

TRL LIMITED

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

PICADY 5.1 ANALYSIS PROGRAM  
RELEASE 5.0 (JUNE 2010)

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Run with file:-

"N:\Projects\A046980-7 Thurmaston\calculations\PICADY\J33\_Barkbythorpe Road \_ King Street, Barkby Thorpe\  
J\_Barkby Thorpe Lane\_ThorpeLa\_Barkby Thorpe.vpi"  
(drive-on-the-left) at 09:02:14 on Monday, 4 August 2014

RUN INFORMATION  
\*\*\*\*\*

RUN TITLE : King Street/Barkbythorpe Road, Barkby Thorpe  
LOCATION : Thurmaston  
DATE : 16/07/14  
CLIENT : Commercial Estates Group  
ENUMERATOR : JJ  
JOB NUMBER : A046980-7  
STATUS : Final TA  
DESCRIPTION :

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

INPUT DATA  
-----

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)  
I  
I  
I  
I  
I  
I  
I  
MINOR ROAD (ARM B)

ARM A IS Queen Street  
ARM B IS King Street  
ARM C IS Barkbythorpe Road

STREAM LABELLING CONVENTION  
-----

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

-----  
 GEOMETRIC DATA  
 -----

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	( W ) 6.00 M.	I
I	CENTRAL RESERVE WIDTH	I	( WCR ) 0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	( WC-B ) 2.20 M.	I
I	- VISIBILITY	I	( VC-B ) 50.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES ( 0 )	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	( VB-C ) 150.0 M.	I
I	- VISIBILITY TO RIGHT	I	( VB-A ) 50.0 M.	I
I	- LANE 1 WIDTH	I	( WB-C ) -	I
I	- LANE 2 WIDTH	I	( WB-A ) -	I
I	WIDTH AT 0 M FROM JUNCTION	I	10.00 M.	I
I	WIDTH AT 5 M FROM JUNCTION	I	6.00 M.	I
I	WIDTH AT 10 M FROM JUNCTION	I	3.00 M.	I
I	WIDTH AT 15 M FROM JUNCTION	I	3.00 M.	I
I	WIDTH AT 20 M FROM JUNCTION	I	3.00 M.	I
I	- LENGTH OF FLARED SECTION	I	DERIVED: 1 PCU	I

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 .SLOPES AND INTERCEPT  
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(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM	A-C	STREAM	A-B	I
I	0.00		0.00		0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM	A-C	STREAM	A-B	STREAM	C-A	STREAM	C-B	I
I	0.00		0.00		0.00		0.00		0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM	A-C	STREAM	A-B	I
I	602.92		0.23		0.23	I

(NB These values do not allow for any site specific corrections)

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 TRAFFIC DEMAND DATA  
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I	ARM	I	FLOW SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

Demand set: 2014 Base Flows AM

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I		I	FLOW STARTS	I	BEFORE	I
I		I	TOP OF PEAK	I	AT TOP	I
I		I	IS REACHED	I	OF PEAK	I
I		I	FALLING	I	PEAK	I
I		I		I		I
I	ARM A	I	15.00	I	11.77	I
I	ARM B	I	15.00	I	3.83	I
I	ARM C	I	15.00	I	2.63	I



TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.04	1.52	0.030		0.76	0.03	1.0		0.72
B-A	4.54	6.18	0.735		16.63	3.42	120.5		1.62
C-AB	0.11	9.11	0.012		0.02	0.01	0.2		0.11
C-A	3.03								
A-B	4.09								
A-C	10.02								

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-C	0.04	5.70	0.007		0.03	0.01	0.1		0.18
B-A	3.80	6.79	0.560		3.42	1.34	22.8		0.37
C-AB	0.09	9.22	0.009		0.01	0.01	0.2		0.11
C-A	2.55								
A-B	3.43								
A-C	8.39								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.6 *
08.45	0.8 *
09.00	0.0
09.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	1.2 *
08.15	2.5 **
08.30	11.0 *****
08.45	16.6 *****
09.00	3.4 ***
09.15	1.3 *

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	DEMAND	I	* DELAY *	I	* DELAY *	I
I	I	I	(VEH)	I	(MIN)	I	(MIN)	I
I	I	I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	B-C	I	4.1	I	16.0	I	3.86	I
I	B-A	I	417.1	I	510.2	I	1.22	I
I	C-AB	I	10.6	I	1.3	I	0.13	I
I	C-A	I	278.5	I	185.6	I		I
I	A-B	I	375.8	I	250.5	I		I
I	A-C	I	920.8	I	613.9	I		I
I	ALL	I	2006.8	I	1337.9	I	527.5	I
							0.26	
							527.6	
							0.26	

