either side of the carriageway.

Kennyswell Road is governed by a 50kph speed limit.

3.3 ROAD COLLISIONS

Information on road collisions was taken from the Road Safety Authority website and is provided hereunder in Figure 3.1.

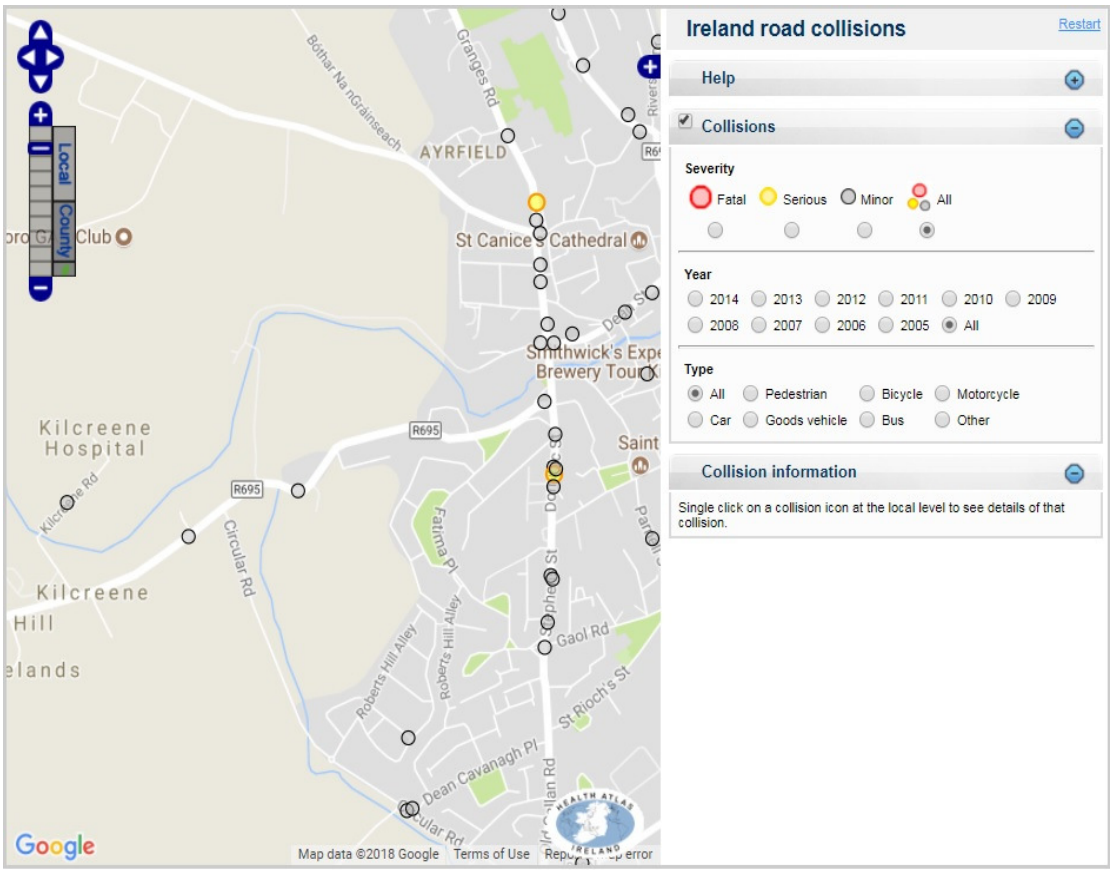


Fig 3.1: Road collisions

There are a small number of minor collisions along the Kennyswell Rd during the period of ten years (from 2005 to 2014), but none at the proposed two accesses to the development.

3.4 PROPOSED ROAD NETWORK IMPROVEMENTS

A project is currently in place where it is proposed to extend the northern section of the Kilkenny ring road. The works are outlined on the Kilkenny County Council webpage and are described below. It should be noted that there is no timescale for the completion of these schemes.

''The proposed road will connect the N77 from the Castlecomer Road Roundabout at Junction 10 on the Kilkenny Ring Road to the R693 Freshford Road, just north of Aut Even Hospital and approximately 2.5km north of Kilkenny City Centre. The length of the proposed scheme is approximately 1.5km and includes for a bridge crossing over the River Nore.

The key objectives for this scheme include:

- *Reduce congestion in the City Centre and Green's Bridge.*
- *Complement the proposed Kilkenny Central Access Scheme.*
- *Provide an extension to the N77 Ring Road connecting the Freshford Road and the north-west of the City to the existing Ring Road.*
- *Further develop the Strategic Road Network for the Region, connecting the M9 to the M8 via the Kilkenny Ring Road. The Scheme provides a reliable, safe and efficient link between the M9 and the east and south-east of the country and the M8 at Urlingford and the north and north-west of the country.*
- *Facilitate the promotion of walking and cycling.*

- *Improve traffic safety and convenience."*

The proposed upgrade of the road network is shown in Figure 3.2 below:

Fig 3.2: Road Network Upgrade

4 TRAFFIC GENERATION & TRIP DISTRIBUTION

4 Traffic Generation and Trip Distribution

4.1 DEVELOPMENT TRIP GENERATION

The TRICS database has been used to predict the trip generation to and from the proposed development for the AM and PM peak periods. Full details of the TRICS information used for the assessments are provided in Appendix D - TRICS information.

4.1.1 Houses

The category of "Residential / Local Authority Houses" has been interrogated as the most appropriate development type category for this part of the development and the trip rates for the AM and PM peak periods are shown below:

Trip rates per number of Units

	Trip rate to development	Trip rate from development
AM Peak	0.160	0.284
PM Peak	0.296	0.201

For the proposed 25 residential dwellings with access onto Kennyswell Road this would give the following trips to and from the proposed development:

Trip Generation – 25 Residential Dwellings

	Trip rate to development	Trip rate from development
AM Peak	4	8
PM Peak	8	5

4.1.2 Apartments

The category of "Residential / Local Authority Apartments" has been interrogated as the most appropriate development type category for this part of the development and the trip rates for the AM and PM peak periods are shown below:

Trip rates per number of Units

	Trip rate to development	Trip rate from development
AM Peak	0.40	0.60
PM Peak	0.30	0.20

For the proposed 61 apartments with access onto Kennyswell Road this would give the following trips to and from the proposed development:

Trip Generation – 61 Apartments

	Trip rate to development	Trip rate from development
AM Peak	25	37
PM Peak	19	13

4.1.3 Total Development Trip Generation Summary

To summarise, the combined trips that are predicted to be generated by the proposed social housing development are shown in the table below:

Trip Generation – Total Development

	Trip rate to development	Trip rate from development	Total
AM peak	29	45	74
PM peak	27	18	45

4.2 TRIP DISTRIBUTION

The access to the residential development will be via two proposed accesses onto the existing Kennyswell Road. A traffic count was carried out at the existing Kennyswell Rd / Emmet Street priority junction which provides access to a residential development in order to

determine the trip distribution of traffic flows. The existing trip distribution is as follows:

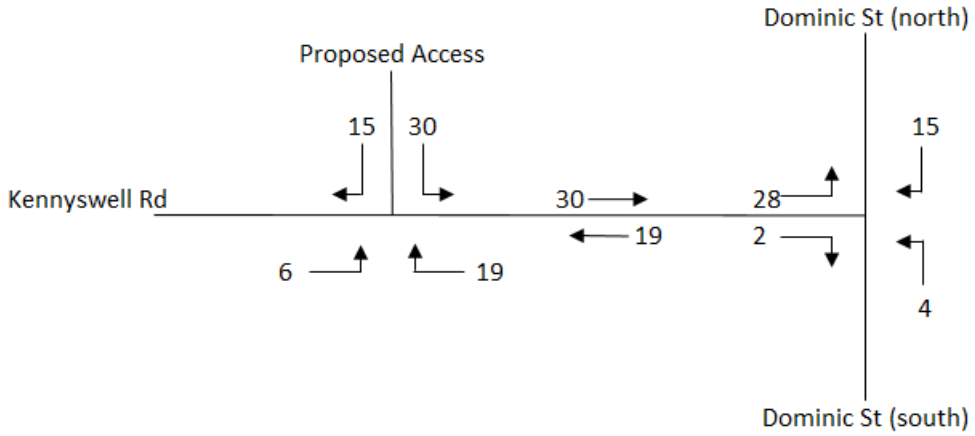
Arrivals
65% arrive from Kennyswell Rd (east) to Emmet Street
35% arrive from Kennyswell Rd (west) to Emmet Street

Departures
70% depart from Emmet Street to Kennyswell Road (east)
30% depart from Emmet Street to Kennyswell Road (west)

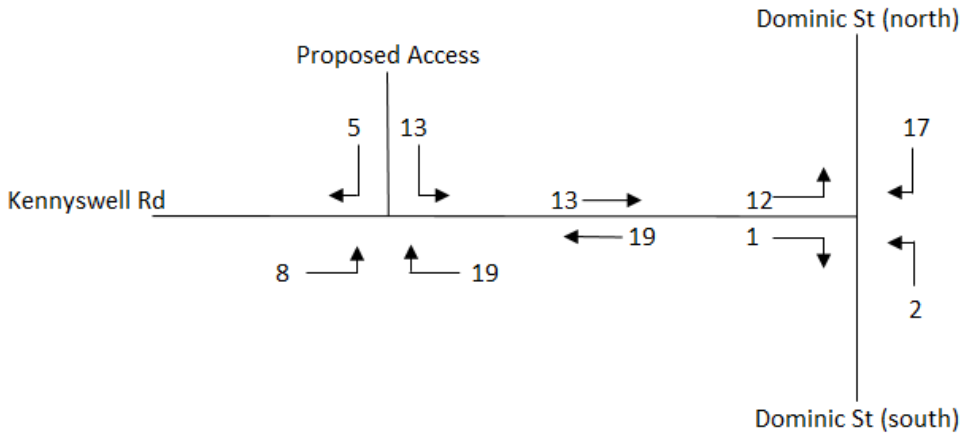
It is assumed that, the distribution of development traffic at the existing Dominic St / De Loughry / Kennyswell Rd crossroads junction will follow the existing distribution of traffic flows.

Using the proposed directional splits outlined above and the trips generated by the proposed development outlined in 4.1, the following diagrams show the turning movements of predicted development traffic at the Kennyswell Rd / Proposed Access priority junction and at the existing Dominic St / De Loughry / Kennyswell Rd crossroads junction during the AM and PM peak hours:

AM Peak - Development Flows



PM Peak - Development Flows



4.3 FUTURE YEAR TRAFFIC GROWTH

The TII issues a range of forecasts: low growth, medium growth and high growth. The implementation of policies relating to Smarter Travel and to public transport will also act a deterrent to high growth in car-based travel. Low growth factors are however likely to be equally unrealistic at present in the Crokers Hill area, so we have used medium growth factors in our assessment.

The zone in which the site is located is numbered 6261 in the TII National Traffic Model. The growth factors are as follows:

Zone	2018 Existing	2020 development completion	2025 5 years after dev. completion	2035 15 years after dev. completion
6261	1	1.95%	7.04%	13.66%

These percentages have been used to predict the increase in background traffic that will occur in future years. Full summary tables and predicted future traffic flows for 2020, 2025 and 2035 future years are included in Appendix C – Traffic Flow Sheets.

4.4 SENSITIVITY TESTING OF FUTURE DEVELOPMENTS

Sensitivity analysis was carried out on the junction of Kennyswell Road with Dominic Street as a result of the opening of the Breagagh Valley Park Scheme and the Kilkenny Central Access Scheme extension.

An Environmental Impact Statement was carried out be Malone O' Regan Scott Wilson for the Kilkenny Central Access Scheme. Traffic modelling and forecasting was undertaken using the Kilkenny City Traffic Model. Forecasting was undertaken for the following years, 2015 and 2030 under the Do Something scenario.

In 2015 Do Something scenario the predicted AADT at the Kennyswell Rd / Dominic Street junction is 18,222 vehicles.

In 2030 Do Something scenario the predicted AADT at the Kennyswell Rd / Dominic Street junction is 15,206 vehicles with the Kilkenny Central Access Scheme open.

The above predictions indicate that with the opening of the Kilkenny Central Access Scheme it is assumed that traffic flow at the Kennyswell Rd / Dominic Street will reduce by 16.5% approximately.

In order to access the affects the opening of the Kilkenny Central Access Scheme will have on the operational performance on the Kennyswell Rd / Dominic Street junction an assessment was carried out on the junction with a reduction of 16.5% of the background traffic.

Full details of predicted traffic flows are provided in Appendix C – Traffic Flow Sheets.

5 OPERATIONAL ASSESSMENTS

5 Operational Assessments

5.1 INTRODUCTION

Traffic generated by the proposed development will have some affect on the local road network surrounding the site. The following junctions were assessed:

- Dominic St / De Loughry / Kennyswell Rd Crossroads Junction
- Kennyswell Rd / Proposed Access Priority Junction

5.2 KENNYSWELL RD / PROPOSED ACCESS PRIORITY JUNCTION

Capacity assessments have been undertaken using the computer program PICADY for the AM and PM peak hours.

The following tables summarise the existing situation and the effects that the proposed Residential development will have on this junction in 2020, 2025 and 2035 using the existing and predicted traffic flows shown in Appendix C – Traffic Flow Sheets. Full PICADY printouts are provided in Appendix E – PICADY Results.

The parameters shown in the tables are defined as follows:

Ratio of Flow to Capacity (RFC) is a factor indicating the flow on a junction arm relative to its capacity. An RFC of 1.0 means the junction has reached its ultimate capacity and an RFC of 0.85 means that the junction has reached its reserve capacity.

Avg. Queue is the average number of vehicles queued over the time period on the junction approach.

Queue delay is the average number of seconds delay to each vehicle in the time period.

Total Delay is the total number of vehicle hours of delay to all vehicles at the junction over the time period.

5.2.1 Existing Assessment (2018 Existing Flows)

The following tables show the predicted RFC values (Ratio of Flow to Capacity), average queue lengths, average vehicle delay and total delays for the existing roundabout junction using the existing traffic flows.

AM Peak – 2018 Existing

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.582	1	16	2.040
De Loughry	0.017	0	11	
Dominic St (south)	0.000	1	0	
Kennyswell Rd	0.568	0	17	

PM Peak – 2018 Existing

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.429	1	14	1.238
De Loughry	0.016	0	11	
Dominic St (south)	0.000	0	8	
Kennyswell Rd	0.380	1	12	

The summary predictions shown in the tables above indicate that there are small queues and some delays at this junction at present during the busiest peak hours.

5.2.2 Design Year Assessments (2020 With Development)

The following tables show the predicted RFC values (Ratio of Flow to Capacity), average queue lengths, average vehicle delay and total delays for the existing junction using the predicted traffic flows for 2020 including the proposed development.

AM Peak – 2020 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.601	1	18	2.503
De Loughry	0.018	0	12	
Dominic St (south)	0.000	0	0	
Kennyswell Rd	0.612	2	19	

PM Peak – 2020 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.464	1	17	1.570
De Loughry	0.016	0	12	
Dominic St (south)	0.000	0	8	
Kennyswell Rd	0.415	1	13	

The summary predictions shown in the tables above indicate that there will be some queues and delays in the AM and PM peak hours at the junction in 2020, planned year of opening.

5.2.3 Design Year Assessments (2025 With Development)

The following tables show the predicted RFC values (Ratio of Flow to Capacity), average queue lengths, average vehicle delay and total delays for the existing junction using the predicted traffic flows for 2025 including the proposed development.

AM Peak – 2025 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.637	1	20	2.936
De Loughry	0.019	0	13	
Dominic St (south)	0.000	0	0	
Kennyswell Rd	0.646	2	21	

PM Peak – 2025 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.507	1	19	1.846
De Loughry	0.017	0	13	
Dominic St (south)	0.000	0	8	
Kennyswell Rd	0.443	1	13	

The summary predictions shown in the tables above indicate that there will be some queues and delays in the AM and PM peak hours at the junction in 2025, five years after development completion.

5.2.4 Design Year Assessments (2035 With Development)

The following tables show the predicted RFC values (Ratio of Flow to Capacity), average queue lengths, average vehicle delay and total delays for the existing junction using the predicted traffic flows for 2035 including the proposed development.

AM Peak – 2035 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.684	1	23	3.650
De Loughry	0.023	0	14	
Dominic St (south)	0.000	0	0	
Kennyswell Rd	0.689	2	25	

PM Peak – 2035 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.533	1	22	2.160
De Loughry	0.021	0	13	
Dominic St (south)	0.000	0	9	
Kennyswell Rd	0.476	1	14	

The summary predictions shown in the tables above indicate that there will be some queues and delays in the AM and PM peak hours at the junction by 2035, fifteen years after development completion.

