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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) (Patch 15 Apr 2011)

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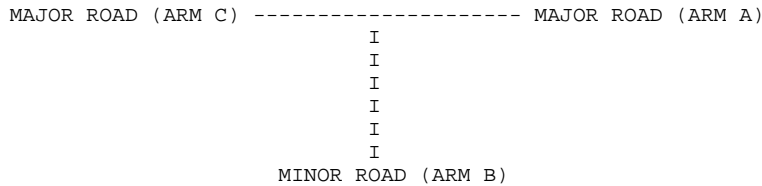
Run with file:-  
"H:\Current Jobs\17174 JWPC Gib\02 Calculations\PICADY\Site Access\Livesey Branch Road\  
Site Access - Livesey Branch Road.vpi"  
(drive-on-the-left) at 16:39:13 on Thursday, 10 April 2014

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

RUN TITLE : Proposed Residential Development in Blackburn  
LOCATION : Site Access - Livesey Branch Road  
DATE : 14/02/14  
CLIENT : JWPC LTD  
ENUMERATOR : pwhitaker [MBLANPC05]  
JOB NUMBER : NW/JWPC/GIB.1  
STATUS : DRAFT  
DESCRIPTION :

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

INPUT DATA  
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ARM A IS Livesey Branch Road (E)  
ARM B IS Site Access  
ARM C IS Livesey Branch Road (W)

STREAM LABELLING CONVENTION  
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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.

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 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	MAJOR ROAD RIGHT TURN - WIDTH	I	( WC-B ) 2.20 M.	I
I	- VISIBILITY	I	( VC-B ) 100.00 M.	I
I	- BLOCKS TRAFFIC ( SPACES )	I	YES ( 1 )	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	( VB-C ) 20.0 M.	I
I	- VISIBILITY TO RIGHT	I	( VB-A ) 15.0 M.	I
I	- LANE 1 WIDTH	I	( WB-C ) 2.75 M.	I
I	- LANE 2 WIDTH	I	( WB-A ) 0.00 M.	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	617.53	0.24	0.09	I

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	479.18	0.22	0.09	0.14	0.32	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	I
I	631.87	0.24	0.24	I

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

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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

Demand set: AM 2028 DS  
 TIME PERIOD BEGINS 07.45 AND ENDS 08.45  
 LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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)
08.00-08.15									
B-AC	2.10	4.80	0.438		0.71	0.76	11.1		0.37
C-AB	0.13	8.29	0.016		0.02	0.02	0.3		0.12
A-B	0.53								
A-C	8.47								

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)
08.15-08.30									
B-AC	2.10	4.79	0.438		0.76	0.77	11.4		0.37
C-AB	0.13	8.38	0.016		0.02	0.02	0.2		0.12
A-B	0.53								
A-C	7.87								

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)
08.30-08.45									
B-AC	2.10	4.94	0.425		0.77	0.75	11.4		0.35
C-AB	0.13	7.91	0.017		0.02	0.02	0.3		0.13
A-B	0.53								
A-C	10.07								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.7 *
08.15	0.8 *
08.30	0.8 *
08.45	0.8 *

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	126.0	43.6	0.35
C-AB	8.0	1.0	0.13
A-B	32.0		
A-C	512.5		
ALL	1387.5	44.6	0.03

\* 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)

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
617.53	0.24		0.09	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B		
479.18	0.22	0.09	0.14	0.32		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
631.87	0.24		0.24	

(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: PM 2028 DS

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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	1.20	4.12	0.291		0.35	0.40	5.8		0.34
C-AB	0.53	7.00	0.076		0.08	0.09	1.4		0.15
A-B	1.74								
A-C	12.56								

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	1.20	4.19	0.286		0.40	0.40	6.0		0.33
C-AB	0.53	6.86	0.078		0.09	0.09	1.4		0.16
A-B	1.73								
A-C	13.27								

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-AC	1.20	4.72	0.254		0.40	0.35	5.4		0.28
C-AB	0.53	7.49	0.071		0.09	0.08	1.2		0.14
A-B	1.74								
A-C	10.56								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.4
17.30	0.4
17.45	0.4
18.00	0.3

QUEUE FOR STREAM C-AB

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

-----  
 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD  
 -----

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	72.0	22.1	0.31
C-AB	32.0	5.2	0.16
A-B	104.3		
A-C	705.7		
ALL	1447.5	27.3	0.02

-----  
 \* 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\*\*\*\*\*

===== end of file =====



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

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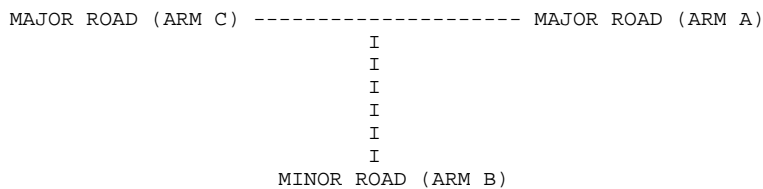
Run with file:-  
"H:\Current Jobs\17174 JWPC Gib\02 Calculations\PICADY\Site Access\Gib Lane\Site Access - Gib lane.vpi"  
(drive-on-the-left) at 16:25:55 on Thursday, 10 April 2014

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

RUN TITLE : Proposed Residential Development in Blackburn  
LOCATION : Site Access - Gib Lane  
DATE : 14/02/14  
CLIENT : JWPC LTD  
ENUMERATOR : pwhitaker [MBLANPC05]  
JOB NUMBER : NW/JWPC/GIB.1  
STATUS : DRAFT  
DESCRIPTION :