\* 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 RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM	A-C	STREAM	A-B	I
I	0.00		0.00		0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM	A-C	STREAM	A-B	STREAM	C-A	STREAM	C-B	I
I	0.00		0.00		0.00		0.00		0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM	A-C	STREAM	A-B	I
I	602.92		0.23		0.23	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

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

Demand set: 2014 Base Flows PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.09	3.06	0.030		0.03	0.03	0.4		0.34
B-A	4.95	6.18	0.802		3.32	3.61	52.3		0.78
C-AB	0.24	14.94	0.016		0.02	0.02	0.3		0.07
C-A	10.49								
A-B	5.34								
A-C	4.73								

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)
17.45-18.00									
B-C	0.07	6.10	0.012		0.03	0.01	0.2		0.17
B-A	4.05	6.87	0.589		3.61	1.51	25.7		0.39
C-AB	0.17	14.08	0.012		0.02	0.01	0.2		0.07
C-A	8.60								
A-B	4.36								
A-C	3.87								

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)
18.00-18.15									
B-C	0.06	7.68	0.008		0.01	0.01	0.1		0.13
B-A	3.39	7.36	0.460		1.51	0.88	14.0		0.26
C-AB	0.12	13.43	0.009		0.01	0.01	0.2		0.08
C-A	7.22								
A-B	3.65								
A-C	3.24								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.8 *
17.15	1.4 *
17.30	3.3 ***
17.45	3.6 ****
18.00	1.5 **
18.15	0.9 *

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
18.00	0.0
18.15	0.0



QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I	I	I	I	I	* DELAY *	I	* DELAY *	I		
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	6.9	I	4.6	I	1.4	I	0.21	I
I	B-A	I	371.6	I	247.8	I	164.2	I	0.44	I
I	C-AB	I	16.0	I	10.7	I	1.3	I	0.08	I
I	C-A	I	789.2	I	526.1	I		I		I
I	A-B	I	400.5	I	267.0	I		I		I
I	A-C	I	355.1	I	236.7	I		I		I
I	ALL	I	1939.4	I	1292.9	I	167.0	I	0.09	I

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

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM	A-C	STREAM	A-B	I
I	0.00		0.00		0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM	A-C	STREAM	A-B	STREAM	C-A	STREAM	C-B	I
I	0.00		0.00		0.00		0.00		0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM	A-C	STREAM	A-B	I
I	602.92		0.23		0.23	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: 2031 Base+ComDev AM

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.07	0.06	1.148		1.06	1.46	19.0		38.68
B-A	6.84	4.42	1.547		47.06	83.41	978.6		13.62
C-AB	0.22	8.95	0.024		0.03	0.03	0.5		0.11
C-A	4.50								
A-B	6.04								
A-C	14.63								

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-C	0.06	0.08	0.781		1.46	1.55	22.6		30.29
B-A	5.59	5.43	1.029		83.41	85.96	1270.3		15.75
C-AB	0.15	9.06	0.017		0.03	0.02	0.3		0.11
C-A	3.70								
A-B	4.93								
A-C	11.94								

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-C	0.05	0.09	0.552		1.55	1.53	23.1		27.95
B-A	4.68	6.16	0.759		85.96	64.76	1130.4		12.41
C-AB	0.11	9.17	0.012		0.02	0.01	0.2		0.11
C-A	3.11								
A-B	4.13								
A-C	10.00								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.6 *
08.30	1.1 *
08.45	1.5 *
09.00	1.6 **
09.15	1.5 **

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	2.7 ***
08.15	10.5 *****
08.30	47.1 *****
08.45	83.4 *****
09.00	86.0 *****
09.15	64.8 *****

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I						
I	I	I	I	I	* DELAY *	I	* DELAY *	I						
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)						
I	B-C	I	5.5	I	3.7	I	82.5	I	14.99	I	95.4	I	17.33	I
I	B-A	I	513.4	I	342.3	I	3952.2	I	7.70	I	4292.4	I	8.36	I
I	C-AB	I	14.5	I	9.6	I	1.9	I	0.13	I	1.9	I	0.13	I
I	C-A	I	339.3	I	226.2	I		I		I		I		I
I	A-B	I	452.8	I	301.9	I		I		I		I		I
I	A-C	I	1097.0	I	731.3	I		I		I		I		I
I	ALL	I	2422.5	I	1615.0	I	4036.6	I	1.67	I	4389.7	I	1.81	I