5.2.5 Sensitivity Testing 2035 with Development

Sensitivity analysis was carried out on the junction of Kennyswell Road with Dominic Street as a result of the opening of the Breagagh Valley Park Scheme and the Kilkenny Central Access Scheme extension.

The following tables show the predicted RFC values (Ratio of Flow to Capacity), average queue lengths, average vehicle delay and total delays for the existing junction using the predicted traffic flows for 2035 including the proposed development and the opening of the Breagagh Valley Park Scheme and the Kilkenny Central Access Scheme extension.

AM Peak – 2035 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.564	1	14	1.958
De Loughry	0.014	0	11	
Dominic St (south)	0.000	0	0	
Kennyswell Rd	0.557	1	16	

PM Peak – 2035 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh.hrs.)
Dominic St (north)	0.400	1	13	1.102
De Loughry	0.013	0	11	
Dominic St (south)	0.000	0	8	
Kennyswell Rd	0.355	0	11	

The summary predictions shown in the tables above indicate that there will be small queues and delays in the AM and PM peak hours at the junction by 2035, fifteen years after development completion.

5.3 KENNYSWELL RD / PROPOSED DEVELOPMENT ACCESS

Capacity assessments have been undertaken using the computer program PICADY for the AM and PM peak hours.

The following tables summarise the existing situation and the effects that the proposed Residential development will have on this junction in 2020, 2025 and 2035 using the existing

and predicted traffic flows shown in Appendix C – Traffic Flow Sheets. Full PICADY printouts are provided in Appendix E – PICADY Results.

5.3.1 Design Year Assessment (2020 With Development)

The following tables show the predicted RFC values (Ratio of Flow to Capacity), average queue lengths, average vehicle delay and total delays for the existing junction using the predicted traffic flows for 2020 including the proposed development.

AM Peak – 2020 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh./hrs.)
Kennyswell Rd (west)	-	-	-	0.053
Proposed Access	0.040	0	8	
Kennyswell rd (east)	0.023	0	7	

PM Peak – 2020 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh./hrs.)
Kennyswell Rd (west)	-	-	-	0.080
Proposed Access	0.041	0	8	
Kennyswell rd (east)	0.045	0	7	

The summary predictions shown in the tables above indicate that there will be no queues and minimal delays in the AM and PM peak hours at the junction in 2020, planned year of opening.

5.3.2 Design Year Assessment (2025 With Development)

The following tables show the predicted RFC values (Ratio of Flow to Capacity), average queue lengths, average vehicle delay and total delays for the existing junction using the predicted traffic flows for 2025 including the proposed development.

AM Peak – 2025 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh./hrs.)
Kennyswell Rd (west)	-	-	-	0.053
Proposed Access	0.041	0	8	
Kennyswell rd (east)	0.024	0	7	

PM Peak – 2025 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh./hrs.)
Kennyswell Rd (west)	-	-	-	0.080
Proposed Access	0.041	0	8	
Kennyswell rd (east)	0.046	0	7	

The summary predictions shown in the tables above indicate that there will be no queues and minimal delays in the AM and PM peak hours at the junction by 2025, fifteen years after development completion.

5.3.3 Design Year Assessment (2035 With Development)

The following tables show the predicted RFC values (Ratio of Flow to Capacity), average queue lengths, average vehicle delay and total delays for the existing junction using the predicted traffic flows for 2035 including the proposed development.

AM Peak – 2035 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh./hrs.)
Kennyswell Rd (west)	-	-	-	0.053
Proposed Access	0.041	0	8	
Kennyswell rd (east)	0.022	0	7	

PM Peak – 2035 with development

Approach	Predicted RFC value	Avge Queue (vehicles)	Queue delay (secs./veh.)	Total Delay (veh./hrs.)
Kennyswell Rd (west)	-	-	-	0.080
Proposed Access	0.042	0	8	
Kennyswell rd (east)	0.045	0	7	

The summary predictions shown in the tables above indicate that there will be no queues and minimal delays in the AM and PM peak hours at the junction by 2035, fifteen years after development completion.

5.4 R695 CAPACITY ASSESSMENT

A capacity assessment of the R695 Kennyswell Road has been undertaken to determine the impact the new development flows will have on the R695. The AM and PM traffic counts have been converted to AADT (Annual Average Daily Traffic) using the methodology in *TII Project Appraisal Guidelines 'Unit 16.1 Expansion Factors for Short Period Traffic Counts'*.

The vehicle flows (Annual Average Daily Traffic) given in Table 6.1 of DN-GEO-03031 Rural Road Link Design represent the approximate two-way flows which correspond to Level of Service D in reasonably level terrain. This is the level of service at which passing becomes extremely difficult and begins to affect the overall flow of the road.

Table 6.1 indicates that the R695 would be considered as a Type 3 Single Carriageway with a capacity of 5,000 AADT for a Level of Service D.

The following tables calculates the existing AADT for the R695 and the future AADT for the R695 when the development is operational in 2020, 2025 and 2035.

2018 Existing Annual Average Daily Traffic

STEP 1: Conversion of short period traffic counts to average daily traffic				
	Flows	PAG* factor	Daily flow (Flows/PAG*factor)	Average Daily traffic for 10th April 2018
AM peak (08:15 – 09:15)	461	0.086	5,360	4,820
PM peak (16:45 – 17:45)	351	0.082	4,280	
** Project Appraisal Guidelines*				

STEP 2: Conversion of average daily traffic to weekly average daily traffic		
Average Daily traffic for 10th April 2018	PAG* factor	WADT *Weekly Average Daily Traffic* (Avg. Daily traffic * PAG factor)
4,820	0.98	4,723

STEP 3: Conversion of weekly average daily traffic to annual average daily traffic)		
WADT	PAG* factor	**AADT** *Annually Average Daily Traffic* (WADT * PAG factor)
4,723	0.98	**4,628**

From the table above the existing AADT for the R695 is 4,628 AADT which is below the recommended 5,000 AADT for a Level of Service D for a Type 3 Single Carriageway.

2020 Proposed Annual Average Daily Traffic with Development Flows

STEP 1: Conversion of short period traffic counts to average daily traffic				
	Flows	PAG* factor	Daily flow (Flows/PAG*factor)	Average Daily traffic for 10th April 2020
AM peak (08:15 – 09:15)	491	0.086	5,709	5,037
PM peak (16:45 – 17:45)	358	0.082	4,365	
** Project Appraisal Guidelines*				

STEP 2: Conversion of average daily traffic to weekly average daily traffic		
Average Daily traffic for 10th April 2020	PAG* factor	WADT *Weekly Average Daily Traffic* (Avg. Daily traffic * PAG factor)
5,037	0.98	4,936
STEP 3: Conversion of weekly average daily traffic to annual average daily traffic)		
WADT	PAG* factor	**AADT** *Annually Average Daily Traffic* (WADT * PAG factor)
4,936	0.98	**4,837**

From the table above the AADT for the R695 in 2020 with the development fully operational is 4,837 AADT which is below the recommended 5,000 AADT for a Level of Service D for a Type 3 Single Carriageway.

2025 Proposed Annual Average Daily Traffic with Development Flows

STEP 1: Conversion of short period traffic counts to average daily traffic				
	Flows	PAG* factor	Daily flow (Flows/PAG*factor)	Average Daily traffic for 10th April 2025
AM peak (08:15 – 09:15)	515	0.086	5,988	5,280
PM peak (16:45 – 17:45)	375	0.082	4,573	
** Project Appraisal Guidelines*				
STEP 2: Conversion of average daily traffic to weekly average daily traffic				
Average Daily traffic for 10th April 2025		PAG* factor		WADT *Weekly Average Daily Traffic* (Avg. Daily traffic * PAG factor)
5,280		0.98		5,174
STEP 3: Conversion of weekly average daily traffic to annual average daily traffic)				
WADT		PAG* factor		**AADT** *Annually Average Daily Traffic* (WADT * PAG factor)
5,174		0.98		**5,070**

From the table above the AADT for the R695 in 2025 with the development fully operational is 5,070 AADT which is slightly above the recommended 5,000 AADT for a Level of Service D for a Type 3 Single Carriageway.

2035 Proposed Annual Average Daily Traffic with Development Flows

STEP 1: Conversion of short period traffic counts to average daily traffic				
	Flows	PAG* factor	Daily flow (Flows/PAG*factor)	Average Daily traffic for 10th April 2035
AM peak (08:15 – 09:15)	605	0.086	7,034	5,950
PM peak (16:45 – 17:45)	399	0.082	4,865	
** Project Appraisal Guidelines*				
STEP 2: Conversion of average daily traffic to weekly average daily traffic				
Average Daily traffic for 10th April 2035		PAG* factor		WADT *Weekly Average Daily Traffic* (Avg. Daily traffic * PAG factor)
5,950		0.98		5,831
STEP 3: Conversion of weekly average daily traffic to annual average daily traffic)				
WADT		PAG* factor		**AADT** *Annually Average Daily Traffic* (WADT * PAG factor)
5,831		0.98		**5,714**

From the table above the AADT for the R695 in 2035 with the development fully operational is 5,714 AADT which is above the recommended 5,000 AADT for a Level of Service D for a Type 3 Single Carriageway.

2035 Proposed Annual Average Daily Traffic with Kilkenny City Access Scheme Open

STEP 1: Conversion of short period traffic counts to average daily traffic				
	Flows	PAG* factor	Daily flow (Flows/PAG*factor)	Average Daily traffic for 10th April 2035
AM peak (08:15 – 09:15)	458	0.086	5,325	4,837
PM peak (16:45 – 17:45)	355	0.082	4,329	
** Project Appraisal Guidelines*				
STEP 2: Conversion of average daily traffic to weekly average daily traffic				
Average Daily traffic for 10th April 2035		PAG* factor		WADT *Weekly Average Daily Traffic* (Avg. Daily traffic * PAG factor)
4,827		0.98		4,730
STEP 3: Conversion of weekly average daily traffic to annual average daily traffic)				
WADT		PAG* factor		**AADT** *Annually Average Daily Traffic* (WADT * PAG factor)
4,730		0.98		**4,635**

From the table above the AADT for the R695 in 2035 with the development fully operational and the Kilkenny City Access Scheme open is 4,635 AADT which is below the recommended 5,000 AADT for a Level of Service D for a Type 3 Single Carriageway.

5.5 CONCLUSIONS

Junction analyses to assess the effects of traffic generated by the proposed development have been undertaken for the existing Dominic St / De Loughry / Kennyswell Rd Crossroads Junction and the proposed Kennyswell Rd / Proposed Access Priority Junction. The analysis shows that:

- The existing Dominic St / De Loughry / Kennyswell Rd crossroads junction will operate within capacity with some queues and delays when the proposed residential development is completed in 2020, year of opening, 2025, five years after completion and in 2035, fifteen years after completion.
- The proposed proposed Kennyswell Rd / Development Access priority junction will operate within capacity with no queues and minimal delays in 2020 year of opening, 2025, five years after opening, and in 2035, fifteen years after completion
- The opening of the Breagagh Valley Park Scheme and the Kilkenny Central Access Scheme extension will improve the operational capacity of the existing Dominic St / De Loughry / Kennyswell Rd crossroads junction.

A capacity assessment of the R695 has been undertaken determine the impact the new development flows will have on the R695. The R695 is considered to be a Type 3 Single Carriageway with a recommended AADT capacity level of 5,000 for a Level of Service D. The analysis shows that:

- The existing R695 operates within capacity for a Level of Service D with an existing AADT level of 4,628.
- The R695 will operate within capacity for a Level of Service D in 2020 when the development will become fully operational with a proposed AADT of 4,837.

- The R695 will operate above capacity for a Level of Service D in 2025 when the development is open with a proposed AADT of 5,070.
- The R695 will operate above capacity for a Level of Service D in 2035 when the development is open with a proposed AADT of 5,714.
- The R695 will operate within capacity for a Level of Service D in 2035 when the development fully operational and the Kilkenny City Access Scheme is open with a proposed AADT of 4,635.

6 PARKING

6 Parking

6.1 CAR PARKING PROVISION

A total of 93 parking spaces are to be provided within the proposed Social Housing development as shown on the architect's drawing contained in Appendix A – Drawings

6.2 CAR PARKING REQUIREMENTS FROM DEVELOPMENT PLAN

The 'Kilkenny County Council Development *Plan 2014-2020*' lists standard provision for car parking and the table below sets out those requirements in relation to the proposed development.

Car parking requirements from the Kilkenny County Council Development Plan 2014 - 2020

Parking Standards for Residential Development			
Location	Requirements	Quantity	Parking
Dwelling House	2 car parking spaces per unit 0.25 spaces per unit for visitor parking	25	56
Apartments	1.25 spaces per unit 0.25 spaces per unit for visitor parking	61	91
		Total	**147**

The Kilkenny County Council Development Plan indicates that the number of parking spaces required is 157. The proposed residential development will provide a total of 93 parking spaces.

7 ROAD SAFETY, PEDESTRIANS AND INTERNAL LAYOUT

7 Road Safety, Pedestrians and Internal Layout

7.1 ROAD SAFETY

The Design Manual for Urban Roads and Streets indicates that for a 50km/h speed limit a sightline of 45m at a 2m set-back shall be achieved in both directions.

At the proposed accesses onto Kennyswell Rd a 45m sightline at a 2m set-back can be achieved in both directions. The visibility splay to the east and west of the proposed access is measured from a 2m set-back to the nearside kerb of the road.

A Road Safety Audit report was submitted under a separate cover.

7.2 PEDESTRIANS

A 2m wide footpath will be provided internally to cater for pedestrian movement within the development. It internal footpaths will connect to the existing footpath provided along Kennyswell Road.

7.3 INTERNAL LAYOUT

Within the development the spine road is 6m wide.

Parking is provided for each residential dwelling. Parking bays are 2.5m wide x 5m long.

HGV access to the site will be via the proposed accesses onto the Kennyswell Rd. The types of HGV's accessing the site would be emergency vehicles and a bin lorry. The internal layout can facilitate HGV movement within the site.

8 CONCLUSIONS AND SUMMARY

8 Conclusions

The main conclusions of this study are summarised as follows:

- The development flows to and from the site have been predicted using the TRICS database.
- The existing Dominic St / De Loughry / Kennyswell Rd crossroads junction will operate within capacity with some queues and delays when the proposed residential development is completed in 2020, year of opening, 2025, five years after completion and in 2035, fifteen years after completion.
- The proposed Kennyswell Rd / Development Access priority junction will operate within capacity with no queues and minimal delays in 2020 year of opening, 2025, five years after opening, and in 2035, fifteen years after completion.
- The opening of the Breagagh Valley Park Scheme and the Kilkenny Central Access Scheme extension will improve the operational capacity of the existing Dominic St / De Loughry / Kennyswell Rd crossroads junction.
- The existing R695 operates within capacity for a Level of Service D with an existing AADT level of 4,628.
- The R695 will operate within capacity for a Level of Service D in when the development is fully operational with a proposed AADT of 4,837 in 2020, year of opening and an AADT of 5,070 in 2025, five years after completion.
- The R695 will operate above capacity for a Level of Service D in 2035 when the development is open with a proposed AADT of 5,714.
- The R695 will operate within capacity for a Level of Service D in 2035 when the development fully operational and the Kilkenny City Access Scheme is open with a proposed AADT of 4,635.
- Sightlines at the proposed two accesses onto Kennyswell Road are in compliance with the Design Manual for Urban Roads and Streets.