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

INPUT DATA  
-----



ARM A IS Gib Lane (S)  
ARM B IS Site Access  
ARM C IS Gib Lane (N)

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	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	2.20 M.	I
I	- VISIBILITY	I (VC-B)	150.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES ( 1)	I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	100.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	100.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.37 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

-----  
 .SLOPES AND INTERCEPT  
 -----

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

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-B	I
I	712.33	0.28	0.11	I

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	581.52	0.27	0.11	0.17	0.38	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	I
I	660.83	0.26	0.26	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: AM 2028 DS

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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)
08.00-08.15									
B-AC	1.30	9.92	0.131		0.15	0.15	2.2		0.12
C-AB	0.20	10.32	0.020		0.02	0.02	0.3		0.10
A-B	0.07								
A-C	2.63								

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)
08.15-08.30									
B-AC	1.30	10.19	0.128		0.15	0.15	2.2		0.11
C-AB	0.20	10.54	0.019		0.02	0.02	0.3		0.10
A-B	0.07								
A-C	1.73								

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)
08.30-08.45									
B-AC	1.30	10.29	0.126		0.15	0.15	2.2		0.11
C-AB	0.21	10.58	0.020		0.02	0.02	0.3		0.10
A-B	0.07								
A-C	1.63								

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	78.0	8.8	0.11
C-AB	12.3	1.2	0.10
A-B	4.0		
A-C	120.5		
ALL	318.0	10.0	0.03

\* 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)

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
712.33	0.28		0.11	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	STREAM C-B	
581.52	0.27	0.11	0.17	0.38		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
660.83	0.26		0.26	

(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: PM 2028 DS

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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	0.70	9.88	0.071		0.08	0.08	1.1		0.11
C-AB	0.75	10.17	0.074		0.08	0.08	1.2		0.11
A-B	0.21								
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)
17.30-17.45									
B-AC	0.70	9.81	0.071		0.08	0.08	1.1		0.11
C-AB	0.73	10.14	0.072		0.08	0.08	1.2		0.11
A-B	0.20								
A-C	3.20								

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-AC	0.70	9.77	0.072		0.08	0.08	1.2		0.11
C-AB	0.72	10.09	0.072		0.08	0.08	1.2		0.11
A-B	0.20								
A-C	3.40								

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	42.0	4.6	0.11
C-AB	44.3	4.7	0.11
A-B	12.1		
A-C	193.4		
ALL	379.5	9.3	0.02

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

==== end of file =====



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

PICADY 5.1 ANALYSIS PROGRAM  
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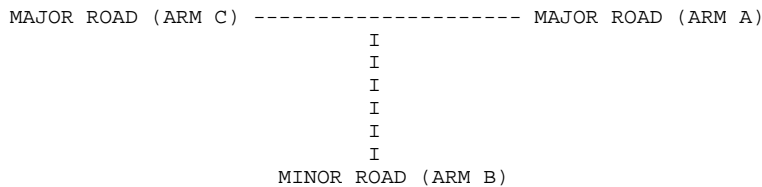
Run with file:-  
"H:\Current Jobs\17174 JWPC Gib\02 Calculations\PICADY\Site Access\Horden Rake #1\Site Access - HR#1.vpi"  
(drive-on-the-left) at 16:28:47 on Thursday, 10 April 2014

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

RUN TITLE : Proposed Residential Development in Blackburn  
LOCATION : Site Access - Horden Rake #1  
DATE : 14/02/14  
CLIENT : JWPC LTD  
ENUMERATOR : pwhitaker [MBLANPC05]  
JOB NUMBER : NW/JWPC/GIB.1  
STATUS : DRAFT  
DESCRIPTION :

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

INPUT DATA  
-----



ARM A IS Horden Rake (W)  
ARM B IS Site Access  
ARM C IS Horden Rake (E)

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	MAJOR ROAD RIGHT TURN - WIDTH	I	( WC-B ) 2.20 M.	I
I	- VISIBILITY	I	( VC-B ) 60.00 M.	I
I	- BLOCKS TRAFFIC ( SPACES )	I	YES ( 1 )	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	( VB-C ) 15.0 M.	I
I	- VISIBILITY TO RIGHT	I	( VB-A ) 10.0 M.	I
I	- LANE 1 WIDTH	I	( WB-C ) 3.30 M.	I
I	- LANE 2 WIDTH	I	( WB-A ) 0.00 M.	I

-----  
 .SLOPES AND INTERCEPT  
 -----

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

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-B	I
I	649.16	0.25	0.10	I

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	502.09	0.23	0.09	0.15	0.33	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	I
I	608.71	0.24	0.24	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: AM 2028 DS

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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)
08.00-08.15									
B-AC	0.20	8.80	0.023		0.02	0.02	0.3		0.12
C-AB	0.00	8.84	0.000		0.00	0.00	0.0		0.00
A-B	0.07								
A-C	1.63								

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)
08.15-08.30									
B-AC	0.20	8.69	0.023		0.02	0.02	0.4		0.12
C-AB	0.07	9.61	0.007		0.00	0.01	0.1		0.10
A-B	0.06								
A-C	2.14								

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)
08.30-08.45									
B-AC	0.20	8.76	0.023		0.02	0.02	0.4		0.12
C-AB	0.07	9.79	0.007		0.01	0.01	0.1		0.10
A-B	0.07								
A-C	1.43								