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

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	STREAM C-A	STREAM C-A	STREAM C-B	STREAM C-B	I
I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	602.92	0.23	0.23	0.23	0.23	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: 2016 Base+ComDev+Phase 1 AM

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.06	0.08	0.729		0.56	0.78	10.1		21.77
B-A	5.95	5.56	1.069		12.94	20.35	250.9		3.36
C-AB	0.14	8.16	0.017		0.02	0.02	0.3		0.12
C-A	2.65								
A-B	5.21								
A-C	12.04								

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-C	0.04	0.51	0.088		0.78	0.11	3.1		2.51
B-A	4.85	6.36	0.763		20.35	4.40	171.5		2.13
C-AB	0.10	8.46	0.012		0.02	0.01	0.2		0.12
C-A	2.18								
A-B	4.26								
A-C	9.83								

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-C	0.04	5.39	0.007		0.11	0.01	0.1		0.19
B-A	4.07	6.94	0.586		4.40	1.49	26.5		0.40
C-AB	0.08	8.68	0.009		0.01	0.01	0.2		0.12
C-A	1.83								
A-B	3.56								
A-C	8.23								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.6 *
08.45	0.8 *
09.00	0.1
09.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	1.3 *
08.15	2.8 ***
08.30	12.9 *****
08.45	20.4 *****
09.00	4.4 ****
09.15	1.5 *

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0



QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
I	I	I	I	I	* DELAY *	I	* DELAY *	I	
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	B-C	I	4.1	I	2.8	I	18.4	I	4.45
I	B-A	I	446.0	I	297.3	I	629.5	I	1.41
I	C-AB	I	9.5	I	6.3	I	1.3	I	0.14
I	C-A	I	199.7	I	133.2	I		I	
I	A-B	I	390.9	I	260.6	I		I	
I	A-C	I	902.9	I	602.0	I		I	
I	ALL	I	1953.1	I	1302.1	I	649.2	I	0.33

\* 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 RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	STREAM C-A	STREAM C-A	STREAM C-B	STREAM C-B	I
I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	602.92	0.23	0.23	0.23	0.23	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: 2021 Base+ComDev+Phase 2 AM

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.06	0.08	0.689		0.55	0.75	9.8		21.42
B-A	6.26	6.08	1.029		11.12	16.44	208.1		2.64
C-AB	0.12	7.68	0.015		0.02	0.02	0.3		0.13
C-A	1.68								
A-B	5.06								
A-C	10.81								

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-C	0.04	1.59	0.028		0.75	0.03	0.9		0.69
B-A	5.11	6.79	0.753		16.44	3.72	119.9		1.47
C-AB	0.09	8.09	0.011		0.02	0.01	0.2		0.13
C-A	1.38								
A-B	4.14								
A-C	8.82								

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-C	0.04	5.61	0.007		0.03	0.01	0.1		0.18
B-A	4.28	7.30	0.586		3.72	1.49	25.4		0.36
C-AB	0.07	8.39	0.009		0.01	0.01	0.1		0.12
C-A	1.16								
A-B	3.46								
A-C	7.39								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.6 *
08.45	0.7 *
09.00	0.0
09.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	1.3 *
08.15	2.7 ***
08.30	11.1 *****
08.45	16.4 *****
09.00	3.7 ****
09.15	1.5 *

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
I	I	I	I	I	* DELAY *	I	* DELAY *	I	
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	B-C	I	4.1	I	2.8	I	15.8	I	3.82
I	B-A	I	469.4	I	312.9	I	519.6	I	1.11
I	C-AB	I	8.4	I	5.6	I	1.2	I	0.14
I	C-A	I	126.5	I	84.3	I		I	
I	A-B	I	379.9	I	253.3	I		I	
I	A-C	I	810.7	I	540.5	I		I	
I	ALL	I	1799.0	I	1199.3	I	536.5	I	0.30

\* 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 RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	A-C	STREAM A-B	A-B	I
I	0.00	0.00		0.00		I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	A-C	STREAM A-B	A-B	STREAM C-A	C-A	STREAM C-B	C-B	I
I	0.00	0.00		0.00		0.00		0.00		I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	A-C	STREAM A-B	A-B	I
I	602.92	0.23		0.23		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: 2031 Base+ComDev PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.11	0.13	0.857		0.97	1.32	17.3		17.40
B-A	6.18	5.41	1.143		17.73	30.02	358.9		4.69
C-AB	0.35	15.83	0.022		0.03	0.03	0.4		0.06
C-A	12.57								
A-B	6.51								
A-C	5.67								