APPENDICES

APPENDIX A – DRAWINGS

APPENDIX B – TRAFFIC COUNTS

Arm A Dominic St (north)
Arm B De Loughry
Arm C Dominic St (south)
Arm D = Kennyswell Rd

AM Traffic Flows

	A - B			A - C			A - D		
	LVG's	HGV's	Total	LVG's	HGV's	Total	LVG's	HGV's	Total
07:30	0	0	0	70	2	72	18	2	20
07:45	0	0	0	97	1	98	29	3	32
08:00	0	0	0	128	4	132	23	5	28
08:15	0	0	0	145	3	148	20	4	24
08:30	0	0	0	143	3	146	46	5	51
08:45	0	0	0	109	2	111	66	6	72
09:00	0	0	0	133	1	134	32	4	36
09:15	0	0	0	117	1	118	18	4	22

PM Traffic Flows

	A - B			A - C			A - D		
	LVG's	HGV's	Total	LVG's	HGV's	Total	LVG's	HGV's	Total
04:30	0	0	0	116	0	116	32	6	38
04:45	1	0	1	138	0	138	44	1	45
05:00	3	0	3	150	0	150	50	2	52
05:15	1	0	1	140	0	140	48	2	50
05:30	1	0	1	157	0	157	48	0	48
05:45	2	0	2	110	0	110	36	6	42
06:00	0	0	0	123	0	123	38	0	38
06:15	5	0	5	127	2	129	27	0	27

AM Traffic Flows

B - A			B - C			B - D		
LVG's	HGV's	Total	LVG's	HGV's	Total	LVG's	HGV's	Total
0	0	0	0	0	0	0	0	0
2	0	2	1	0	1	0	0	0
1	0	1	1	0	1	1	0	1
0	0	0	2	0	2	0	0	0
2	0	2	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0
0	0	0	1	0	1	0	0	0
0	0	0	0	0	0	0	0	0

PM Traffic Flows

B - A			B - C			B - D		
0	0	Total	LVG's	HGV's	Total	LVG's	HGV's	Total
0	0	0	1	0	1	0	0	0
2	0	2	1	0	1	1	0	1
0	0	0	0	0	0	1	0	1
0	0	0	1	0	1	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	1	0	1	0	0	0
1	0	1	0	0	0	0	0	0

AM Traffic Flows

C - A			C - B			C - D		
LVG's	HGV's	Total	LVG's	HGV's	Total	LVG's	HGV's	Total
79	1	80	0	0	0	0	0	0
107	1	108	1	0	1	1	0	1
127	6	133	1	0	1	0	0	0
165	2	167	0	0	0	2	0	2
141	2	143	0	0	0	2	0	2
91	0	91	0	0	0	5	0	5
141	1	142	0	0	0	1	0	1
118	5	123	1	0	1	4	0	4

PM Traffic Flows

C - A			C - B			C - D		
LVG's	HGV's	Total	LVG's	HGV's	Total	LVG's	HGV's	Total
131	0	131	0	0	0	5	0	5
147	2	149	0	0	0	0	0	0
147	2	149	0	0	0	5	0	5
166	1	167	0	0	0	1	0	1
175	2	177	1	0	1	2	0	2
172	1	173	2	0	2	1	0	1
150	3	153	0	0	0	34	0	34
155	1	156	0	0	0	26	0	26

AM Traffic Flows

D - A			D - B			D - C		
LVG's	HGV's	Total	LVG's	HGV's	Total	LVG's	HGV's	Total
34	1	35	0	0	0	0	0	0
24	3	27	0	0	0	3	0	3
56	9	65	0	0	0	1	0	1
65	5	70	0	0	0	1	0	1
63	5	68	0	0	0	1	0	1
70	2	72	0	0	0	2	0	2
48	3	51	0	0	0	3	0	3
32	0	32	0	0	0	4	0	4

PM Traffic Flows

D - A			D - B			D - C		
LVG's	HGV's	Total	LVG's	HGV's	Total	LVG's	HGV's	Total
18	0	18	0	0	0	4	0	4
37	2	39	0	0	0	1	0	1
41	1	42	1	0	1	1	0	1
25	3	28	0	0	0	0	0	0
24	3	27	0	0	0	7	0	7
35	2	37	0	0	0	2	0	2
13	4	17	0	0	0	7	0	7
16	2	18	0	0	0	22	0	22

APPENDIX C – TRAFFIC FLOW SHEETS

AM Peak Hour (08:15 - 09:15) • Dominic St / De Loughry / Kennyswell Rd Crossroads Junction

Base year AM

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	539	183	**722**
De Loughry	3	0	3	0	**6**
Dominic St (south)	543	0	0	10	**553**
Kennyswell rd	261	0	7	0	**268**
Totals	**807**	**0**	**549**	**193**	**1549**

Development flows

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	0	4	**4**
De Loughry	0	0	0	0	**0**
Dominic St (south)	0	0	0	1	**1**
Kennyswell rd	16	0	1	0	**17**
Totals	**16**	**0**	**1**	**5**	**22**

2020 year flows without development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	550	187	**736**
De Loughry	3	0	3	0	**6**
Dominic St (south)	554	0	0	10	**564**
Kennyswell rd	266	0	7	0	**273**
Totals	**823**	**0**	**560**	**197**	**1579**

2020 year flows with development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	550	191	**740**
De Loughry	3	0	3	0	**6**
Dominic St (south)	554	0	0	11	**565**
Kennyswell rd	282	0	8	0	**290**
Totals	**839**	**0**	**561**	**202**	**1601**

2025 year flows without development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	577	196	**773**
De Loughry	3	0	3	0	**6**
Dominic St (south)	581	0	0	11	**592**
Kennyswell rd	279	0	7	0	**287**
Totals	**864**	**0**	**588**	**207**	**1658**

2025 year flows with development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	577	200	**777**
De Loughry	3	0	3	0	**6**
Dominic St (south)	581	0	0	12	**593**
Kennyswell rd	295	0	8	0	**304**
Totals	**880**	**0**	**589**	**212**	**1680**

2035 year flows without development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	613	208	**821**
De Loughry	3	0	3	0	**7**
Dominic St (south)	617	0	0	11	**629**
Kennyswell rd	297	0	8	0	**305**
Totals	**917**	**0**	**624**	**219**	**1761**

2035 year flows with development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	613	212	**825**
De Loughry	3	0	3	0	**7**
Dominic St (south)	617	0	0	12	**630**
Kennyswell rd	313	0	9	0	**322**
Totals	**933**	**0**	**625**	**224**	**1783**

AM Peak Hour (08:15 - 09:15) • Dominic St / De Loughry / Kennyswell Rd Crossroads Junction

LV's

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	530	164	**694**
De Loughry	3	0	3	0	**6**
Dominic St (south)	538	0	0	10	**548**
Kennyswell rd	246	0	7	0	**253**
Totals	**787**	**0**	**540**	**174**	**1501**

HGV's

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	9	19	**28**
De Loughry	0	0	0	0	**0**
Dominic St (south)	5	0	0	0	**5**
Kennyswell rd	15	0	0	0	**15**
Totals	**20**	**0**	**9**	**19**	**48**

% HGV's

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd
Dominic St (north)	0.00%	0.00%	1.67%	10.38%
De Loughry	0.00%	0.00%	0.00%	0.00%
Dominic St (south)	0.92%	0.00%	0.00%	0.00%
Kennyswell rd	5.75%	0.00%	0.00%	0.00%

PM Peak Hour (16:45 -17:45) • Dominic St / De Loughry / Kennyswell Rd Crossroads Junction

Base year PM

0	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	6	585	195	**786**
De Loughry	2	0	2	2	**6**
Dominic St (south)	642	1	0	8	**651**
Kennyswell rd	136	1	9	0	**146**
Totals	**780**	**8**	**596**	**205**	**1589**

Development flows

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	0	13	**13**
De Loughry	0	0	0	0	**0**
Dominic St (south)	0	0	0	2	**2**
Kennyswell rd	11	0	1	0	**12**
Totals	**11**	**0**	**1**	**15**	**27**

2020 year flows without development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	6	596	199	**801**
De Loughry	2	0	2	2	**6**
Dominic St (south)	655	1	0	8	**664**
Kennyswell rd	139	1	9	0	**149**
Totals	**795**	**8**	**608**	**209**	**1620**

2020 year flows with development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	6	596	212	**814**
De Loughry	2	0	2	2	**6**
Dominic St (south)	655	1	0	10	**666**
Kennyswell rd	150	1	10	0	**161**
Totals	**806**	**8**	**609**	**224**	**1647**

2025 year flows without development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	6	626	209	**841**
De Loughry	2	0	2	2	**6**
Dominic St (south)	687	1	0	9	**697**
Kennyswell rd	146	1	10	0	**156**
Totals	**835**	**9**	**638**	**219**	**1701**

2025 year flows with development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	6	626	222	**854**
De Loughry	2	0	2	2	**6**
Dominic St (south)	687	1	0	11	**699**
Kennyswell rd	157	1	11	0	**168**
Totals	**846**	**9**	**639**	**234**	**1728**

2035 year flows without development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	7	665	222	**893**
De Loughry	2	0	2	2	**7**
Dominic St (south)	730	1	0	9	**740**
Kennyswell rd	155	1	10	0	**166**
Totals	**887**	**9**	**677**	**233**	**1806**

2035 year flows with development

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	7	665	235	**906**
De Loughry	2	0	2	2	**7**
Dominic St (south)	730	1	0	11	**742**
Kennyswell rd	166	1	11	0	**178**
Totals	**898**	**9**	**678**	**248**	**1833**

PM Peak Hour (16:45 -17:45) • Dominic St / De Loughry / Kennyswell Rd Crossroads Junction

LV's

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	6	585	190	**781**
De Loughry	2	0	2	2	**6**
Dominic St (south)	635	1	0	8	**644**
Kennyswell rd	127	1	9	0	**137**
Totals	**764**	**8**	**596**	**200**	**1568**

HGV's

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd	**Totals**
Dominic St (north)	0	0	0	5	**5**
De Loughry	0	0	0	0	**0**
Dominic St (south)	7	0	0	0	**7**
Kennyswell rd	9	0	0	0	**9**
Totals	**16**	**0**	**0**	**5**	**21**

% HGV's

	Dominic St (north)	De Loughry	Dominic St (south)	Kennyswell rd
Dominic St (north)	0.00%	0.00%	0.00%	2.56%
De Loughry	0.00%	0.00%	0.00%	0.00%
Dominic St (south)	1.09%	0.00%	0.00%	0.00%
Kennyswell rd	6.62%	0.00%	0.00%	0.00%

AM Peak Hour

Base year AM

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	231	**231**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	168	0	0	**168**
Totals	**168**	**0**	**231**	**399**

Development flows

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	2	0	**2**
Proposed Access	9	0	17	**26**
Kennyswell Rd (east)	0	5	0	**5**
Totals	**9**	**7**	**17**	**33**

2019 year flows without development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	235	**235**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	171	0	0	**171**
Totals	**171**	**0**	**235**	**406**

2019 year flows with development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	2	235	**237**
Proposed Access	9	0	17	**26**
Kennyswell Rd (east)	171	5	0	**176**
Totals	**180**	**7**	**252**	**439**

2024 year flows without development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	245	**245**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	178	0	0	**178**
Totals	**178**	**0**	**245**	**424**

2024 year flows with development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	2	245	**247**
Proposed Access	9	0	17	**26**
Kennyswell Rd (east)	178	5	0	**183**
Totals	**187**	**7**	**262**	**457**

2034 year flows without development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	261	**261**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	190	0	0	**190**
Totals	**190**	**0**	**261**	**451**

2034 year flows with development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	2	261	**263**
Proposed Access	9	0	17	**26**
Kennyswell Rd (east)	190	5	0	**195**
Totals	**199**	**7**	**278**	**484**

AM Peak Hour

LV's

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	223	**223**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	159	0	0	**159**
Totals	**159**	**0**	**223**	**382**

HGV's

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	8	**8**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	9	0	0	**9**
Totals	**9**	**0**	**8**	**17**

% HGV's

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)
Kennyswell Rd (west)	0.00%	0.00%	3.46%
Proposed Access	0.00%	0.00%	0.00%
Kennyswell Rd (east)	5.36%	0.00%	0.00%

PM Peak Hour

Base year PM

0	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	205	**205**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	127	0	0	**127**
Totals	**127**	**0**	**205**	**332**

Development flows

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	6	0	**6**
Proposed Access	4	0	12	**16**
Kennyswell Rd (east)	0	15	0	**15**
Totals	**4**	**21**	**12**	**37**

2019 year flows without development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	208	**208**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	129	0	0	**129**
Totals	**129**	**0**	**208**	**338**

2019 year flows with development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	6	208	**214**
Proposed Access	4	0	12	**16**
Kennyswell Rd (east)	129	15	0	**144**
Totals	**133**	**21**	**220**	**375**

2024 year flows without development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	218	**218**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	135	0	0	**135**
Totals	**135**	**0**	**218**	**353**

2024 year flows with development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	6	218	**224**
Proposed Access	4	0	12	**16**
Kennyswell Rd (east)	135	15	0	**150**
Totals	**139**	**21**	**230**	**390**

2034 year flows without development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	231	**231**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	143	0	0	**143**
Totals	**143**	**0**	**231**	**375**

2034 year flows with development

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	6	231	**237**
Proposed Access	4	0	12	**16**
Kennyswell Rd (east)	143	15	0	**158**
Totals	**147**	**21**	**243**	**412**

PM Peak Hour

LV's

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	188	**188**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	114	0	0	**114**
Totals	**114**	**0**	**188**	**302**

HGV's

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)	**Totals**
Kennyswell Rd (west)	0	0	17	**17**
Proposed Access	0	0	0	**0**
Kennyswell Rd (east)	13	0	0	**13**
Totals	**13**	**0**	**17**	**30**

% HGV's

	Kennyswell Rd (west)	Proposed Access	Kennyswell Rd (east)
Kennyswell Rd (west)	0.00%	0.00%	8.29%
Proposed Access	0.00%	0.00%	0.00%
Kennyswell Rd (east)	10.24%	0.00%	0.00%

APPENDIX D – TRICS INFORMATION

Filtering Summary

Land Use	03/B	RESIDENTIAL/AFFORDABLE/LOCAL AUTHORITY H
Selected Trip Rate Calculation Parameter Range	25-100 DWELLS	
Actual Trip Rate Calculation Parameter Range	29-97 DWELLS	
Date Range	Minimum: 01/01/09	Maximum: 27/05/16
Days of the week selected	Monday	3
	Tuesday	1
	Wednesday	1
	Thursday	1
	Friday	1
Main Location Types selected	Suburban Area (PPS6 Out of Centre)	3
	Edge of Town	4
Population <1 Mile ranges selected	5,001 to 10,000	2
	10,001 to 15,000	1
	15,001 to 20,000	2
	25,001 to 50,000	2
Population <5 Mile ranges selected	5,001 to 25,000	1
	75,001 to 100,000	2
	125,001 to 250,000	2
	250,001 to 500,000	2
Car Ownership <5 Mile ranges selected	0.6 to 1.0	5
	1.1 to 1.5	2
PTAL Rating	No PTAL Present	7

Calculation Reference: AUDIT-700101-170405-0436

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : B - AFFORDABLE/LOCAL AUTHORITY HOUSES
VEHICLES

Selected regions and areas:

06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	2 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
	GM	GREATER MANCHESTER	1 days
09	NORTH		
	NB	NORTHUMBERLAND	1 days
13	MUNSTER		
	TI	TIPPERARY	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 29 to 97 (units:)
Range Selected by User: 25 to 100 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 27/05/16

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Tuesday	1 days
Wednesday	1 days
Thursday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	4

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	5
Built-Up Zone	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out

Secondary Filtering selection:

Use Class:

C3	7 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	2 days
25,001 to 50,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
75,001 to 100,000	2 days
125,001 to 250,000	2 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	7 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	7 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

Site(1):	CH-03-B-01	Site area:	1.74 hect
Development Name:	HOUSES & FLATS	Number of dwellings:	80
Location:	CHESTER	Housing density:	66
Postcode:	CH1 5UP	Total Bedrooms:	204
Main Location Type:	Edge of Town	Survey Date:	17/11/14
Sub-Location Type:	Residential Zone	Survey Day:	Monday
PTAL:	n/a	Parking Spaces:	189
Site(2):	GM-03-B-01	Site area:	0.76 hect
Development Name:	TERRACED HOUSES	Number of dwellings:	43
Location:	ROCHDALE	Housing density:	86
Postcode:	OL16 5TF	Total Bedrooms:	111
Main Location Type:	Suburban Area (PPS6 Out of Centre)	Survey Date:	21/10/15
Sub-Location Type:	No Sub Category	Survey Day:	Wednesday
PTAL:	n/a	Parking Spaces:	40
Site(3):	NB-03-B-01	Site area:	3.60 hect
Development Name:	SEMI DET. & TERRACED	Number of dwellings:	97
Location:	BEDLINGTON	Housing density:	36
Postcode:	NE22 6DX	Total Bedrooms:	292
Main Location Type:	Edge of Town	Survey Date:	19/11/12
Sub-Location Type:	Residential Zone	Survey Day:	Monday
PTAL:	n/a	Parking Spaces:	111
Site(4):	TI-03-B-01	Site area:	2.09 hect
Development Name:	MIXED HOUSES	Number of dwellings:	43
Location:	NENAGH	Housing density:	41
Postcode:		Total Bedrooms:	116
Main Location Type:	Suburban Area (PPS6 Out of Centre)	Survey Date:	27/05/16
Sub-Location Type:	Residential Zone	Survey Day:	Friday
PTAL:	n/a	Parking Spaces:	70
Site(5):	WM-03-B-01	Site area:	1.81 hect
Development Name:	SEMI DET./TERRACED	Number of dwellings:	97
Location:	BIRMINGHAM	Housing density:	
Postcode:	B37 6SZ	Total Bedrooms:	291
Main Location Type:	Edge of Town	Survey Date:	17/10/11
Sub-Location Type:	Residential Zone	Survey Day:	Monday
PTAL:	n/a	Parking Spaces:	146
Site(6):	WY-03-B-02	Site area:	1.53 hect
Development Name:	MIXED HOUSES	Number of dwellings:	54
Location:	HUDDERSFIELD	Housing density:	39
Postcode:	HD2 1LU	Total Bedrooms:	144
Main Location Type:	Edge of Town	Survey Date:	17/09/13
Sub-Location Type:	Residential Zone	Survey Day:	Tuesday
PTAL:	n/a	Parking Spaces:	60
Site(7):	WY-03-B-03	Site area:	0.38 hect
Development Name:	TERRACED HOUSES	Number of dwellings:	29
Location:	LEEDS	Housing density:	91
Postcode:	LS9 7JB	Total Bedrooms:	64
Main Location Type:	Suburban Area (PPS6 Out of Centre)	Survey Date:	19/09/13
Sub-Location Type:	Built-Up Zone	Survey Day:	Thursday
PTAL:	n/a	Parking Spaces:	31