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	12.0	1.4	0.12
C-AB	2.0	0.2	0.10
A-B	4.0		
A-C	111.5		
ALL	270.0	1.6	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 RUN\*\*\*\*\*

SLOPES AND INTERCEPT

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

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
649.16	0.25		0.10	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B		
502.09	0.23		0.09		0.15	0.33

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
608.71	0.24		0.24	

(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: PM 2028 DS

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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	0.10	8.73	0.011		0.01	0.01	0.2		0.12
C-AB	0.13	9.79	0.014		0.01	0.01	0.2		0.10
A-B	0.14								
A-C	1.36								

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)
17.30-17.45									
B-AC	0.10	8.65	0.012		0.01	0.01	0.2		0.12
C-AB	0.13	9.60	0.014		0.01	0.01	0.2		0.11
A-B	0.13								
A-C	2.17								

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-AC	0.10	8.80	0.011		0.01	0.01	0.2		0.11
C-AB	0.13	9.74	0.014		0.01	0.01	0.2		0.10
A-B	0.14								
A-C	1.56								

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	6.0	0.7	0.12
C-AB	8.0	0.8	0.11
A-B	8.0		
A-C	109.0		
ALL	297.0	1.5	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 RUN\*\*\*\*\*

==== end of file =====



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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) (Patch 15 Apr 2011)

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EMAIL: software@trl.co.uk  
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Run with file:-  
"H:\Current Jobs\17174 JWPC Gib\02 Calculations\PICADY\Site Access\Horden Rake #2\Site Access - HR#2.vpi"  
(drive-on-the-left) at 16:31:31 on Thursday, 10 April 2014

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

RUN TITLE : Proposed Residential Development in Blackburn  
LOCATION : Site Access - Horden Rake #2  
DATE : 14/02/14  
CLIENT : JWPC LTD  
ENUMERATOR : pwhitaker [MBLANPC05]  
JOB NUMBER : NW/JWPC/GIB.1  
STATUS : DRAFT  
DESCRIPTION :

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

INPUT DATA  
-----

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

ARM A IS Horden Rake (W)  
ARM B IS Site Access  
ARM C IS Horden Rake (E)

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	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I
I	- VISIBILITY	I	(VC-B)100.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES ( 1 )	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 15.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 10.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 3.30 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I

-----  
 .SLOPES AND INTERCEPT  
 -----

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

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-B	I
I	649.16	0.25	0.10	I

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	502.09	0.23	0.09	0.15	0.33	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	I
I	631.87	0.24	0.24	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: AM 2028 DS

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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)
08.00-08.15									
B-AC	0.60	8.82	0.068		0.07	0.07	1.1		0.12
C-AB	0.13	10.15	0.013		0.01	0.01	0.2		0.10
A-B	0.07								
A-C	1.43								

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	0.60	8.72	0.069		0.07	0.07	1.1		0.12
C-AB	0.13	10.02	0.013		0.01	0.01	0.2		0.10
A-B	0.07								
A-C	1.93								

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)
08.30-08.45									
B-AC	0.60	8.79	0.068		0.07	0.07	1.1		0.12
C-AB	0.13	10.21	0.013		0.01	0.01	0.2		0.10
A-B	0.07								
A-C	1.23								

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	36.0	4.4	0.12
C-AB	8.0	0.8	0.10
A-B	4.1		
A-C	97.9		
ALL	286.5	5.1	0.02

\* 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)

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
649.16	0.25		0.10	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	STREAM C-B	
502.09	0.23	0.09	0.15	0.33		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
631.87	0.24		0.24	

(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: PM 2028 DS

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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	0.30	8.71	0.034		0.04	0.04	0.5		0.12
C-AB	0.34	10.14	0.033		0.03	0.03	0.5		0.10
A-B	0.27								
A-C	1.33								

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	0.30	8.62	0.035		0.04	0.04	0.5		0.12
C-AB	0.34	9.94	0.034		0.03	0.04	0.5		0.10
A-B	0.27								
A-C	2.13								

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-AC	0.30	8.77	0.034		0.04	0.04	0.5		0.12
C-AB	0.34	10.09	0.034		0.04	0.04	0.5		0.10
A-B	0.28								
A-C	1.52								

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

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

-----  
 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD  
 -----

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	18.0	2.1	0.12
C-AB	20.3	2.1	0.10
A-B	16.4		
A-C	106.6		
ALL	312.0	4.2	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 RUN\*\*\*\*\*

===== end of file =====



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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) (Patch 15 Apr 2011)

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Run with file:-  
"H:\Current Jobs\17174 JWPC Gib\02 Calculations\PICADY\Broken Stone Road - Gib Lane\BSR - Gib Lane.vpi"  
(drive-on-the-left) at 16:18:42 on Thursday, 10 April 2014

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

RUN TITLE : Proposed Residential Development in Blackburn  
LOCATION : Broken Stone Road/ Gib Lane  
DATE : 14/02/14  
CLIENT : JWPC LTD  
ENUMERATOR : pwhitaker [MBLANPC05]  
JOB NUMBER : NW/JWPC/GIB.1  
STATUS : DRAFT  
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 Broken Stone Road (W)  
ARM B IS Gib Lane  
ARM C IS Brown Stone Road (E)

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 ) 100.00 M.	I
I	- BLOCKS TRAFFIC ( SPACES )	I	YES ( 1 )	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	( VB-C ) 10.0 M.	I
I	- VISIBILITY TO RIGHT	I	( VB-A ) 10.0 M.	I
I	- LANE 1 WIDTH	I	( WB-C ) 3.00 M.	I
I	- LANE 2 WIDTH	I	( WB-A ) 0.00 M.	I