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)
17.45-18.00									
B-C	0.09	0.16	0.571		1.32	1.32	19.8		7.85
B-A	5.05	6.24	0.809		30.02	15.19	339.1		3.83
C-AB	0.23	14.85	0.016		0.03	0.02	0.3		0.07
C-A	10.31								
A-B	5.32								
A-C	4.63								

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)
18.00-18.15									
B-C	0.08	4.31	0.017		1.32	0.02	0.6		0.25
B-A	4.23	6.84	0.618		15.19	1.77	69.2		0.83
C-AB	0.17	14.10	0.012		0.02	0.01	0.2		0.07
C-A	8.66								
A-B	4.45								
A-C	3.88								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	1.0 *
17.45	1.3 *
18.00	1.3 *
18.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	1.5 **
17.15	3.4 ***
17.30	17.7 *****
17.45	30.0 *****
18.00	15.2 *****
18.15	1.8 **

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
18.00	0.0
18.15	0.0



QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
I	I	I	I	I	* DELAY *	I	* DELAY *	I	
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	B-C	I	8.3	I	5.5	I	46.7	I	5.66
I	B-A	I	463.9	I	309.2	I	996.3	I	2.15
I	C-AB	I	22.5	I	15.0	I	1.8	I	0.08
I	C-A	I	946.5	I	631.0	I		I	
I	A-B	I	488.6	I	325.8	I		I	
I	A-C	I	425.3	I	283.5	I		I	
I	ALL	I	2355.1	I	1570.0	I	1044.8	I	0.44

\* 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 RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	STREAM C-A	STREAM C-A	STREAM C-B	STREAM C-B	I
I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	602.92	0.23	0.23	0.23	0.23	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: 2016 Base+ComDev+Phase 1 PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.09	1.66	0.055		0.04	0.06	0.8		0.64
B-A	5.73	6.57	0.871		4.76	5.44	77.2		1.02
C-AB	0.21	13.65	0.015		0.02	0.02	0.3		0.07
C-A	8.38								
A-B	5.36								
A-C	4.64								

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)
17.45-18.00									
B-C	0.07	5.19	0.014		0.06	0.01	0.2		0.20
B-A	4.67	7.19	0.650		5.44	2.00	36.1		0.47
C-AB	0.15	12.99	0.011		0.02	0.01	0.2		0.08
C-A	6.86								
A-B	4.38								
A-C	3.79								

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)
18.00-18.15									
B-C	0.06	7.21	0.009		0.01	0.01	0.1		0.14
B-A	3.91	7.63	0.513		2.00	1.09	17.6		0.28
C-AB	0.11	12.50	0.009		0.01	0.01	0.1		0.08
C-A	5.76								
A-B	3.66								
A-C	3.17								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.1
18.00	0.0
18.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	1.0 *
17.15	1.7 **
17.30	4.8 *****
17.45	5.4 *****
18.00	2.0 **
18.15	1.1 *

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
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
I	I	I	I	I	* DELAY *	I	* DELAY *	I	
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	B-C	I	6.9	I	4.6	I	2.1	I	0.30
I	B-A	I	429.4	I	286.3	I	225.8	I	0.53
I	C-AB	I	14.0	I	9.3	I	1.2	I	0.09
I	C-A	I	630.1	I	420.1	I		I	
I	A-B	I	401.9	I	267.9	I		I	
I	A-C	I	348.2	I	232.2	I		I	
I	ALL	I	1830.6	I	1220.4	I	229.1	I	0.13

\* 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 RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	STREAM C-A	STREAM C-A	STREAM C-B	STREAM C-B	I
I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	602.92	0.23	0.23	0.23	0.23	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: 2021 Base+ComDev+Phase 2 PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.11	1.22	0.090		0.06	0.09	1.3		0.90
B-A	5.73	6.43	0.891		5.26	6.15	86.5		1.16
C-AB	0.24	15.31	0.016		0.02	0.02	0.3		0.07
C-A	10.79								
A-B	4.99								
A-C	3.78								

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)
17.45-18.00									
B-C	0.09	5.06	0.018		0.09	0.02	0.3		0.20
B-A	4.67	7.07	0.661		6.15	2.11	39.5		0.52
C-AB	0.17	14.40	0.012		0.02	0.01	0.2		0.07
C-A	8.84								
A-B	4.08								
A-C	3.09								