Trip Rates for Key Periods		Trips per 100m2 GFA	
Period	Inbound	Outbound	Total
0800-0900	99.999	99.999	99.999
1700-1800	99.999	99.999	99.999

TRIP RATE for Land Use 03 - RESIDENTIAL/B - AFFORDABLE/LOCAL AUTHORITY HOUSES

VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	63	0.068	7	63	0.183	7	63	0.251
08:00 - 09:00	7	63	0.160	7	63	0.284	7	63	0.444
09:00 - 10:00	7	63	0.151	7	63	0.219	7	63	0.370
10:00 - 11:00	7	63	0.183	7	63	0.181	7	63	0.364
11:00 - 12:00	7	63	0.160	7	63	0.163	7	63	0.323
12:00 - 13:00	7	63	0.196	7	63	0.151	7	63	0.347
13:00 - 14:00	7	63	0.156	7	63	0.158	7	63	0.314
14:00 - 15:00	7	63	0.201	7	63	0.194	7	63	0.395
15:00 - 16:00	7	63	0.251	7	63	0.205	7	63	0.456
16:00 - 17:00	7	63	0.275	7	63	0.167	7	63	0.442
17:00 - 18:00	7	63	0.296	7	63	0.201	7	63	0.497
18:00 - 19:00	7	63	0.196	7	63	0.147	7	63	0.343
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.293			2.253			4.546

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	29 - 97 (units:)
Survey date date range:	01/01/09 - 27/05/16
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS

VEHICLES

Selected regions and areas:

07 YORKSHIRE & NORTH LINCOLNSHIRE
WY WEST YORKSHIRE 1 days
13 REPUBLIC OF IRELAND
WT WESTMEATH 1 days

Main parameter selection:

Parameter: Number of households
Range: 12 to 60 (units:)

Date Range: 01/01/00 to 21/09/07

Selected survey days:

Tuesday	1 days
Wednesday	1 days

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	1
Edge of Town Centre	1

Selected Location Sub Categories:

Built-Up Zone	1
No Sub Category	1

LIST OF SITES relevant to selection parameters

1 **WT-03-C-02** **FLATS, ATHLONE** **WESTMEATH**
CUSTUME PLACE

ATHLONE
Total Number of households: 60

2 **WY-03-C-02** **BLOCK OF FLATS, HUDDERSFIELD** **WEST YORKSHIRE**
KINGS MILL LANE
ASPLEY
HUDDERSFIELD
Total Number of households: 12

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

VEHICLES

Calculation factor: 1 HHOLDS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. HHOLDS	Trip Rate	No. Days	Ave. HHOLDS	Trip Rate	No. Days	Ave. HHOLDS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	2	36	0.031	2	36	0.063	2	36	0.093
08:00 - 09:00	2	36	0.031	**2**	36	**0.281**	2	36	0.312
09:00 - 10:00	2	36	0.063	2	36	0.156	2	36	0.218
10:00 - 11:00	2	36	0.063	2	36	0.031	2	36	0.093
11:00 - 12:00	2	36	0.031	2	36	0.031	2	36	0.062
12:00 - 13:00	2	36	0.000	2	36	0.094	2	36	0.094
13:00 - 14:00	2	36	0.031	2	36	0.031	2	36	0.062
14:00 - 15:00	2	36	0.031	2	36	0.031	2	36	0.062
15:00 - 16:00	2	36	0.094	2	36	0.031	2	36	0.125
16:00 - 17:00	2	36	0.063	2	36	0.031	2	36	0.093
17:00 - 18:00	**2**	36	**0.188**	2	36	0.156	**2**	36	**0.344**
18:00 - 19:00	2	36	0.063	2	36	0.094	2	36	0.156
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.685			1.029			1.714

Parameter summary

Trip rate parameter range selected:	12 - 60 (units:)
Survey date date range:	01/01/00 - 21/09/07
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	NO
Surveys manually removed from selection:	5

APPENDIX E – PICADY RESULTS

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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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

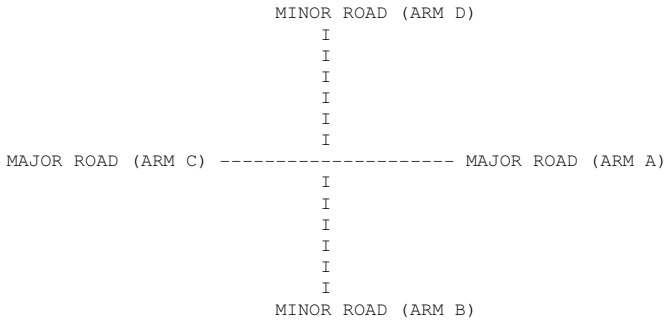
Run with file:-
"C:\PICADY\2018\18036-01\Crossroads Junction\Crossroads Junction New Flows.vpi"
(drive-on-the-left) at 11:36:52 on Tuesday, 13 November 2018

.RUN INFORMATION
****

RUN TITLE: Proposed Social Housing
LOCATION: Crokers Hill, Co. Kilkenny
DATE: 16/04/18
CLIENT: Hayes Higgins Partnership
ENUMERATOR: Roadplan
JOB NUMBER: 18036-01
STATUS: TIA
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Dominic Street (north)
ARM B IS De Loughry
ARM C IS Dominic Street (south)
ARM D IS Kennyswell Rd

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

DATA ITEM	MINOR ROAD B		MINOR ROAD D	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	9.50 M.	(W)	9.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	(WA-D)	2.20 M.
- VISIBILITY	(VC-B)	98.0 M.	(VA-D)	90.0 M.
- BLOCKS TRAFFIC		YES		YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	26.0 M.	(VD-A)	44.0 M.
- VISIBILITY TO RIGHT	(VB-A)	39.0 M.	(VD-C)	31.0 M.
- LANE 1 WIDTH	(WB-C)	3.00 M.	(WD-A)	3.00 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.	(WD-C)	0.00 M.

.SLOPES AND INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

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.TRAFFIC DEMAND DATA

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ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2018 am flows

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.860	0.140
		0.0	0.0	148.0	24.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.988	0.000	0.000	0.012
		167.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.986	0.000	0.014	0.000
		70.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2018 am flows

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.741	0.259
		0.0	0.0	146.0	51.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.986	0.000	0.000	0.014
		143.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.986	0.000	0.014	0.000
		68.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2018 am flows

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TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.607	0.393
		0.0	0.0	111.0	72.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.948	0.000	0.000	0.052
		91.0	0.0	0.0	5.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.973	0.000	0.027	0.000
		72.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2018 am flows

08.15 - 09.15					
	ARM A	0.000	0.000	0.788	0.212
		0.0	0.0	134.0	36.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.993	0.000	0.000	0.007
		142.0	0.0	0.0	1.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.944	0.000	0.056	0.000
		51.0	0.0	3.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 am flows
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-ACD	0.13	8.67	0.015		0.00	0.02	0.2		0.12
A-BCD	1.60	7.33	0.218		0.00	0.29	4.3		0.17
D-ABC	4.73	7.80	0.607		0.00	1.46	19.7		0.31
C-ABD	0.00	7.19	0.000		0.00	0.00	0.0		0.00

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)
08.30-08.45									
B-ACD	0.13	3.57	0.036		0.02	0.04	0.5		0.29
A-BCD	3.40	7.63	0.445		0.29	0.96	14.0		0.23
D-ABC	4.60	8.09	0.568		1.46	1.36	20.9		0.29
C-ABD	0.00	6.68	0.000		0.00	0.00	0.0		0.00

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)
08.45-09.00									
B-ACD	0.07	4.09	0.017		0.04	0.02	0.3		0.25
A-BCD	4.80	8.25	0.582		0.96	1.69	25.1		0.29
D-ABC	4.93	8.68	0.568		1.36	1.34	20.2		0.27
C-ABD	0.00	6.69	0.000		0.00	0.00	0.0		0.00

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)
09.00-09.15									
B-ACD	0.07	8.71	0.008		0.02	0.01	0.1		0.12
A-BCD	2.40	7.66	0.313		1.69	0.52	8.2		0.20
D-ABC	3.60	7.89	0.456		1.34	0.86	13.7		0.24
C-ABD	0.00	7.10	0.000		0.00	0.00	0.0		0.00

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.3	
08.45	1.0	*
09.00	1.7	**
09.15	0.5	*

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QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	1.5	*
08.45	1.4	*
09.00	1.3	*
09.15	0.9	*

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QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.0	6.0	1.2	0.19	1.2	0.19
A-BCD	183.0	183.0	51.6	0.28	51.6	0.28
D-ABC	267.9	267.9	74.4	0.28	74.5	0.28
C-ABD	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1548.9	1548.9	127.1	0.08	127.2	0.08

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2018 pm flows

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45	ARM A	0.000 0.0 (0.0)	0.005 1.0 (0.0)	0.750 138.0 (0.0)	0.245 45.0 (2.6)
	ARM B	0.500 2.0 (0.0)	0.000 0.0 (0.0)	0.250 1.0 (0.0)	0.250 1.0 (0.0)
	ARM C	1.000 149.0 (1.1)	0.000 0.0 (0.0)	0.000 0.0 (0.0)	0.000 0.0 (0.0)
	ARM D	0.975 39.0 (6.6)	0.000 0.0 (0.0)	0.025 1.0 (0.0)	0.000 0.0 (0.0)

2018 pm flows

16.45 - 17.45	ARM A	0.000 0.0 (0.0)	0.015 3.0 (0.0)	0.732 150.0 (0.0)	0.254 52.0 (2.6)
	ARM B	0.000 2.0 (0.0)	0.000 0.0 (0.0)	0.000 1.0 (0.0)	1.000 1.0 (0.0)
	ARM C	0.968 149.0 (1.1)	0.000 0.0 (0.0)	0.000 0.0 (0.0)	0.032 5.0 (0.0)
	ARM D	0.955 42.0 (6.6)	0.023 1.0 (0.0)	0.023 1.0 (0.0)	0.000 0.0 (0.0)

2018 pm flows

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.005	0.733	0.262
		0.0	1.0	140.0	50.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		167.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	1.000	0.000	0.000	0.000
		28.0	0.0	0.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)
2018 pm flows					
16.45 - 17.45					
	ARM A	0.000	0.005	0.762	0.233
		0.0	1.0	157.0	48.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.983	0.006	0.000	0.011
		177.0	1.0	0.0	2.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.794	0.000	0.206	0.000
		27.0	0.0	7.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2018 pm flows
AND FOR TIME PERIOD 2

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)
16.45-17.00									
B-ACD	0.27	5.00	0.054		0.00	0.06	0.8		0.21
A-BCD	3.00	8.16	0.368		0.00	0.65	9.5		0.19
D-ABC	2.67	7.91	0.338		0.00	0.50	7.1		0.19
C-ABD	0.00	6.98	0.000		0.00	0.00	0.0		0.00

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)
17.00-17.15									
B-ACD	0.07	4.44	0.016		0.06	0.02	0.3		0.23
A-BCD	3.47	8.09	0.429		0.65	0.89	13.3		0.22
D-ABC	2.93	7.72	0.380		0.50	0.60	8.7		0.21
C-ABD	0.00	6.67	0.000		0.00	0.00	0.0		0.00

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)
17.15-17.30									
B-ACD	0.07	8.68	0.008		0.02	0.01	0.1		0.12
A-BCD	3.33	7.90	0.422		0.89	0.89	13.3		0.22
D-ABC	1.87	7.82	0.239		0.60	0.32	5.0		0.17
C-ABD	0.00	6.85	0.000		0.00	0.00	0.0		0.00

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)
17.30-17.45									
B-ACD	0.00	8.43	0.000		0.01	0.00	0.0		0.00
A-BCD	3.20	7.73	0.414		0.89	0.88	13.1		0.22
D-ABC	2.27	6.37	0.356		0.32	0.54	7.7		0.24
C-ABD	0.07	7.34	0.009		0.00	0.01	0.1		0.14

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	0.9	*
17.30	0.9	*
17.45	0.9	*

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.6	*
17.30	0.3	
17.45	0.5	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.2	6.2	1.2	0.19	1.2	0.19
A-BCD	195.0	195.0	49.2	0.25	49.2	0.25
D-ABC	146.1	146.1	28.5	0.20	28.5	0.20
C-ABD	1.0	1.0	0.1	0.14	0.1	0.14
ALL	1589.3	1589.3	79.0	0.05	79.1	0.05

* 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 INTERCPET

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

will be adjusted)

B-C Stream

I Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

I Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

I Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

I Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

I Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

I Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

I Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

I Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2020 am no development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.863	0.137
		0.0	0.0	151.0	24.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.988	0.000	0.000	0.012
		170.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.986	0.000	0.014	0.000
		71.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2020 am no development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.741	0.259
		0.0	0.0	149.0	52.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.986	0.000	0.000	0.014
		146.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.986	0.000	0.014	0.000
		69.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2020 am no development

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.608	0.392
		0.0	0.0	113.0	73.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.949	0.000	0.000	0.051
		93.0	0.0	0.0	5.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.973	0.000	0.027	0.000
		73.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2020 am no development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.787	0.213
		0.0	0.0	137.0	37.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.993	0.000	0.000	0.007
		145.0	0.0	0.0	1.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.945	0.000	0.055	0.000
		52.0	0.0	3.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2020 am no development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-ACD	0.14	8.62	0.016		0.00	0.02	0.2		0.12
A-BCD	1.60	7.29	0.220		0.00	0.30	4.4		0.17
D-ABC	4.83	7.75	0.623		0.00	1.56	20.9		0.32
C-ABD	0.00	7.15	0.000		0.00	0.00	0.0		0.00

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)
08.30-08.45									
B-ACD	0.14	3.48	0.040		0.02	0.04	0.6		0.30
A-BCD	3.46	7.60	0.456		0.30	1.02	14.7		0.24
D-ABC	4.69	8.05	0.582		1.56	1.44	22.2		0.30
C-ABD	0.00	6.62	0.000		0.00	0.00	0.0		0.00

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)
08.45-09.00									
B-ACD	0.07	4.00	0.018		0.04	0.02	0.3		0.25
A-BCD	4.88	8.23	0.593		1.02	1.80	26.7		0.29
D-ABC	5.03	8.66	0.581		1.44	1.42	21.4		0.28
C-ABD	0.00	6.64	0.000		0.00	0.00	0.0		0.00

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)
09.00-09.15									
B-ACD	0.07	8.67	0.008		0.02	0.01	0.1		0.12
A-BCD	2.46	7.63	0.322		1.80	0.55	8.6		0.20
D-ABC	3.67	7.85	0.468		1.42	0.90	14.4		0.24
C-ABD	0.00	7.05	0.000		0.00	0.00	0.0		0.00

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.3	
08.45	1.0	*
09.00	1.8	**
09.15	0.5	*

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	1.6	**
08.45	1.4	*
09.00	1.4	*
09.15	0.9	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.3	6.3	1.2	0.20	1.2	0.20
A-BCD	186.1	186.1	54.4	0.29	54.4	0.29
D-ABC	273.3	273.3	78.8	0.29	78.9	0.29
C-ABD	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1579.5	1579.5	134.4	0.09	134.5	0.09

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

I Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

I Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

I Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

I Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

I Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

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.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I
I D I	100 I