-----  
 .SLOPES AND INTERCEPT  
 -----

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

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-B	I
I	630.23	0.24	0.10	I

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	485.86	0.22	0.09	0.14	0.32	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	I
I	631.87	0.24	0.24	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: AM Base 2014

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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)
08.00-08.15									
B-AC	1.60	10.22	0.157		0.12	0.18	2.7		0.12
C-AB	2.13	9.95	0.214		0.19	0.28	4.2		0.13
A-B	0.00								
A-C	1.10								

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	1.30	10.12	0.128		0.18	0.15	2.3		0.11
C-AB	1.42	9.67	0.146		0.28	0.18	2.7		0.12
A-B	0.00								
A-C	1.50								

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)
08.30-08.45									
B-AC	0.80	10.26	0.078		0.15	0.09	1.3		0.11
C-AB	1.26	10.28	0.122		0.18	0.14	2.2		0.11
A-B	0.00								
A-C	1.00								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.1
08.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.2
08.45	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	72.0	8.0	0.11
C-AB	96.3	11.9	0.12
A-B	0.0		
A-C	78.0		
ALL	361.5	19.9	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 RUN\*\*\*\*\*

SLOPES AND INTERCEPT

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

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
630.23	0.24		0.10	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	STREAM C-B	
485.86	0.22	0.09	0.14	0.32		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
631.87	0.24		0.24	

(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: PM Base 2014

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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	0.70	10.26	0.068		0.17	0.07	1.1		0.10
C-AB	2.22	10.29	0.215		0.27	0.29	4.3		0.12
A-B	0.00								
A-C	1.00								

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-AC	1.10	10.13	0.109		0.07	0.12	1.8		0.11
C-AB	2.20	10.14	0.217		0.29	0.29	4.3		0.13
A-B	0.13								
A-C	1.47								

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)
17.45-18.00									
B-AC	1.10	10.25	0.107		0.12	0.12	1.8		0.11
C-AB	2.31	10.26	0.225		0.29	0.30	4.5		0.13
A-B	0.13								
A-C	0.97								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.1
17.45	0.1
18.00	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.3
17.30	0.3
17.45	0.3
18.00	0.3

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	66.0	7.2	0.11
C-AB	132.7	17.2	0.13
A-B	6.9		
A-C	72.6		
ALL	396.0	24.4	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 RUN\*\*\*\*\*

SLOPES AND INTERCEPT

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

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
630.23	0.24		0.10	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B		
485.86	0.22	0.09	0.14	0.32		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
631.87	0.24		0.24	

(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: AM 2028 DM

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY





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)
08.00-08.15									
B-AC	1.80	10.17	0.177		0.13	0.21	3.1		0.12
C-AB	2.43	9.90	0.246		0.23	0.34	5.1		0.13
A-B	0.00								
A-C	1.30								

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	1.50	10.05	0.149		0.21	0.18	2.7		0.12
C-AB	1.63	9.69	0.168		0.34	0.21	3.2		0.12
A-B	0.00								
A-C	1.80								

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	0.90	10.21	0.088		0.18	0.10	1.5		0.11
C-AB	1.47	10.23	0.143		0.21	0.18	2.6		0.11
A-B	0.00								
A-C	1.20								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.2
08.45	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	81.0	9.3	0.11
C-AB	110.9	14.4	0.13
A-B	0.0		
A-C	93.0		
ALL	420.0	23.6	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 RUN\*\*\*\*\*

SLOPES AND INTERCEPT

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

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
630.23	0.24		0.10	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	STREAM C-B	
485.86	0.22	0.09	0.14	0.32		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
631.87	0.24		0.24	

(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: AM 2028 DS

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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)
08.00-08.15									
B-AC	3.00	10.07	0.298		0.25	0.42	6.1		0.14
C-AB	2.75	9.90	0.278		0.27	0.40	6.1		0.14
A-B	0.00								
A-C	1.70								

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)
08.15-08.30									
B-AC	2.40	9.93	0.242		0.42	0.32	5.0		0.13
C-AB	1.82	9.57	0.190		0.40	0.25	3.7		0.13
A-B	0.00								
A-C	2.30								

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	1.50	10.14	0.148		0.32	0.18	2.7		0.12
C-AB	1.67	10.16	0.164		0.25	0.21	3.1		0.12
A-B	0.00								
A-C	1.50								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.3
08.15	0.4
08.30	0.3
08.45	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.3
08.15	0.4
08.30	0.2
08.45	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	133.5	17.4	0.13
C-AB	124.8	17.0	0.14
A-B	0.0		
A-C	120.0		
ALL	522.0	34.3	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 RUN\*\*\*\*\*

SLOPES AND INTERCEPT

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

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
630.23	0.24		0.10	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B		
485.86	0.22	0.09	0.14	0.32		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
631.87	0.24		0.24	

(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: PM 2028 DM

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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	0.80	10.21	0.078		0.22	0.09	1.3		0.11
C-AB	2.53	10.24	0.247		0.34	0.35	5.3		0.13
A-B	0.00								
A-C	1.20								

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	1.30	10.04	0.130		0.09	0.15	2.2		0.11
C-AB	2.51	10.04	0.250		0.35	0.35	5.3		0.13
A-B	0.14								
A-C	1.86								