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)
18.00-18.15									
B-C	0.08	7.27	0.010		0.02	0.01	0.2		0.14
B-A	3.91	7.53	0.520		2.11	1.12	18.1		0.29
C-AB	0.12	13.72	0.009		0.01	0.01	0.1		0.07
C-A	7.42								
A-B	3.41								
A-C	2.58								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.0	*
17.15	1.8	**
17.30	5.3	*****
17.45	6.2	*****
18.00	2.1	**
18.15	1.1	*

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
18.00	0.0
18.15	0.0



QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
I	I	I	I	I	* DELAY *	I	* DELAY *	I	
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	B-C	I	8.3	I	5.5	I	2.9	I	0.36
I	B-A	I	429.4	I	286.3	I	245.0	I	0.57
I	C-AB	I	16.0	I	10.6	I	1.2	I	0.08
I	C-A	I	811.3	I	540.8	I		I	
I	A-B	I	374.4	I	249.6	I		I	
I	A-C	I	283.5	I	189.0	I		I	
I	ALL	I	1922.9	I	1281.9	I	249.2	I	0.13

\* 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 RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	STREAM C-A	STREAM C-A	STREAM C-B	STREAM C-B	I
I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	602.92	0.23	0.23	0.23	0.23	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: 2031 Base+ComDev+AllDev AM

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.07	1.84	0.040		0.03	0.04	0.6		0.57
B-A	5.05	5.99	0.842		4.00	4.49	64.2		0.96
C-AB	0.13	7.32	0.018		0.02	0.02	0.3		0.14
C-A	1.30								
A-B	4.62								
A-C	11.52								

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-C	0.06	4.90	0.012		0.04	0.01	0.2		0.21
B-A	4.12	6.72	0.613		4.49	1.69	29.8		0.44
C-AB	0.10	7.80	0.013		0.02	0.02	0.2		0.13
C-A	1.06								
A-B	3.78								
A-C	9.41								

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-C	0.05	6.66	0.008		0.01	0.01	0.1		0.15
B-A	3.45	7.24	0.477		1.69	0.94	15.1		0.27
C-AB	0.08	8.15	0.010		0.02	0.01	0.2		0.12
C-A	0.89								
A-B	3.16								
A-C	7.88								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.9	*
08.15	1.5	*
08.30	4.0	****
08.45	4.5	****
09.00	1.7	**
09.15	0.9	*

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
I	I	I	I	I	* DELAY *	I	* DELAY *	I	
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	B-C	I	5.5	I	3.7	I	1.6	I	0.30
I	B-A	I	378.5	I	252.3	I	190.8	I	0.50
I	C-AB	I	9.7	I	6.5	I	1.4	I	0.15
I	C-A	I	97.7	I	65.1	I		I	
I	A-B	I	346.9	I	231.2	I		I	
I	A-C	I	864.4	I	576.3	I		I	
I	ALL	I	1702.6	I	1135.1	I	193.9	I	0.11

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 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	STREAM C-A	STREAM C-A	STREAM C-B	STREAM C-B	I
I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	I

\* Due to the presence of a flare, data is not available

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-C	STREAM A-B	STREAM A-B	I
I	602.92	0.23	0.23	0.23	0.23	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: 2031 Base+ComDev+AllDev PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.





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-C	0.11	5.37	0.021		0.02	0.02	0.3		0.19
B-A	4.61	6.91	0.667		1.86	1.92	28.4		0.43
C-AB	0.23	13.71	0.017		0.02	0.02	0.3		0.07
C-A	7.88								
A-B	3.45								
A-C	4.46								

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)
17.45-18.00									
B-C	0.09	7.28	0.012		0.02	0.01	0.2		0.14
B-A	3.76	7.46	0.504		1.92	1.05	16.9		0.28
C-AB	0.17	13.04	0.013		0.02	0.01	0.2		0.08
C-A	6.45								
A-B	2.82								
A-C	3.64								

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)
18.00-18.15									
B-C	0.08	8.30	0.009		0.01	0.01	0.1		0.12
B-A	3.15	7.86	0.401		1.05	0.68	10.8		0.21
C-AB	0.13	12.55	0.010		0.01	0.01	0.2		0.08
C-A	5.42								
A-B	2.36								
A-C	3.05								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	1.0	*
17.30	1.9	**
17.45	1.9	**
18.00	1.1	*
18.15	0.7	*

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
18.00	0.0
18.15	0.0



QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN)
B-C	8.3	1.3	1.3
B-A	345.5	104.4	104.4
C-AB	15.9	1.4	1.4
C-A	592.5		
A-B	258.8		
A-C	334.5		
ALL	1555.4	107.0	107.1

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 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

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