Demand set: 2020 am with development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.858	0.142
		0.0	0.0	151.0	25.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.983	0.000	0.000	0.017
		170.0	0.0	0.0	3.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.974	0.000	0.026	0.000
		75.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2020 am with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.738	0.262
		0.0	0.0	149.0	53.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.986	0.000	0.000	0.014
		146.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.986	0.000	0.014	0.000
		73.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2020 am with development

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.604	0.396
		0.0	0.0	113.0	74.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.949	0.000	0.000	0.051
		93.0	0.0	0.0	5.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.975	0.000	0.025	0.000
		77.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2020 am with development

08.15 - 09.15					
	ARM A	0.000	0.000	0.783	0.217
		0.0	0.0	137.0	38.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.993	0.000	0.000	0.007
		145.0	0.0	0.0	1.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.949	0.000	0.051	0.000
		56.0	0.0	3.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2020 am with development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-ACD	0.14	8.62	0.016		0.00	0.02	0.2		0.12
A-BCD	1.67	7.28	0.229		0.00	0.31	4.6		0.18
D-ABC	5.16	7.67	0.673		0.00	1.91	25.1		0.36
C-ABD	0.00	7.13	0.000		0.00	0.00	0.0		0.00

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)
08.30-08.45									
B-ACD	0.14	3.40	0.041		0.02	0.04	0.6		0.31
A-BCD	3.53	7.60	0.465		0.31	1.06	15.3		0.24
D-ABC	4.96	8.06	0.616		1.91	1.67	26.0		0.33
C-ABD	0.00	6.60	0.000		0.00	0.00	0.0		0.00

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)
08.45-09.00									
B-ACD	0.07	3.93	0.018		0.04	0.02	0.3		0.26
A-BCD	4.95	8.23	0.601		1.06	1.86	27.7		0.30
D-ABC	5.30	8.67	0.612		1.67	1.62	24.6		0.30
C-ABD	0.00	6.62	0.000		0.00	0.00	0.0		0.00

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)
09.00-09.15									
B-ACD	0.07	8.66	0.008		0.02	0.01	0.1		0.12
A-BCD	2.52	7.63	0.331		1.86	0.57	9.1		0.20
D-ABC	3.94	7.87	0.501		1.62	1.04	16.5		0.26
C-ABD	0.00	7.03	0.000		0.00	0.00	0.0		0.00

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.3	
08.45	1.1	*
09.00	1.9	**
09.15	0.6	*

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QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	1.9	**
08.45	1.7	**
09.00	1.6	**
09.15	1.0	*

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QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.3	6.3	1.3	0.20	1.3	0.20
A-BCD	190.1	190.1	56.7	0.30	56.7	0.30
D-ABC	290.4	290.4	92.2	0.32	92.2	0.32
C-ABD	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1601.6	1601.6	150.1	0.09	150.2	0.09

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2025 am no development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.859	0.141
		0.0	0.0	158.0	26.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.989	0.000	0.000	0.011
		179.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.987	0.000	0.013	0.000
		75.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2025 am no development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.739	0.261
		0.0	0.0	156.0	55.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.987	0.000	0.000	0.013
		153.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.986	0.000	0.014	0.000
		73.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2025 am no development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.607	0.393
		0.0	0.0	119.0	77.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.951	0.000	0.000	0.049
		97.0	0.0	0.0	5.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.975	0.000	0.025	0.000
		77.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)
2025 am no development					
08.15 - 09.15					
	ARM A	0.000	0.000	0.786	0.214
		0.0	0.0	143.0	39.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.993	0.000	0.000	0.007
		152.0	0.0	0.0	1.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.948	0.000	0.052	0.000
		55.0	0.0	3.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2025 am no development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-ACD	0.14	8.53	0.016		0.00	0.02	0.2		0.12
A-BCD	1.73	7.19	0.241		0.00	0.34	5.0		0.18
D-ABC	5.07	7.64	0.664		0.00	1.84	24.3		0.36
C-ABD	0.00	7.02	0.000		0.00	0.00	0.0		0.00

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)
08.30-08.45									
B-ACD	0.14	3.23	0.043		0.02	0.04	0.6		0.32
A-BCD	3.66	7.51	0.488		0.34	1.20	17.3		0.25
D-ABC	4.92	7.95	0.619		1.84	1.69	26.0		0.33
C-ABD	0.00	6.47	0.000		0.00	0.00	0.0		0.00

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)
08.45-09.00									
B-ACD	0.07	3.77	0.019		0.04	0.02	0.3		0.27
A-BCD	5.13	8.16	0.628		1.20	2.15	31.9		0.32
D-ABC	5.28	8.59	0.615		1.69	1.64	24.9		0.30
C-ABD	0.00	6.49	0.000		0.00	0.00	0.0		0.00

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)
09.00-09.15									
B-ACD	0.07	8.55	0.008		0.02	0.01	0.1		0.12
A-BCD	2.60	7.53	0.345		2.15	0.62	10.0		0.21
D-ABC	3.85	7.75	0.497		1.64	1.02	16.3		0.26
C-ABD	0.00	6.92	0.000		0.00	0.00	0.0		0.00

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.3	
08.45	1.2	*
09.00	2.1	**
09.15	0.6	*

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	1.8	**
08.45	1.7	**
09.00	1.6	**
09.15	1.0	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.3	6.3	1.3	0.21	1.3	0.21
A-BCD	196.9	196.9	64.1	0.33	64.1	0.33
D-ABC	286.8	286.8	91.4	0.32	91.5	0.32
C-ABD	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1657.8	1657.8	156.8	0.09	156.9	0.09

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2025 am with development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.854	0.146
		0.0	0.0	158.0	27.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.984	0.000	0.000	0.016
		179.0	0.0	0.0	3.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.975	0.000	0.025	0.000
		79.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2025 am with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.736	0.264
		0.0	0.0	156.0	56.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.987	0.000	0.000	0.013
		153.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.987	0.000	0.013	0.000
		77.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2025 am with development

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.604	0.396
		0.0	0.0	119.0	78.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.951	0.000	0.000	0.049
		97.0	0.0	0.0	5.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.976	0.000	0.024	0.000
		81.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2025 am with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.781	0.219
		0.0	0.0	143.0	40.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.993	0.000	0.000	0.007
		152.0	0.0	0.0	1.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.952	0.000	0.048	0.000
		59.0	0.0	3.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2025 am with development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-ACD	0.14	8.53	0.016		0.00	0.02	0.2		0.12
A-BCD	1.80	7.17	0.251		0.00	0.36	5.3		0.18
D-ABC	5.40	7.55	0.715		0.00	2.28	29.3		0.41
C-ABD	0.00	7.00	0.000		0.00	0.00	0.0		0.00

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)
08.30-08.45									
B-ACD	0.14	3.15	0.044		0.02	0.05	0.6		0.33
A-BCD	3.73	7.51	0.497		0.36	1.25	18.0		0.26
D-ABC	5.19	7.95	0.652		2.28	1.97	30.9		0.37
C-ABD	0.00	6.45	0.000		0.00	0.00	0.0		0.00

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)
08.45-09.00									
B-ACD	0.07	3.69	0.019		0.05	0.02	0.3		0.28
A-BCD	5.20	8.16	0.637		1.25	2.24	33.2		0.33
D-ABC	5.55	8.60	0.646		1.97	1.89	28.8		0.33
C-ABD	0.00	6.47	0.000		0.00	0.00	0.0		0.00

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)
09.00-09.15									
B-ACD	0.07	8.54	0.008		0.02	0.01	0.1		0.12
A-BCD	2.67	7.53	0.354		2.24	0.65	10.5		0.22
D-ABC	4.12	7.77	0.531		1.89	1.17	18.8		0.28
C-ABD	0.00	6.89	0.000		0.00	0.00	0.0		0.00

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.4	
08.45	1.2	*
09.00	2.2	**
09.15	0.7	*

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	2.3	**
08.45	2.0	**
09.00	1.9	**
09.15	1.2	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.3	6.3	1.3	0.21	1.3	0.21
A-BCD	200.9	200.9	67.0	0.33	67.0	0.33
D-ABC	303.9	303.9	107.8	0.35	107.8	0.35
C-ABD	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1680.0	1680.0	176.0	0.10	176.2	0.10

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2035 am no development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

.

		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.862	0.138
		0.0	0.0	168.0	27.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.990	0.000	0.000	0.010
		190.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.988	0.000	0.012	0.000
		80.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2035 am no development

		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.741	0.259
		0.0	0.0	166.0	58.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.988	0.000	0.000	0.012
		163.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.987	0.000	0.013	0.000
		77.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2035 am no development

.

		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.606	0.394
		0.0	0.0	126.0	82.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.945	0.000	0.000	0.055
		103.0	0.0	0.0	6.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.976	0.000	0.024	0.000
		82.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2035 am no development

08.15 - 09.15					
	ARM A	0.000	0.000	0.788	0.212
		0.0	0.0	152.0	41.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		161.0	0.0	0.0	1.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.951	0.000	0.049	0.000
		58.0	0.0	3.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2035 am no development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-ACD	0.15	8.38	0.018		0.00	0.02	0.3		0.12
A-BCD	1.80	7.04	0.256		0.00	0.37	5.5		0.19
D-ABC	5.38	7.48	0.719		0.00	2.31	29.7		0.42
C-ABD	0.00	6.87	0.000		0.00	0.00	0.0		0.00

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)
08.30-08.45									
B-ACD	0.15	2.90	0.052		0.02	0.05	0.8		0.36
A-BCD	3.87	7.39	0.523		0.37	1.44	20.7		0.28
D-ABC	5.23	7.82	0.669		2.31	2.12	32.8		0.39
C-ABD	0.00	6.28	0.000		0.00	0.00	0.0		0.00

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)
08.45-09.00									
B-ACD	0.08	3.48	0.023		0.05	0.02	0.4		0.29
A-BCD	5.47	8.09	0.676		1.44	2.78	40.9		0.37
D-ABC	5.61	8.51	0.659		2.12	2.01	30.8		0.35
C-ABD	0.00	6.29	0.000		0.00	0.00	0.0		0.00

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)
09.00-09.15									
B-ACD	0.08	8.38	0.010		0.02	0.01	0.2		0.12
A-BCD	2.74	7.41	0.369		2.78	0.72	11.9		0.23
D-ABC	4.09	7.61	0.537		2.01	1.21	19.4		0.29
C-ABD	0.00	6.75	0.000		0.00	0.00	0.0		0.00

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.1
09.00	0.0
09.15	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.4	
08.45	1.4	*
09.00	2.8	***
09.15	0.7	*

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QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	2.3	**
08.45	2.1	**
09.00	2.0	**
09.15	1.2	*

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QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.9	6.9	1.5	0.22	1.5	0.22
A-BCD	208.1	208.1	79.0	0.38	79.1	0.38
D-ABC	304.7	304.7	112.7	0.37	112.8	0.37
C-ABD	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1760.9	1760.9	193.3	0.11	193.4	0.11

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2035 am with development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.857	0.143
		0.0	0.0	168.0	28.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.984	0.000	0.000	0.016
		190.0	0.0	0.0	3.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.977	0.000	0.023	0.000
		84.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2035 am with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.738	0.262
		0.0	0.0	166.0	59.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.988	0.000	0.000	0.012
		163.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.988	0.000	0.012	0.000
		81.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2035 am with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.603	0.397
		0.0	0.0	126.0	83.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.945	0.000	0.000	0.055
		103.0	0.0	0.0	6.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.977	0.000	0.023	0.000
		86.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)
2035 am with development					
08.15 - 09.15					
	ARM A	0.000	0.000	0.784	0.216
		0.0	0.0	152.0	42.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		161.0	0.0	0.0	1.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.954	0.000	0.046	0.000
		62.0	0.0	3.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2035 am with development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-ACD	0.15	8.38	0.018		0.00	0.02	0.3		0.12
A-BCD	1.87	7.03	0.266		0.00	0.39	5.8		0.19
D-ABC	5.71	7.40	0.771		0.00	2.92	36.4		0.49
C-ABD	0.00	6.85	0.000		0.00	0.00	0.0		0.00

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)
08.30-08.45									
B-ACD	0.15	2.82	0.053		0.02	0.05	0.8		0.37
A-BCD	3.93	7.39	0.532		0.39	1.50	21.6		0.28
D-ABC	5.50	7.82	0.703		2.92	2.53	39.7		0.44
C-ABD	0.00	6.26	0.000		0.00	0.00	0.0		0.00

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)
08.45-09.00									
B-ACD	0.08	3.41	0.023		0.05	0.02	0.4		0.30
A-BCD	5.53	8.09	0.684		1.50	2.89	42.6		0.38
D-ABC	5.87	8.52	0.689		2.53	2.33	36.0		0.38
C-ABD	0.00	6.27	0.000		0.00	0.00	0.0		0.00

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)
09.00-09.15									
B-ACD	0.08	8.36	0.010		0.02	0.01	0.2		0.12
A-BCD	2.80	7.41	0.378		2.89	0.75	12.5		0.23
D-ABC	4.36	7.63	0.572		2.33	1.39	22.6		0.32
C-ABD	0.00	6.72	0.000		0.00	0.00	0.0		0.00

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.0	
08.45	0.1	
09.00	0.0	
09.15	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.4	
08.45	1.5	**
09.00	2.9	***
09.15	0.8	*

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	2.9	***
08.45	2.5	***
09.00	2.3	**
09.15	1.4	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.9	6.9	1.6	0.23	1.6	0.23
A-BCD	212.1	212.1	82.5	0.39	82.6	0.39
D-ABC	321.6	321.6	134.7	0.42	134.8	0.42
C-ABD	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1782.6	1782.6	218.8	0.12	219.0	0.12

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2020 pm no development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

.

		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45	ARM A	0.000	0.005	0.750	0.245
		0.0	1.0	141.0	46.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.500	0.000	0.250	0.250
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	1.000	0.000	0.000	0.000
		152.0	0.0	0.0	0.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.976	0.000	0.024	0.000
		40.0	0.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2020 pm no development

TIME		ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.014	0.732	0.254
		0.0	3.0	153.0	53.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	1.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.968	0.000	0.000	0.032
		152.0	0.0	0.0	5.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.956	0.022	0.022	0.000
		43.0	1.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2020 pm no development

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.005	0.733	0.262
		0.0	1.0	143.0	51.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		170.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	1.000	0.000	0.000	0.000
		29.0	0.0	0.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2020 pm no development

TIME		ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.005	0.762	0.233
		0.0	1.0	160.0	49.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.984	0.005	0.000	0.011
		180.0	1.0	0.0	2.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.800	0.000	0.200	0.000
		28.0	0.0	7.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2020 pm no development
AND FOR TIME PERIOD 2

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)
16.45-17.00									
B-ACD	0.27	4.91	0.055		0.00	0.06	0.8		0.22
A-BCD	3.06	8.12	0.377		0.00	0.68	10.0		0.19
D-ABC	2.72	7.87	0.346		0.00	0.52	7.3		0.19
C-ABD	0.00	6.93	0.000		0.00	0.00	0.0		0.00

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)
17.00-17.15									
B-ACD	0.07	4.37	0.016		0.06	0.02	0.3		0.23
A-BCD	3.53	8.05	0.439		0.68	0.94	14.1		0.22
D-ABC	2.99	7.67	0.390		0.52	0.63	9.1		0.21
C-ABD	0.00	6.61	0.000		0.00	0.00	0.0		0.00

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)
17.15-17.30									
B-ACD	0.07	8.64	0.008		0.02	0.01	0.1		0.12
A-BCD	3.39	7.86	0.432		0.94	0.94	14.0		0.23
D-ABC	1.90	7.77	0.244		0.63	0.33	5.1		0.17
C-ABD	0.00	6.80	0.000		0.00	0.00	0.0		0.00

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)
17.30-17.45									
B-ACD	0.00	8.39	0.000		0.01	0.00	0.0		0.00
A-BCD	3.27	7.69	0.425		0.94	0.94	13.9		0.23
D-ABC	2.31	6.32	0.365		0.33	0.56	8.0		0.25
C-ABD	0.07	7.28	0.009		0.00	0.01	0.1		0.14

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	0.9	*
17.30	0.9	*
17.45	0.9	*

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.6	*
17.30	0.3	
17.45	0.6	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.2	6.2	1.2	0.20	1.2	0.20
A-BCD	198.8	198.8	51.9	0.26	52.0	0.26
D-ABC	148.8	148.8	29.6	0.20	29.6	0.20
C-ABD	1.0	1.0	0.1	0.14	0.1	0.14
ALL	1620.0	1620.0	82.8	0.05	82.9	0.05

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2020 pm with development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

.