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-AC	1.20	10.18	0.118		0.15	0.13	2.0		0.11
C-AB	2.69	10.19	0.264		0.35	0.37	5.6		0.13
A-B	0.14								
A-C	1.26								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.1
17.45	0.1
18.00	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.3
17.30	0.3
17.45	0.3
18.00	0.4



QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	76.5	8.7	0.11
C-AB	153.0	21.2	0.14
A-B	7.1		
A-C	90.4		
ALL	474.0	29.9	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 RUN\*\*\*\*\*

SLOPES AND INTERCEPT

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

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	
630.23	0.24		0.10	

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B		
485.86	0.22	0.09	0.14	0.32		

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B	
631.87	0.24		0.24	

(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: PM 2028 DS

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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	1.10	10.16	0.108		0.31	0.12	1.9		0.11
C-AB	3.25	10.19	0.319		0.50	0.52	7.8		0.14
A-B	0.00								
A-C	1.40								

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	1.80	9.96	0.181		0.12	0.22	3.2		0.12
C-AB	3.27	9.97	0.328		0.52	0.52	7.9		0.15
A-B	0.14								
A-C	2.16								

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-AC	1.70	10.13	0.168		0.22	0.20	3.1		0.12
C-AB	3.47	10.14	0.342		0.52	0.55	8.4		0.15
A-B	0.13								
A-C	1.47								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.3
17.30	0.1
17.45	0.2
18.00	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.5	*
17.30	0.5	*
17.45	0.5	*
18.00	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	105.0	12.7	0.12
C-AB	197.3	31.5	0.16
A-B	7.0		
A-C	105.5		
ALL	588.0	44.1	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 RUN\*\*\*\*\*

==== end of file =====

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) (Patch 15 Apr 2011)

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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS  
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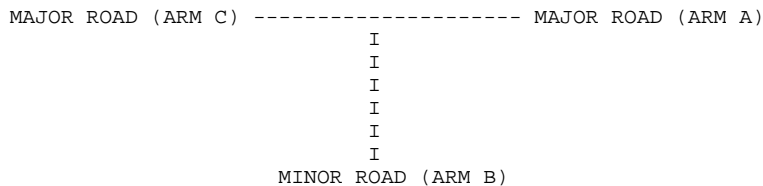
Run with file:-  
"H:\Current Jobs\17174 JWPC Gib\02 Calculations\PICADY\Livesey Branch Road-Gib Lane\  
Livesey Branch Road- Gib Lane.vpi"  
(drive-on-the-left) at 16:22:13 on Thursday, 10 April 2014

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

RUN TITLE : Proposed Residential Development in Blackburn  
LOCATION : Livesey Branch Road/ Gib Lane  
DATE : 14/02/14  
CLIENT : JWPC LTD  
ENUMERATOR : pwhitaker [MBLANPC05]  
JOB NUMBER : NW/JWPC/GIB.1  
STATUS : DRAFT  
DESCRIPTION :

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

INPUT DATA  
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ARM A IS Livesey Branch Road (E)  
ARM B IS Gib Lane  
ARM C IS Livesey Branch Road (W)

STREAM LABELLING CONVENTION  
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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.

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 GEOMETRIC DATA  
 -----

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	( W ) 8.30 M.	I
I	CENTRAL RESERVE WIDTH	I	( WCR ) 0.00 M.	I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	( WC-B ) 2.20 M.	I
I	- VISIBILITY	I	( VC-B ) 100.00 M.	I
I	- BLOCKS TRAFFIC ( SPACES )	I	YES ( 1 )	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	( VB-C ) 37.0 M.	I
I	- VISIBILITY TO RIGHT	I	( VB-A ) 32.0 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	5.00 M.	I
I	WIDTH AT 10 M FROM JUNCTION	I	3.50 M.	I
I	WIDTH AT 15 M FROM JUNCTION	I	3.25 M.	I
I	WIDTH AT 20 M FROM JUNCTION	I	3.00 M.	I
I	- LENGTH OF FLARED SECTION	I	1 VEHS	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	I	
I	STREAM B-A	STREAM	A-C	STREAM	A-B	STREAM	C-A	STREAM	C-B
I	0.00		0.00		0.00		0.00		0.00

\* 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	631.87		0.22		0.22	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: AM Base 2014

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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)
08.00-08.15									
B-C	0.86	8.67	0.099		0.08	0.11	1.6		0.13
B-A	1.64	5.80	0.283		0.19	0.39	5.5		0.24
C-AB	0.66	8.88	0.075		0.13	0.09	1.3		0.12
A-B	1.06								
A-C	6.24								

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-C	0.87	8.44	0.103		0.11	0.11	1.7		0.13
B-A	1.33	5.96	0.224		0.39	0.29	4.6		0.22
C-AB	0.80	9.05	0.088		0.09	0.11	1.6		0.12
A-B	0.53								
A-C	5.77								

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	0.65	9.25	0.070		0.11	0.08	1.2		0.12
B-A	0.65	6.04	0.108		0.29	0.12	1.9		0.19
C-AB	0.20	8.60	0.023		0.11	0.02	0.4		0.12
A-B	0.73								
A-C	7.87								

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

QUEUE FOR STREAM B-C

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

QUEUE FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.4
08.30	0.3
08.45	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.0



QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	46.8	5.7	0.12
B-A	68.7	14.6	0.21
C-AB	39.0	5.2	0.13
A-B	39.9		
A-C	386.1		
ALL	1152.0	25.5	0.02

\* 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)

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

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

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

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

Intercept	Slope For Opposing	Slope For Opposing
STREAM C-B	STREAM A-C	STREAM A-B
631.87	0.22	0.22

(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: PM Base 2014

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	17.15-17.30										I
I	B-C	1.28	8.42	0.152		0.11	0.18	2.6		0.14	I
I	B-A	1.42	5.60	0.253		0.31	0.33	4.9		0.24	I
I	C-AB	0.60	8.29	0.072		0.12	0.08	1.3		0.13	I
I	A-B	0.60									I
I	A-C	9.50									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	17.30-17.45										I
I	B-C	1.58	8.82	0.179		0.18	0.22	3.2		0.14	I
I	B-A	1.12	5.59	0.200		0.33	0.25	4.0		0.22	I
I	C-AB	0.60	8.28	0.073		0.08	0.08	1.2		0.13	I
I	A-B	0.40									I
I	A-C	9.80									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	17.45-18.00										I
I	B-C	1.05	8.67	0.121		0.22	0.14	2.2		0.13	I
I	B-A	1.45	6.09	0.238		0.25	0.31	4.5		0.22	I
I	C-AB	0.67	8.53	0.078		0.08	0.09	1.3		0.13	I
I	A-B	1.00									I
I	A-C	8.00									I

\*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
	17.15	0.1
	17.30	0.2
	17.45	0.2
	18.00	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT	ENDING	NO. OF VEHICLES IN QUEUE
	17.15	0.3
	17.30	0.3
	17.45	0.3
	18.00	0.3

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	71.9	9.6	0.13
B-A	81.1	17.8	0.22
C-AB	41.1	5.7	0.14
A-B	48.9		
A-C	533.1		
ALL	1188.0	33.0	0.03

\* 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)

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

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

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

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

Intercept	Slope For Opposing	Slope For Opposing
STREAM C-B	STREAM A-C	STREAM A-B
631.87	0.22	0.22

(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: AM 2028 DM

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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)
08.00-08.15									
B-C	0.99	8.11	0.122		0.10	0.14	2.0		0.14
B-A	1.91	5.34	0.358		0.23	0.54	7.6		0.29
C-AB	0.80	8.63	0.093		0.15	0.12	1.8		0.13
A-B	1.20								
A-C	7.20								

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-C	0.99	8.12	0.121		0.14	0.14	2.1		0.14
B-A	1.51	5.44	0.278		0.54	0.39	6.2		0.26
C-AB	0.94	8.83	0.106		0.12	0.13	2.0		0.13
A-B	0.60								
A-C	6.70								

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)
08.30-08.45									
B-C	0.75	8.91	0.084		0.14	0.09	1.4		0.12
B-A	0.75	5.62	0.133		0.39	0.16	2.5		0.21
C-AB	0.20	8.33	0.024		0.13	0.03	0.4		0.12
A-B	0.86								
A-C	9.04								

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

QUEUE FOR STREAM B-C

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

QUEUE FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.5 *
08.30	0.4
08.45	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.1
08.30	0.1
08.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	53.7	7.0	0.13
B-A	78.3	19.5	0.25
C-AB	45.1	6.5	0.14
A-B	46.0		
A-C	444.5		
ALL	1326.0	32.9	0.02

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
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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)

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

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

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

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

Intercept	Slope For Opposing	Slope For Opposing
STREAM C-B	STREAM A-C	STREAM A-B
631.87	0.22	0.22

(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: AM 2028 DS

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY





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)
08.00-08.15									
B-C	1.47	6.72	0.218		0.16	0.27	4.0		0.19
B-A	2.73	4.85	0.563		0.41	1.21	16.2		0.45
C-AB	1.20	8.50	0.141		0.29	0.20	3.1		0.14
A-B	1.46								
A-C	7.54								

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-C	1.44	7.40	0.195		0.27	0.24	3.7		0.17
B-A	2.16	4.95	0.436		1.21	0.80	12.9		0.37
C-AB	1.40	8.72	0.160		0.20	0.23	3.5		0.14
A-B	0.74								
A-C	7.06								

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	1.13	8.61	0.132		0.24	0.15	2.4		0.13
B-A	1.07	5.27	0.202		0.80	0.26	4.2		0.24
C-AB	0.34	8.20	0.041		0.23	0.05	0.7		0.13
A-B	1.00								
A-C	9.50								

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

QUEUE FOR STREAM B-C

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.2
08.45	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.00	0.4
08.15	1.2 *
08.30	0.8 *
08.45	0.3

QUEUE FOR STREAM C-AB

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.00	0.3
08.15	0.2
08.30	0.2
08.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	78.4	12.3	0.16
B-A	112.1	39.1	0.35
C-AB	68.8	11.5	0.17
A-B	54.9		
A-C	468.6		
ALL	1515.0	62.9	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 RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

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

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

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

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

Intercept	Slope For Opposing	Slope For Opposing
STREAM C-B	STREAM A-C	STREAM A-B
631.87	0.22	0.22

(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: PM 2028 DM

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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-C	1.48	7.83	0.189		0.14	0.23	3.3		0.16
B-A	1.62	5.03	0.321		0.42	0.46	6.8		0.29
C-AB	0.67	7.93	0.084		0.16	0.10	1.5		0.14
A-B	0.67								
A-C	11.03								

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	1.81	8.32	0.217		0.23	0.27	4.0		0.15
B-A	1.29	5.09	0.254		0.46	0.35	5.4		0.26
C-AB	0.67	7.95	0.084		0.10	0.10	1.5		0.14
A-B	0.47								
A-C	11.23								