	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45	ARM A	0.000	0.005	0.734	0.260
		0.0	1.0	141.0	50.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.500	0.000	0.250	0.250
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.993	0.000	0.000	0.007
		152.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.956	0.000	0.044	0.000
		43.0	0.0	2.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2020 pm with development

	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45	ARM A	0.000	0.014	0.722	0.264
		0.0	3.0	153.0	56.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	1.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.962	0.000	0.000	0.038
		152.0	0.0	0.0	6.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.958	0.021	0.021	0.000
		46.0	1.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2020 pm with development

.

	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45	ARM A	0.000	0.005	0.722	0.273
		0.0	1.0	143.0	54.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		170.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	1.000	0.000	0.000	0.000
		32.0	0.0	0.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2020 pm with development

16.45 - 17.45					
	ARM A	0.000	0.005	0.751	0.244
		0.0	1.0	160.0	52.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.984	0.005	0.000	0.011
		180.0	1.0	0.0	2.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.811	0.000	0.189	0.000
		30.0	0.0	7.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2020 pm with development
AND FOR TIME PERIOD 2

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)
16.45-17.00									
B-ACD	0.27	4.82	0.056		0.00	0.06	0.8		0.22
A-BCD	3.33	8.11	0.410		0.00	0.80	11.7		0.21
D-ABC	2.99	7.72	0.387		0.00	0.62	8.7		0.21
C-ABD	0.00	6.86	0.000		0.00	0.00	0.0		0.00

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)
17.00-17.15									
B-ACD	0.07	4.32	0.016		0.06	0.02	0.3		0.24
A-BCD	3.73	8.04	0.464		0.80	1.06	15.9		0.23
D-ABC	3.19	7.68	0.415		0.62	0.70	10.2		0.22
C-ABD	0.00	6.55	0.000		0.00	0.00	0.0		0.00

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)
17.15-17.30									
B-ACD	0.07	8.63	0.008		0.02	0.01	0.1		0.12
A-BCD	3.59	7.86	0.458		1.06	1.06	15.9		0.24
D-ABC	2.10	7.77	0.270		0.70	0.38	5.9		0.18
C-ABD	0.00	6.74	0.000		0.00	0.00	0.0		0.00

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)
17.30-17.45									
B-ACD	0.00	8.38	0.000		0.01	0.00	0.0		0.00
A-BCD	3.47	7.69	0.451		1.06	1.06	15.8		0.24
D-ABC	2.44	6.35	0.384		0.38	0.61	8.7		0.25
C-ABD	0.07	7.21	0.009		0.00	0.01	0.1		0.14

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.0
17.30	0.0
17.45	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.8	*
17.15	1.1	*
17.30	1.1	*
17.45	1.1	*

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QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.7	*
17.30	0.4	
17.45	0.6	*

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QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.2	6.2	1.2	0.20	1.2	0.20
A-BCD	211.8	211.8	59.3	0.28	59.4	0.28
D-ABC	160.8	160.8	33.4	0.21	33.5	0.21
C-ABD	1.0	1.0	0.1	0.14	0.1	0.14
ALL	1646.7	1646.7	94.1	0.06	94.2	0.06

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2025 pm no development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
16.45 - 17.45	ARM A	0.000	0.005	0.751	0.244
		0.0	1.0	148.0	48.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.500	0.000	0.250	0.250
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	1.000	0.000	0.000	0.000
		159.0	0.0	0.0	0.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.977	0.000	0.023	0.000
		42.0	0.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2025 pm no development

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
16.45 - 17.45	ARM A	0.000	0.014	0.732	0.255
		0.0	3.0	161.0	56.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	1.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.970	0.000	0.000	0.030
		159.0	0.0	0.0	5.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.957	0.021	0.021	0.000
		45.0	1.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2025 pm no development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.005	0.732	0.263
		0.0	1.0	150.0	54.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		179.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	1.000	0.000	0.000	0.000
		30.0	0.0	0.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)
2025 pm no development					
16.45 - 17.45					
	ARM A	0.000	0.005	0.764	0.232
		0.0	1.0	168.0	51.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.984	0.005	0.000	0.010
		189.0	1.0	0.0	2.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.806	0.000	0.194	0.000
		29.0	0.0	7.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2025 pm no development
AND FOR TIME PERIOD 495

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)
16.45-17.00									
B-ACD	0.29	4.70	0.062		0.00	0.06	0.9		0.23
A-BCD	3.20	8.02	0.399		0.00	0.77	11.2		0.20
D-ABC	2.85	7.76	0.367		0.00	0.57	8.0		0.20
C-ABD	0.00	6.80	0.000		0.00	0.00	0.0		0.00

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)
17.00-17.15									
B-ACD	0.07	4.16	0.017		0.06	0.02	0.3		0.24
A-BCD	3.72	7.94	0.469		0.77	1.10	16.3		0.24
D-ABC	3.14	7.56	0.415		0.57	0.69	10.1		0.23
C-ABD	0.00	6.46	0.000		0.00	0.00	0.0		0.00

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)
17.15-17.30									
B-ACD	0.07	8.53	0.008		0.02	0.01	0.1		0.12
A-BCD	3.59	7.74	0.464		1.10	1.10	16.6		0.24
D-ABC	2.00	7.66	0.261		0.69	0.36	5.6		0.18
C-ABD	0.00	6.65	0.000		0.00	0.00	0.0		0.00

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)
17.30-17.45									
B-ACD	0.00	8.25	0.000		0.01	0.00	0.0		0.00
A-BCD	3.41	7.56	0.451		1.10	1.09	16.1		0.24
D-ABC	2.43	6.15	0.395		0.36	0.63	9.0		0.27
C-ABD	0.07	7.12	0.009		0.00	0.01	0.1		0.14

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.8	*
17.15	1.1	*
17.30	1.1	*
17.45	1.1	*

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.7	*
17.30	0.4	
17.45	0.6	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.4	6.4	1.3	0.21	1.3	0.21
A-BCD	208.8	208.8	60.2	0.29	60.2	0.29
D-ABC	156.3	156.3	32.7	0.21	32.7	0.21
C-ABD	1.0	1.0	0.1	0.14	0.1	0.14
ALL	1700.8	1700.8	94.3	0.06	94.5	0.06

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2025 pm with development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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TIME		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45		ARM A	0.000	0.005	0.733	0.262
			0.0	1.0	148.0	53.0
			(0.0)	(0.0)	(0.0)	(2.6)
		ARM B	0.500	0.000	0.250	0.250
			2.0	0.0	1.0	1.0
			(0.0)	(0.0)	(0.0)	(0.0)
		ARM C	0.994	0.000	0.000	0.006
			159.0	0.0	0.0	1.0
			(1.1)	(0.0)	(0.0)	(0.0)
		ARM D	0.957	0.000	0.043	0.000
			44.0	0.0	2.0	0.0
			(6.6)	(0.0)	(0.0)	(0.0)

2025 pm with development

TIME		ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.013	0.716	0.271
		0.0	3.0	161.0	61.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	1.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.970	0.000	0.000	0.030
		159.0	0.0	0.0	5.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.959	0.020	0.020	0.000
		47.0	1.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2025 pm with development

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.005	0.714	0.281
		0.0	1.0	150.0	59.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		179.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	1.000	0.000	0.000	0.000
		32.0	0.0	0.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2025 pm with development

TIME		ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.004	0.750	0.246
		0.0	1.0	168.0	55.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.984	0.005	0.000	0.010
		189.0	1.0	0.0	2.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.816	0.000	0.184	0.000
		31.0	0.0	7.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2025 pm with development
AND FOR TIME PERIOD 1005

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)
16.45-17.00									
B-ACD	0.29	4.61	0.063		0.00	0.07	0.9		0.23
A-BCD	3.52	8.00	0.439		0.00	0.93	13.4		0.22
D-ABC	3.12	7.60	0.410		0.00	0.68	9.5		0.22
C-ABD	0.00	6.72	0.000		0.00	0.00	0.0		0.00

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)
17.00-17.15									
B-ACD	0.07	4.11	0.017		0.07	0.02	0.3		0.25
A-BCD	4.02	7.93	0.507		0.93	1.31	19.7		0.25
D-ABC	3.34	7.55	0.443		0.68	0.78	11.3		0.24
C-ABD	0.00	6.39	0.000		0.00	0.00	0.0		0.00

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)
17.15-17.30									
B-ACD	0.07	8.54	0.008		0.02	0.01	0.1		0.12
A-BCD	3.89	7.74	0.502		1.31	1.32	20.0		0.26
D-ABC	2.20	7.66	0.287		0.78	0.41	6.4		0.18
C-ABD	0.00	6.59	0.000		0.00	0.00	0.0		0.00

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)
17.30-17.45									
B-ACD	0.00	8.25	0.000		0.01	0.00	0.0		0.00
A-BCD	3.66	7.56	0.484		1.32	1.30	19.0		0.26
D-ABC	2.56	6.17	0.415		0.41	0.69	9.8		0.27
C-ABD	0.07	7.05	0.009		0.00	0.01	0.1		0.14

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.9	*
17.15	1.3	*
17.30	1.3	*
17.45	1.3	*

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	0.8	*
17.30	0.4	
17.45	0.7	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.4	6.4	1.4	0.21	1.4	0.21
A-BCD	226.2	226.2	72.1	0.32	72.3	0.32
D-ABC	168.3	168.3	37.0	0.22	37.1	0.22
C-ABD	1.0	1.0	0.1	0.14	0.1	0.14
ALL	1728.0	1728.0	110.7	0.06	110.8	0.06

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2035 pm no development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.005	0.751	0.244
		0.0	1.0	157.0	51.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.500	0.000	0.250	0.250
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	1.000	0.000	0.000	0.000
		169.0	0.0	0.0	0.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.978	0.000	0.022	0.000
		44.0	0.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2035 pm no development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.013	0.733	0.254
		0.0	3.0	170.0	59.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	1.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.966	0.000	0.000	0.034
		169.0	0.0	0.0	6.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.960	0.020	0.020	0.000
		48.0	1.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2035 pm no development

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.005	0.733	0.263
		0.0	1.0	159.0	57.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.995	0.000	0.000	0.005
		190.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	1.000	0.000	0.000	0.000
		32.0	0.0	0.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

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   2035 pm no development
I   16.45 - 17.45    I         I        I        I        I        I
I                    I  ARM A  I  0.000 I  0.004 I  0.761 I  0.235 I
I                    I         I    0.0 I    1.0 I  178.0 I   55.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I (  2.6)I
I                    I         I        I        I        I        I
I                    I  ARM B  I  0.000 I  0.000 I  0.000 I  0.000 I
I                    I         I    2.0 I    0.0 I    1.0 I    1.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I        I
I                    I  ARM C  I  0.985 I  0.005 I  0.000 I  0.010 I
I                    I         I  201.0 I    1.0 I    0.0 I    2.0 I
I                    I         I (  1.1)I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I        I
I                    I  ARM D  I  0.795 I  0.000 I  0.205 I  0.000 I
I                    I         I   31.0 I    0.0 I    8.0 I    0.0 I
I                    I         I (  6.6)I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I        I
-------------------------------------------------------------------

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

.              QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               ---------------------------------------------------------
                FOR DEMAND SET 2035 pm no development
                AND FOR TIME PERIOD  1005
.-----------------------------------------------------------------------------------------------------------------------
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 16.45-17.00                                                                                                   I
I   B-ACD     0.30      4.42    0.068                0.00   0.07        1.0                              0.24      I
I   A-BCD     3.40      7.88    0.432                0.00   0.91       13.1                              0.22      I
I   D-ABC     3.03      7.62    0.397                0.00   0.64        9.0                              0.21      I
I   C-ABD     0.00      6.63    0.000                0.00   0.00        0.0                              0.00      I
I                                                                                                               I
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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 17.00-17.15                                                                                                   I
I   B-ACD     0.08      3.89    0.021                0.07   0.02        0.3                              0.26      I
I   A-BCD     3.95      7.81    0.506                0.91   1.33       19.9                              0.26      I
I   D-ABC     3.33      7.42    0.449                0.64   0.79       11.5                              0.24      I
I   C-ABD     0.00      6.27    0.000                0.00   0.00        0.0                              0.00      I
I                                                                                                               I
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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 17.15-17.30                                                                                                   I
I   B-ACD     0.08      8.37    0.010                0.02   0.01        0.2                              0.12      I
I   A-BCD     3.80      7.59    0.501                1.33   1.34       20.3                              0.27      I
I   D-ABC     2.12      7.51    0.282                0.79   0.40        6.3                              0.19      I
I   C-ABD     0.00      6.47    0.000                0.00   0.00        0.0                              0.00      I
I                                                                                                               I
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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 17.30-17.45                                                                                                   I
I   B-ACD     0.00      8.08    0.000                0.01   0.00        0.0                              0.00      I
I   A-BCD     3.67      7.40    0.496                1.34   1.35       20.6                              0.27      I
I   D-ABC     2.58      5.80    0.445                0.40   0.77       10.8                              0.31      I
I   C-ABD     0.07      6.90    0.010                0.00   0.01        0.1                              0.15      I
I                                                                                                               I
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 QUEUE FOR STREAM   B-ACD
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 TIME SEGMENT    NO. OF
   ENDING      VEHICLES
               IN QUEUE
   17.00           0.1
   17.15           0.0
   17.30           0.0
   17.45           0.0
.
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QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.9	*
17.15	1.3	*
17.30	1.3	*
17.45	1.3	*

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QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.8	*
17.30	0.4	
17.45	0.8	*

.

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.9	6.9	1.5	0.22	1.5	0.22
A-BCD	222.3	222.3	73.9	0.33	74.1	0.33
D-ABC	165.9	165.9	37.6	0.23	37.7	0.23
C-ABD	1.0	1.0	0.1	0.15	0.1	0.15
ALL	1806.0	1806.0	113.2	0.06	113.4	0.06

* 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 INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2035 pm with development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

.

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.005	0.737	0.258
		0.0	1.0	157.0	55.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.500	0.000	0.250	0.250
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		169.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.959	0.000	0.041	0.000
		47.0	0.0	2.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2035 pm with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45					
	ARM A	0.000	0.013	0.723	0.264
		0.0	3.0	170.0	62.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	1.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.960	0.000	0.000	0.040
		169.0	0.0	0.0	7.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.962	0.019	0.019	0.000
		51.0	1.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2035 pm with development

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45		TURNING PROPORTIONS			
		TURNING COUNTS			
		(PERCENTAGE OF H.V.S)			
	ARM A	0.000	0.005	0.723	0.273
		0.0	1.0	159.0	60.0
		(0.0)%	(0.0)%	(0.0)%	(2.6)%
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)%	(0.0)%	(0.0)%	(0.0)%
	ARM C	0.995	0.000	0.000	0.005
		190.0	0.0	0.0	1.0
		(1.1)%	(0.0)%	(0.0)%	(0.0)%
	ARM D	1.000	0.000	0.000	0.000
		35.0	0.0	0.0	0.0
		(6.6)%	(0.0)%	(0.0)%	(0.0)%
2035 pm with development					
16.45 - 17.45	ARM A	0.000	0.004	0.751	0.245
		0.0	1.0	178.0	58.0
		(0.0)%	(0.0)%	(0.0)%	(2.6)%
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)%	(0.0)%	(0.0)%	(0.0)%
	ARM C	0.985	0.005	0.000	0.010
		201.0	1.0	0.0	2.0
		(1.1)%	(0.0)%	(0.0)%	(0.0)%
	ARM D	0.805	0.000	0.195	0.000
		33.0	0.0	8.0	0.0
		(6.6)%	(0.0)%	(0.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2035 pm with development
AND FOR TIME PERIOD 2

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)
16.45-17.00									
B-ACD	0.30	4.32	0.069		0.00	0.07	1.0		0.25
A-BCD	3.67	7.87	0.466		0.00	1.07	15.4		0.23
D-ABC	3.30	7.47	0.442		0.00	0.77	10.7		0.23
C-ABD	0.00	6.56	0.000		0.00	0.00	0.0		0.00

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)
17.00-17.15									
B-ACD	0.08	3.84	0.021		0.07	0.02	0.3		0.27
A-BCD	4.15	7.79	0.533		1.07	1.52	22.9		0.27
D-ABC	3.53	7.42	0.476		0.77	0.88	12.8		0.26
C-ABD	0.00	6.21	0.000		0.00	0.00	0.0		0.00

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)
17.15-17.30									
B-ACD	0.08	8.36	0.010		0.02	0.01	0.2		0.12
A-BCD	4.00	7.59	0.527		1.52	1.52	23.2		0.28
D-ABC	2.32	7.51	0.309		0.88	0.46	7.2		0.19
C-ABD	0.00	6.41	0.000		0.00	0.00	0.0		0.00