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	1.21	8.13	0.149		0.27	0.18	2.8		0.14
B-A	1.69	5.59	0.302		0.35	0.42	6.1		0.26
C-AB	0.80	8.22	0.097		0.10	0.12	1.7		0.13
A-B	1.14								
A-C	9.26								

\*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
17.15	0.1
17.30	0.2
17.45	0.3
18.00	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.4
17.30	0.5
17.45	0.3
18.00	0.4

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.1
17.45	0.1
18.00	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	82.6	12.2	0.15
B-A	92.9	24.2	0.26
C-AB	46.9	7.1	0.15
A-B	56.2		
A-C	615.8		
ALL	1368.0	43.4	0.03

\* 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)

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

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

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

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

Intercept	Slope For Opposing	Slope For Opposing
STREAM C-B	STREAM A-C	STREAM A-B
631.87	0.22	0.22

(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: PM 2028 DS

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



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-C	2.15	7.00	0.307		0.26	0.44	6.3		0.21
B-A	1.95	4.28	0.456		0.71	0.80	11.7		0.43
C-AB	1.07	7.53	0.143		0.30	0.20	3.0		0.16
A-B	1.08								
A-C	12.42								

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	2.69	7.86	0.342		0.44	0.51	7.5		0.19
B-A	1.51	4.32	0.350		0.80	0.56	8.8		0.36
C-AB	1.07	7.56	0.142		0.20	0.19	2.8		0.15
A-B	0.74								
A-C	12.76								

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	1.85	7.51	0.246		0.51	0.33	5.2		0.18
B-A	2.05	4.97	0.413		0.56	0.68	9.8		0.34
C-AB	1.19	7.89	0.151		0.19	0.20	3.1		0.15
A-B	1.78								
A-C	10.12								

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

QUEUE FOR STREAM B-C

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
17.15	0.3
17.30	0.4
17.45	0.5 *
18.00	0.3

QUEUE FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
17.15	0.7 *
17.30	0.8 *
17.45	0.6 *
18.00	0.7 *

QUEUE FOR STREAM C-AB

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
17.15	0.3
17.30	0.2
17.45	0.2
18.00	0.2

-----  
 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD  
 -----

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	123.0	22.6	0.18
B-A	112.5	40.0	0.36
C-AB	72.8	13.3	0.18
A-B	87.5		
A-C	686.5		
ALL	1596.0	75.8	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 RUN\*\*\*\*\*

===== end of file =====



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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) (Patch 15 Apr 2011)

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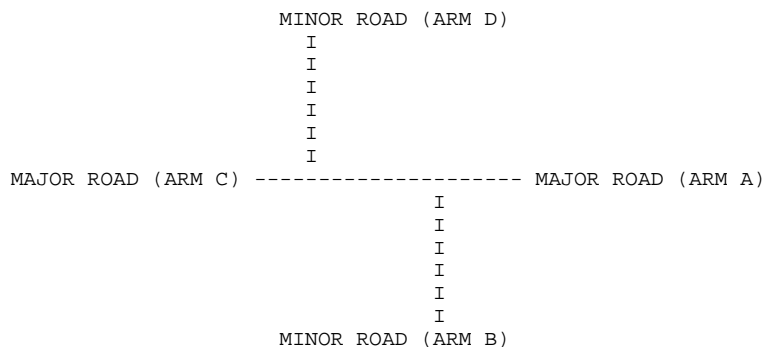
Run with file:-  
"H:\Current Jobs\17174 JWPC Gib\02 Calculations\PICADY\A666 - Sandy Lane\A666 - Sandy Lane.vpi"  
(drive-on-the-left) at 16:14:45 on Thursday, 10 April 2014

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

RUN TITLE : Proposed Residential Development in Blackburn  
LOCATION : A666/Sandy Lane  
DATE : 14/02/14  
CLIENT : JWPC LTD  
ENUMERATOR : pwhitaker [MBLANPC05]  
JOB NUMBER : NW/JWPC/GIB.1  
STATUS : DRAFT  
DESCRIPTION :

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

INPUT DATA  
-----



ARM A IS A666 (S)  
ARM B IS Bog Height Lane  
ARM C IS A666 (N)  
ARM D IS Sandy Lane

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	( W ) 7.75 M.	I	( W ) 7.25 M.	I
I	CENTRAL RESERVE WIDTH	I	( WCR ) 0.00 M.	I	( WCR ) 0.00 M.	I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	( WC-B ) 2.50 M.	I	( WA-D ) 2.20 M.	I
I	- VISIBILITY	I	( VC-B ) 150.00 M.	I	( VA-D ) 150.00 M.	I
I	- BLOCKS TRAFFIC ( SPACES )	I	YES ( 3 )	I	YES ( 2 )	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	( VB-C ) 60.0 M.	I	( VD-A ) 45.0 M.	I
I	- VISIBILITY TO RIGHT	I	( VB-A ) 70.0 M.	I	( VD-C ) 25.0 M.	I
I	- LANE 1 WIDTH	I	( WB-C ) -	I	( WD-A ) -	I
I	- LANE 2 WIDTH	I	( WB-A ) -	I	( WD-C ) -	I
I	WIDTH AT 0 M FROM JUNCTION	I	10.00 M.	I	8.50 M.	I
I	WIDTH AT 5 M FROM JUNCTION	I	5.50 M.	I	5.00 M.	I
I	WIDTH AT 10 M FROM JUNCTION	I	4.50 M.	I	4.50 M.	I
I	WIDTH AT 15 M FROM JUNCTION	I	4.00 M.	I	4.00 M.	I
I	WIDTH AT 20 M FROM JUNCTION	I	3.50 M.	I	4.00 M.	I
I	- LENGTH OF FLARED SECTION	I	1 VEHS	I	1 VEHS	I