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)
17.30-17.45									
B-ACD	0.01	8.26	0.001		0.01	0.00	0.0		0.12
A-BCD	3.87	7.40	0.523		1.52	1.54	23.6		0.29
D-ABC	2.71	5.82	0.466		0.46	0.84	11.8		0.32
C-ABD	0.07	6.83	0.010		0.00	0.01	0.1		0.15

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.0	
17.30	0.0	
17.45	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.1	*
17.15	1.5	**
17.30	1.5	**
17.45	1.5	**

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.8	*
17.15	0.9	*
17.30	0.5	
17.45	0.8	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	7.0	7.0	1.6	0.22	1.6	0.22
A-BCD	235.3	235.3	85.1	0.36	85.3	0.36
D-ABC	177.9	177.9	42.5	0.24	42.6	0.24
C-ABD	1.0	1.0	0.1	0.15	0.1	0.15
ALL	1833.3	1833.3	129.3	0.07	129.6	0.07

* 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

TRL LIMITED

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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

FOR SALES AND DISTRIBUTION INFORMATION,
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Run with file:-
"C:\PICADY\2018\18036-01\Crossroads Junction\Crossroads Junction.vpi"
(drive-on-the-left) at 15:17:33 on Wednesday, 6 June 2018

.RUN INFORMATION
****

RUN TITLE: Proposed Social Housing
LOCATION: Crokers Hill, Co. Kilkenny
DATE: 16/04/18
CLIENT: Hayes Higgins Partnership
ENUMERATOR: Roadplan
JOB NUMBER: 18036-01
STATUS: TIA
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
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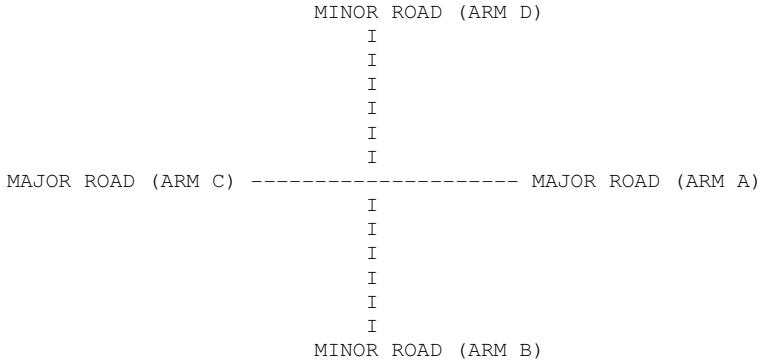
INPUT DATA



ARM A IS Dominic Street (north)
ARM B IS De Loughry
ARM C IS Dominic Street (south)
ARM D IS Kennyswell Rd

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

DATA ITEM	MINOR ROAD B		MINOR ROAD D	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	9.50 M.	(W)	9.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	(WA-D)	2.20 M.
- VISIBILITY	(VC-B)	98.0 M.	(VA-D)	90.0 M.
- BLOCKS TRAFFIC		YES		YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	26.0 M.	(VD-A)	44.0 M.
- VISIBILITY TO RIGHT	(VB-A)	39.0 M.	(VD-C)	31.0 M.
- LANE 1 WIDTH	(WB-C)	3.00 M.	(WD-A)	3.00 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.	(WD-C)	0.00 M.

.SLOPES AND INTERCPET

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

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
0.12	0.12

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.TRAFFIC DEMAND DATA

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ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2035 am sensitivity flows with development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.848	0.152
		0.0	0.0	140.0	25.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.981	0.000	0.000	0.019
		158.0	0.0	0.0	3.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.972	0.000	0.028	0.000
		69.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

2035 am sensitivity flows with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15					
	ARM A	0.000	0.000	0.735	0.265
		0.0	0.0	139.0	50.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.986	0.000	0.000	0.014
		136.0	0.0	0.0	2.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.986	0.000	0.014	0.000
		68.0	0.0	1.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2035 am sensitivity flows with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS			
		TURNING COUNTS			
		(PERCENTAGE OF H.V.S)			
08.15 - 09.15	ARM A	0.000	0.000	0.600	0.400
		0.0	0.0	105.0	70.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	1.000	0.000	0.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.945	0.000	0.000	0.055
		86.0	0.0	0.0	5.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.973	0.000	0.027	0.000
		71.0	0.0	2.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

2035 am sensitivity flows with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.15 - 09.15	ARM A	0.000	0.000	0.779	0.221
		0.0	0.0	127.0	36.0
		(0.0)	(0.0)	(1.7)	(10.4)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	0.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.993	0.000	0.000	0.007
		135.0	0.0	0.0	1.0
		(0.9)	(0.0)	(0.0)	(0.0)
	ARM D	0.943	0.000	0.057	0.000
		50.0	0.0	3.0	0.0
		(5.8)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2035 am sensitivity flows with development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-ACD	0.13	8.78	0.015		0.00	0.01	0.2		0.12
A-BCD	1.67	7.43	0.225		0.00	0.29	4.3		0.17
D-ABC	4.76	7.83	0.608		0.00	1.47	19.8		0.31
C-ABD	0.00	7.27	0.000		0.00	0.00	0.0		0.00

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)
08.30-08.45									
B-ACD	0.13	3.75	0.035		0.01	0.04	0.5		0.28
A-BCD	3.33	7.73	0.431		0.29	0.80	11.8		0.22
D-ABC	4.57	8.20	0.558		1.47	1.30	20.2		0.28
C-ABD	0.00	6.79	0.000		0.00	0.00	0.0		0.00

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)
08.45-09.00									
B-ACD	0.06	4.24	0.014		0.04	0.01	0.2		0.24
A-BCD	4.68	8.31	0.564		0.80	1.41	20.7		0.27
D-ABC	4.88	8.76	0.557		1.30	1.28	19.3		0.26
C-ABD	0.00	6.80	0.000		0.00	0.00	0.0		0.00

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)
09.00-09.15									
B-ACD	0.06	8.82	0.007		0.01	0.01	0.1		0.11
A-BCD	2.41	7.75	0.310		1.41	0.47	7.3		0.19
D-ABC	3.55	7.99	0.444		1.28	0.82	13.0		0.23
C-ABD	0.00	7.19	0.000		0.00	0.00	0.0		0.00

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.3	
08.45	0.8	*
09.00	1.4	*
09.15	0.5	

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	1.5	*
08.45	1.3	*
09.00	1.3	*
09.15	0.8	*

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	5.7	5.7	1.1	0.19	1.1	0.19
A-BCD	181.4	181.4	44.1	0.24	44.1	0.24
D-ABC	266.4	266.4	72.3	0.27	72.4	0.27
C-ABD	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1491.2	1491.2	117.5	0.08	117.5	0.08

* 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 INTERCPET

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

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
648.49	0.21	0.08

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
643.45	0.21	0.08

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
505.17	0.20	0.20	0.20	0.20

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.08	0.12	0.28	0.10

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
507.09	0.20	0.20	0.20	0.20

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.12	0.28	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
630.72	0.21	0.30

A-D Stream

Intercept For Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
626.08	0.21	0.29

B-D Stream From Left Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
0.12	0.12

B-D Stream From Right Hand Lane

Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B
505.17	0.20	0.20	0.08	0.28

Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Left Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

D-B Stream From Right Hand Lane

Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D
507.09	0.20	0.20	0.08	0.28

Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing
0.12	0.12		

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.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2035 pm sensitivity flows with development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

.

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45		TURNING PROPORTIONS			
		TURNING COUNTS			
		(PERCENTAGE OF H.V.S)			
	ARM A	0.000	0.000	0.753	0.247
		0.0	0.0	131.0	43.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.500	0.000	0.250	0.250
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	1.000	0.000	0.000	0.000
		141.0	0.0	0.0	0.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.974	0.000	0.026	0.000
		37.0	0.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2035 pm sensitivity flows with development

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45		TURNING PROPORTIONS			
		TURNING COUNTS			
		(PERCENTAGE OF H.V.S)			
	ARM A	0.000	0.015	0.732	0.253
		0.0	3.0	142.0	49.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	1.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.966	0.000	0.000	0.034
		141.0	0.0	0.0	5.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.952	0.024	0.024	0.000
		40.0	1.0	1.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2035 pm sensitivity flows with development

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 17.45		TURNING PROPORTIONS			
		TURNING COUNTS			
		(PERCENTAGE OF H.V.S)			
	ARM A	0.000	0.006	0.735	0.260
		0.0	1.0	133.0	47.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	1.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.994	0.000	0.000	0.006
		158.0	0.0	0.0	1.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	1.000	0.000	0.000	0.000
		27.0	0.0	0.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

2035 pm sensitivity flows with development

16.45 - 17.45					
	ARM A	0.000	0.005	0.760	0.235
		0.0	1.0	149.0	46.0
		(0.0)	(0.0)	(0.0)	(2.6)
	ARM B	0.000	0.000	0.000	0.000
		2.0	0.0	1.0	1.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.982	0.006	0.000	0.012
		168.0	1.0	0.0	2.0
		(1.1)	(0.0)	(0.0)	(0.0)
	ARM D	0.788	0.000	0.212	0.000
		26.0	0.0	7.0	0.0
		(6.6)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2035 pm sensitivity flows with development
AND FOR TIME PERIOD 2

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)
16.45-17.00									
B-ACD	0.25	5.20	0.048		0.00	0.05	0.7		0.20
A-BCD	2.88	8.26	0.348		0.00	0.55	8.0		0.18
D-ABC	2.53	8.01	0.316		0.00	0.45	6.4		0.18
C-ABD	0.00	7.11	0.000		0.00	0.00	0.0		0.00

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)
17.00-17.15									
B-ACD	0.06	4.65	0.013		0.05	0.01	0.2		0.22
A-BCD	3.28	8.20	0.400		0.55	0.70	10.5		0.20
D-ABC	2.78	7.83	0.355		0.45	0.54	7.9		0.20
C-ABD	0.00	6.82	0.000		0.00	0.00	0.0		0.00

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)
17.15-17.30									
B-ACD	0.06	8.79	0.007		0.01	0.01	0.1		0.11
A-BCD	3.14	8.02	0.391		0.70	0.69	10.3		0.21
D-ABC	1.77	7.93	0.223		0.54	0.29	4.6		0.16
C-ABD	0.00	6.99	0.000		0.00	0.00	0.0		0.00

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)
17.30-17.45									
B-ACD	0.00	8.57	0.000		0.01	0.00	0.0		0.00
A-BCD	3.06	7.86	0.389		0.69	0.69	10.3		0.21
D-ABC	2.15	6.54	0.329		0.29	0.48	6.9		0.23
C-ABD	0.07	7.50	0.009		0.00	0.01	0.1		0.13

.

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.0	
17.15	0.0	
17.30	0.0	
17.45	0.0	

.

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.7	*
17.30	0.7	*
17.45	0.7	*

.

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.5	*
17.30	0.3	
17.45	0.5	

.

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	5.6	5.6	1.0	0.19	1.0	0.19
A-BCD	185.2	185.2	39.1	0.21	39.1	0.21
D-ABC	138.4	138.4	25.7	0.19	25.8	0.19
C-ABD	1.0	1.0	0.1	0.13	0.1	0.13
ALL	1507.7	1507.7	66.0	0.04	66.1	0.04

* 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

TRL LIMITED

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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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EMAIL: SoftwareBureau@trl.co.uk

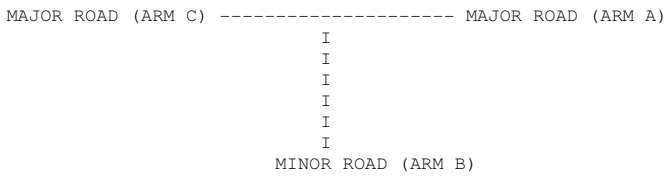
Run with file:-
"C:\PICADY\2018\18036-01\Proposed Access\Proposed Access With New Flows.vpi"
(drive-on-the-left) at 11:49:03 on Tuesday, 13 November 2018

.RUN INFORMATION
****

RUN TITLE: Proposed Residential Development
LOCATION: Crokers Hill, Kennyswell Rd, Co. Kilkenny
DATE: 25/04/18
CLIENT: Hayes Higgins Partnership
ENUMERATOR: Roadplan
JOB NUMBER: 18036
STATUS: TIA
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Kennyswell Rd (west)
ARM B IS Proposed Access
ARM C IS Kennyswell Rd (east)

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

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	0.0 M.
- BLOCKS TRAFFIC		YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	15.0 M.
- VISIBILITY TO RIGHT	(VB-A)	15.0 M.
- LANE 1 WIDTH	(WB-C)	2.50 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
601.67	0.22	0.09

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
465.36	0.20	0.08	0.13	0.29

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.21

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: 2020 am with development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)		
TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15	ARM A	0.000 0.0 (0.0)	0.020 1.0 (0.0)	0.980 50.0 (3.5)
	ARM B	0.375 3.0 (0.0)	0.000 0.0 (0.0)	0.625 5.0 (0.0)
	ARM C	0.714 5.0 (5.4)	0.286 2.0 (0.0)	0.000 0.0 (0.0)

2020 am with development

		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)		
TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15	ARM A	0.000 0.0 (0.0)	0.016 1.0 (0.0)	0.984 60.0 (3.5)
	ARM B	0.333 2.0 (0.0)	0.000 0.0 (0.0)	0.667 4.0 (0.0)
	ARM C	0.980 49.0 (5.4)	0.020 1.0 (0.0)	0.000 0.0 (0.0)

2020 am with development

		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)		
TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15	ARM A	0.000 0.0 (0.0)	0.000 0.0 (0.0)	1.000 86.0 (3.5)
	ARM B	0.333 2.0 (0.0)	0.000 0.0 (0.0)	0.667 4.0 (0.0)
	ARM C	0.980 50.0 (5.4)	0.020 1.0 (0.0)	0.000 0.0 (0.0)

2020 am with development

.

		TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S)		
TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15	ARM A	0.000 0.0 (0.0)	0.000 0.0 (0.0)	1.000 40.0 (3.5)
	ARM B	0.333 2.0 (0.0)	0.000 0.0 (0.0)	0.667 4.0 (0.0)
	ARM C	0.976 40.0 (5.4)	0.024 1.0 (0.0)	0.000 0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2020 am with development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-AC	0.53	8.26	0.064		0.00	0.07	1.0		0.13
C-AB	0.13	8.84	0.015		0.00	0.02	0.2		0.11
A-B	0.07								
A-C	3.32								

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)
08.30-08.45									
B-AC	0.40	8.02	0.050		0.07	0.05	0.8		0.13
C-AB	0.07	8.69	0.008		0.02	0.01	0.1		0.12
A-B	0.07								
A-C	4.00								

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)
08.45-09.00									
B-AC	0.40	7.65	0.052		0.05	0.05	0.8		0.14
C-AB	0.07	8.34	0.008		0.01	0.01	0.1		0.12
A-B	0.00								
A-C	5.70								

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)
09.00-09.15									
B-AC	0.40	8.37	0.048		0.05	0.05	0.8		0.13
C-AB	0.07	9.00	0.007		0.01	0.01	0.1		0.11
A-B	0.00								
A-C	2.65								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	26.0	26.0	3.4	0.13	3.4	0.13
C-AB	5.0	5.0	0.6	0.12	0.6	0.12
A-B	2.0	2.0				
A-C	235.2	235.2				
ALL	411.6	411.6	4.0	0.01	4.0	0.01

* 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)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
601.67	0.22	0.09

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
465.36	0.20	0.08	0.13	0.29

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.21

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: 2020 pm with development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

.

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 17.45	ARM A	0.000	0.021	0.979
		0.0	1.0	47.0
		(0.0)	(0.0)	(8.3)
	ARM B	0.250	0.000	0.750
		1.0	0.0	3.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.895	0.105	0.000
		34.0	4.0	0.0
		(10.2)	(0.0)	(0.0)

```
   2020 pm with development
I   16.45 - 17.45    I         I         I         I         I
I                    I  ARM A  I  0.000 I  0.038 I  0.962 I
I                    I         I    0.0 I    2.0 I   50.0 I
I                    I         I (  0.0)I (  0.0)I (  8.3)I
I                    I         I         I         I         I
I                    I  ARM B  I  0.250 I  0.000 I  0.750 I
I                    I         I    1.0 I    0.0 I    3.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
I                    I  ARM C  I  0.925 I  0.075 I  0.000 I
I                    I         I   49.0 I    4.0 I    0.0 I
I                    I         I ( 10.2)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
-------------------------------------------------------------
   2020 pm with development
I   16.45 - 17.45    I         I         I         I         I
I                    I  ARM A  I  0.000 I  0.017 I  0.983 I
I                    I         I    0.0 I    1.0 I   59.0 I
I                    I         I (  0.0)I (  0.0)I (  8.3)I
I                    I         I         I         I         I
I                    I  ARM B  I  0.250 I  0.000 I  0.750 I
I                    I         I    1.0 I    0.0 I    3.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
I                    I  ARM C  I  0.862 I  0.138 I  0.000 I
I                    I         I   25.0 I    4.0 I    0.0 I
I                    I         I ( 10.2)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
-------------------------------------------------------------
   2020 pm with development

.
-------------------------------------------------------------
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   16.45 - 17.45    I         I         I         I         I
I                    I  ARM A  I  0.000 I  0.019 I  0.981 I
I                    I         I    0.0 I    1.0 I   53.0 I
I                    I         I (  0.0)I (  0.0)I (  8.3)I
I                    I         I         I         I         I
I                    I  ARM B  I  0.250 I  0.000 I  0.750 I
I                    I         I    1.0 I    0.0 I    3.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
I                    I  ARM C  I  0.875 I  0.125 I  0.000 I
I                    I         I   21.0 I    3.0 I    0.0 I
I                    I         I ( 10.2)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
-------------------------------------------------------------

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

.              QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               -------------------------------------------------------
                FOR DEMAND SET 2020 pm with development
                AND FOR TIME PERIOD     2
.-------------------------------------------------------------------------------------------------------------------------
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 16.45-17.00                                                                                                    I
I   B-AC       0.27      8.45    0.032                0.00   0.03        0.5                           0.12      I
I   C-AB       0.26      8.83    0.030                0.00   0.03        0.5                           0.12      I
I   A-B        0.07                                                                                            I
I   A-C        3.19                                                                                            I
I                                                                                                               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 17.00-17.15                                                                                                    I
I   B-AC       0.27      8.35    0.032                0.03   0.03        0.5                           0.12      I
I   C-AB       0.27      8.79    0.030                0.03   0.03        0.5                           0.12      I
I   A-B        0.13                                                                                            I
I   A-C        3.33                                                                                            I
I                                                                                                               I
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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)
17.15-17.30									
B-AC	0.27	8.30	0.033		0.03	0.03	0.5		0.12
C-AB	0.27	8.67	0.031		0.03	0.03	0.5		0.12
A-B	0.07								
A-C	3.93								

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)
17.30-17.45									
B-AC	0.27	8.42	0.032		0.03	0.03	0.5		0.12
C-AB	0.20	8.76	0.023		0.03	0.02	0.4		0.12
A-B	0.07								
A-C	3.53								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	16.2	16.2	2.0	0.12	2.0	0.12
C-AB	15.1	15.1	1.8	0.12	1.8	0.12
A-B	5.0	5.0				
A-C	209.8	209.8				
ALL	375.5	375.5	3.8	0.01	3.8	0.01

* 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)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
601.67	0.22	0.09

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
I	465.36	0.20	0.08	0.13	0.29 I

I Intercept For Stream C-B	I Slope For Opposing Stream A-C	I Slope For Opposing Stream A-B I
I 573.96	0.21	0.21 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: 2025 am with development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

I		I TURNING PROPORTIONS / TURNING COUNTS / (PERCENTAGE OF H.V.S)		
I TIME	I FROM/TO I	ARM A I	ARM B I	ARM C I
I 08.15 - 09.15	I ARM A	I 0.000	I 0.019	I 0.981 I
I	I	I 0.0	I 1.0	I 52.0 I
I	I	I (0.0)	I (0.0)	I (3.5) I
I	I ARM B	I 0.375	I 0.000	I 0.625 I
I	I	I 3.0	I 0.0	I 5.0 I
I	I	I (0.0)	I (0.0)	I (0.0) I
I	I ARM C	I 0.714	I 0.286	I 0.000 I
I	I	I 5.0	I 2.0	I 0.0 I
I	I	I (5.4)	I (0.0)	I (0.0) I

2025 am with development

I 08.15 - 09.15	I ARM A	I 0.000	I 0.016	I 0.984 I
I	I	I 0.0	I 1.0	I 63.0 I
I	I	I (0.0)	I (0.0)	I (3.5) I
I	I ARM B	I 0.333	I 0.000	I 0.667 I
I	I	I 2.0	I 0.0	I 4.0 I
I	I	I (0.0)	I (0.0)	I (0.0) I
I	I ARM C	I 0.981	I 0.019	I 0.000 I
I	I	I 51.0	I 1.0	I 0.0 I
I	I	I (5.4)	I (0.0)	I (0.0) I

2025 am with development

I 08.15 - 09.15	I ARM A	I 0.000	I 0.000	I 1.000 I
I	I	I 0.0	I 0.0	I 90.0 I
I	I	I (0.0)	I (0.0)	I (3.5) I
I	I ARM B	I 0.333	I 0.000	I 0.667 I
I	I	I 2.0	I 0.0	I 4.0 I
I	I	I (0.0)	I (0.0)	I (0.0) I
I	I ARM C	I 0.981	I 0.019	I 0.000 I
I	I	I 52.0	I 1.0	I 0.0 I
I	I	I (5.4)	I (0.0)	I (0.0) I

2025 am with development

TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15				
	ARM A	0.000	0.000	1.000
		0.0	0.0	42.0
		(0.0)	(0.0)	(3.5)
	ARM B	0.333	0.000	0.667
		2.0	0.0	4.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.977	0.023	0.000
		42.0	1.0	0.0
		(5.4)	(0.0)	(0.0)

TURNING PROPORTIONS: TURNING COUNTS (PERCENTAGE OF H.V.S)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2025 am with development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-AC	0.53	8.22	0.065		0.00	0.07	1.0		0.13
C-AB	0.14	8.80	0.016		0.00	0.02	0.2		0.12
A-B	0.07								
A-C	3.49								

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)
08.30-08.45									
B-AC	0.40	7.96	0.050		0.07	0.05	0.8		0.13
C-AB	0.07	8.65	0.008		0.02	0.01	0.1		0.12
A-B	0.07								
A-C	4.21								

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)
08.45-09.00									
B-AC	0.40	7.57	0.053		0.05	0.06	0.8		0.14
C-AB	0.07	8.28	0.008		0.01	0.01	0.1		0.12
A-B	0.00								
A-C	5.99								

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)
09.00-09.15									
B-AC	0.40	8.33	0.048		0.06	0.05	0.8		0.13
C-AB	0.07	8.97	0.007		0.01	0.01	0.1		0.11
A-B	0.00								
A-C	2.78								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	26.0	26.0	3.4	0.13	3.4	0.13
C-AB	5.1	5.1	0.6	0.12	0.6	0.12
A-B	2.0	2.0				
A-C	247.1	247.1				
ALL	430.9	430.9	4.0	0.01	4.0	0.01

* 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)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
601.67	0.22	0.09

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
465.36	0.20	0.08	0.13	0.29

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.21

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: 2035 am with development

TIME PERIOD BEGINS 08.15 AND ENDS 09.15

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15				
	ARM A	0.000	0.018	0.982
		0.0	1.0	56.0
		(0.0)	(0.0)	(3.5)
	ARM B	0.375	0.000	0.625
		3.0	0.0	5.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.750	0.250	0.000
		6.0	2.0	0.0
		(5.4)	(0.0)	(0.0)

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

2035 am with development

TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15				
	ARM A	0.000	0.015	0.985
		0.0	1.0	67.0
		(0.0)	(0.0)	(3.5)
	ARM B	0.333	0.000	0.667
		2.0	0.0	4.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.982	0.018	0.000
		55.0	1.0	0.0
		(5.4)	(0.0)	(0.0)

2035 am with development

TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15				
	ARM A	0.000	0.000	1.000
		0.0	0.0	95.0
		(0.0)	(0.0)	(3.5)
	ARM B	0.333	0.000	0.667
		2.0	0.0	4.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.982	0.018	0.000
		56.0	1.0	0.0
		(5.4)	(0.0)	(0.0)

2035 am with development

.

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.15				
	ARM A	0.000	0.000	1.000
		0.0	0.0	44.0
		(0.0)	(0.0)	(3.5)
	ARM B	0.333	0.000	0.667
		2.0	0.0	4.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.978	0.022	0.000
		44.0	1.0	0.0
		(5.4)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2035 am with development
AND FOR TIME PERIOD 1

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)
08.15-08.30									
B-AC	0.53	8.17	0.065		0.00	0.07	1.0		0.13
C-AB	0.13	8.75	0.015		0.00	0.01	0.2		0.12
A-B	0.07								
A-C	3.71								

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)
08.30-08.45									
B-AC	0.40	7.89	0.051		0.07	0.05	0.8		0.13
C-AB	0.07	8.59	0.008		0.01	0.01	0.1		0.12
A-B	0.07								
A-C	4.47								

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)
08.45-09.00									
B-AC	0.40	7.47	0.054		0.05	0.06	0.8		0.14
C-AB	0.07	8.20	0.008		0.01	0.01	0.1		0.12
A-B	0.00								
A-C	6.36								

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)
09.00-09.15									
B-AC	0.40	8.28	0.048		0.06	0.05	0.8		0.13
C-AB	0.07	8.93	0.008		0.01	0.01	0.1		0.11
A-B	0.00								
A-C	2.96								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	26.0	26.0	3.4	0.13	3.4	0.13
C-AB	4.9	4.9	0.6	0.12	0.6	0.12
A-B	2.0	2.0				
A-C	262.6	262.6				
ALL	455.7	455.7	4.0	0.01	4.0	0.01

* 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)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
601.67	0.22	0.09

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
465.36	0.20	0.08	0.13	0.29

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.21

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: 2025 pm with development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 17.45	ARM A	0.000 0.0 (0.0)	0.020 1.0 (0.0)	0.980 49.0 (8.3)
	ARM B	0.250 1.0 (0.0)	0.000 0.0 (0.0)	0.750 3.0 (0.0)
	ARM C	0.897 35.0 (10.2)	0.103 4.0 (0.0)	0.000 0.0 (0.0)

2025 pm with development

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 17.45	ARM A	0.000 0.0 (0.0)	0.037 2.0 (0.0)	0.963 52.0 (8.3)
	ARM B	0.250 1.0 (0.0)	0.000 0.0 (0.0)	0.750 3.0 (0.0)
	ARM C	0.927 51.0 (10.2)	0.073 4.0 (0.0)	0.000 0.0 (0.0)

2025 pm with development

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 17.45	ARM A	0.000 0.0 (0.0)	0.016 1.0 (0.0)	0.984 62.0 (8.3)
	ARM B	0.250 1.0 (0.0)	0.000 0.0 (0.0)	0.750 3.0 (0.0)
	ARM C	0.871 27.0 (10.2)	0.129 4.0 (0.0)	0.000 0.0 (0.0)

2025 pm with development

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TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 17.45	ARM A	0.000 0.0 (0.0)	0.018 1.0 (0.0)	0.982 56.0 (8.3)
	ARM B	0.250 1.0 (0.0)	0.000 0.0 (0.0)	0.750 3.0 (0.0)
	ARM C	0.880 22.0 (10.2)	0.120 3.0 (0.0)	0.000 0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2025 pm with development
AND FOR TIME PERIOD 2

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)
16.45-17.00									
B-AC	0.27	8.40	0.032		0.00	0.03	0.5		0.12
C-AB	0.27	8.80	0.031		0.00	0.03	0.5		0.12
A-B	0.07								
A-C	3.35								

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)
17.00-17.15									
B-AC	0.27	8.30	0.033		0.03	0.03	0.5		0.12
C-AB	0.27	8.75	0.031		0.03	0.03	0.5		0.12
A-B	0.13								
A-C	3.50								

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)
17.15-17.30									
B-AC	0.27	8.25	0.033		0.03	0.03	0.5		0.13
C-AB	0.26	8.62	0.031		0.03	0.03	0.5		0.12
A-B	0.07								
A-C	4.14								

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)
17.30-17.45									
B-AC	0.27	8.37	0.032		0.03	0.03	0.5		0.12
C-AB	0.20	8.72	0.023		0.03	0.02	0.4		0.12
A-B	0.07								
A-C	3.71								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	16.2	16.2	2.0	0.12	2.0	0.12
C-AB	15.1	15.1	1.8	0.12	1.8	0.12
A-B	5.0	5.0				
A-C	220.6	220.6				
ALL	392.7	392.7	3.8	0.01	3.8	0.01

* 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)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
601.67	0.22	0.09

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
465.36	0.20	0.08	0.13	0.29

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.21

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: 2035 pm with development

TIME PERIOD BEGINS 16.45 AND ENDS 17.45

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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TIME	FROM/TO	TURNING PROPORTIONS (PERCENTAGE OF H.V.S) TURNING COUNTS ARM A	ARM B	ARM C
16.45 - 17.45	ARM A	0.000	0.019	0.981
		0.0	1.0	52.0
		(0.0)	(0.0)	(8.3)
	ARM B	0.250	0.000	0.750
		1.0	0.0	3.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.905	0.095	0.000
		38.0	4.0	0.0
		(10.2)	(0.0)	(0.0)

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   2035 pm with development
I   16.45 - 17.45    I         I         I         I         I
I                    I  ARM A  I  0.000 I  0.034 I  0.966 I
I                    I         I    0.0 I    2.0 I   56.0 I
I                    I         I (  0.0)I (  0.0)I (  8.3)I
I                    I         I         I         I         I
I                    I  ARM B  I  0.250 I  0.000 I  0.750 I
I                    I         I    1.0 I    0.0 I    3.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
I                    I  ARM C  I  0.932 I  0.068 I  0.000 I
I                    I         I   55.0 I    4.0 I    0.0 I
I                    I         I ( 10.2)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
-------------------------------------------------------------
   2035 pm with development
I   16.45 - 17.45    I         I         I         I         I
I                    I  ARM A  I  0.000 I  0.015 I  0.985 I
I                    I         I    0.0 I    1.0 I   66.0 I
I                    I         I (  0.0)I (  0.0)I (  8.3)I
I                    I         I         I         I         I
I                    I  ARM B  I  0.250 I  0.000 I  0.750 I
I                    I         I    1.0 I    0.0 I    3.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
I                    I  ARM C  I  0.875 I  0.125 I  0.000 I
I                    I         I   28.0 I    4.0 I    0.0 I
I                    I         I ( 10.2)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
-------------------------------------------------------------
   2035 pm with development

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-------------------------------------------------------------
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   16.45 - 17.45    I         I         I         I         I
I                    I  ARM A  I  0.000 I  0.017 I  0.983 I
I                    I         I    0.0 I    1.0 I   59.0 I
I                    I         I (  0.0)I (  0.0)I (  8.3)I
I                    I         I         I         I         I
I                    I  ARM B  I  0.250 I  0.000 I  0.750 I
I                    I         I    1.0 I    0.0 I    3.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
I                    I  ARM C  I  0.889 I  0.111 I  0.000 I
I                    I         I   24.0 I    3.0 I    0.0 I
I                    I         I ( 10.2)I (  0.0)I (  0.0)I
I                    I         I         I         I         I
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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

.              QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               -------------------------------------------------------
                FOR DEMAND SET 2035 pm with development
                AND FOR TIME PERIOD     2
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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 16.45-17.00                                                                                                    I
I   B-AC       0.27      8.35    0.032                0.00   0.03        0.5                           0.12      I
I   C-AB       0.26      8.75    0.030                0.00   0.03        0.5                           0.12      I
I   A-B        0.07                                                                                            I
I   A-C        3.55                                                                                            I
I                                                                                                               I
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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 17.00-17.15                                                                                                    I
I   B-AC       0.27      8.24    0.033                0.03   0.03        0.5                           0.13      I
I   C-AB       0.26      8.70    0.030                0.03   0.03        0.5                           0.12      I
I   A-B        0.13                                                                                            I
I   A-C        3.72                                                                                            I
I                                                                                                               I
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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)
17.15-17.30									
B-AC	0.27	8.18	0.033		0.03	0.03	0.5		0.13
C-AB	0.27	8.56	0.032		0.03	0.03	0.5		0.12
A-B	0.07								
A-C	4.39								

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)
17.30-17.45									
B-AC	0.27	8.31	0.032		0.03	0.03	0.5		0.12
C-AB	0.20	8.66	0.023		0.03	0.02	0.4		0.12
A-B	0.07								
A-C	3.94								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	16.2	16.2	2.0	0.12	2.0	0.12
C-AB	15.0	15.0	1.8	0.12	1.8	0.12
A-B	5.0	5.0				
A-C	234.1	234.1				
ALL	414.6	414.6	3.8	0.01	3.8	0.01

* 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