-----  
 .SLOPES AND INTERCEPT  
 -----

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

STREAM B-A

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-D	STREAM A-B	STREAM C-A	I
I	0.00	0.00	0.00	0.00	0.00	I

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

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

STREAM D-C

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

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

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

STREAM CD-B

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D	STREAM A-C	I
I	660.83	0.24	0.24	0.00		I

STREAM AB-D

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B	STREAM C-A	I
I	660.83	0.24	0.24	0.00		I

STREAM B-CD

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

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

STREAM D-AB

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

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

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: AM Base 2014

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY

Demand set: AM Base 2014

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

I TIME I FROM/TO I ARM A I ARM B I ARM C I ARM D I

TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
07.45 - 08.00									
	ARM A	0.000	0.271	0.695	0.034				
		0.0	48.0	123.0	6.0				
		( 0.0)	( 4.0)	( 6.0)	( 17.0)				
	ARM B	0.844	0.000	0.094	0.063				
		54.0	0.0	6.0	4.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.935	0.037	0.000	0.028				
		202.0	8.0	0.0	6.0				
		( 5.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.778	0.222	0.000	0.000				
		28.0	8.0	0.0	0.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				

08.00 - 08.15									
	ARM A	0.000	0.200	0.749	0.051				
		0.0	35.0	131.0	9.0				
		( 0.0)	( 0.0)	( 11.0)	( 11.0)				
	ARM B	0.814	0.000	0.068	0.119				
		48.0	0.0	4.0	7.0				
		( 0.0)	( 0.0)	( 0.0)	( 14.0)				
	ARM C	0.911	0.044	0.000	0.044				
		226.0	11.0	0.0	11.0				
		( 3.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.538	0.231	0.231	0.000				
		14.0	6.0	6.0	0.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				

08.15 - 08.30									
	ARM A	0.000	0.239	0.673	0.088				
		0.0	49.0	138.0	18.0				
		( 0.0)	( 4.0)	( 8.0)	( 0.0)				
	ARM B	0.758	0.000	0.106	0.136				
		50.0	0.0	7.0	9.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.916	0.053	0.000	0.031				
		208.0	12.0	0.0	7.0				
		( 2.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.679	0.143	0.179	0.000				
		19.0	4.0	5.0	0.0				
		( 11.0)	( 0.0)	( 20.0)	( 0.0)				

08.30 - 08.45									
	ARM A	0.000	0.240	0.688	0.072				
		0.0	50.0	143.0	15.0				
		( 0.0)	( 2.0)	( 4.0)	( 0.0)				
	ARM B	0.767	0.000	0.163	0.070				
		33.0	0.0	7.0	3.0				
		( 3.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.904	0.064	0.000	0.032				
		197.0	14.0	0.0	7.0				
		( 5.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.673	0.182	0.145	0.000				
		37.0	10.0	8.0	0.0				
		( 0.0)	( 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 BETWEEN TIME SEGMENTS  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS



I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	08.30-08.45										I
I	B-CD	0.67	4.26	0.158		1.11	0.19	3.3		0.29	I
I	B-A	2.23	3.52	0.632		4.77	1.94	36.7		1.00	I
I	A-B	3.34									I
I	A-C	9.56									I
I	A-D	1.00									I
I	AB-CD	( 1.24)	7.34	0.169		0.24	0.17	2.6		0.16	I
I	AB-C	( 10.05)									I
I	D-AB	3.16	7.65	0.413		0.28	0.69	9.7		0.22	I
I	D-C	0.54	2.68	0.201		0.17	0.24	3.4		0.46	I
I	C-D	0.47									I
I	C-A	13.10									I
I	C-B	0.93									I
I	CD-AB	( 1.60)	7.87	0.203		0.14	0.20	3.0		0.16	I
I	CD-A	( 15.57)									I

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

QUEUE FOR STREAM B-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.2	
08.15	0.3	
08.30	1.1	*
08.45	0.2	

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	3.3	***
08.15	3.4	***
08.30	4.8	*****
08.45	1.9	**

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.2	
08.30	0.3	
08.45	0.7	*

QUEUE FOR STREAM D-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.2
08.30	0.2
08.45	0.2

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-CD	47.1	25.5	0.54
B-A	185.4	187.1	1.01
A-B	182.3		
A-C	536.1		
A-D	48.1		
AB-CD	(71.0)	10.2	0.14
AB-C	(560.0)		
D-AB	123.5	22.4	0.18
D-C	19.0	8.3	0.44
C-D	30.9		
C-A	831.6		
C-B	44.9		
CD-AB	(72.2)	8.9	0.12
CD-A	(927.2)		
ALL	2049.0	262.4	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)

STREAM B-A

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

Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM D-A	STREAM C-B	STREAM D-B	
0.00	0.00	0.00	

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

STREAM D-C

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

Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM B-C	STREAM A-D	STREAM B-D	
0.00	0.00	0.00	

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

STREAM CD-B

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D	STREAM A-C
660.83	0.24	0.24	0.00	

STREAM AB-D

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B	
660.83	0.24	0.24	0.00	

STREAM B-CD

---

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

---

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

STREAM D-AB

---

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

---

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

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

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Demand set: PM Base 2014

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY



Demand set: PM Base 2014

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

I TIME I FROM/TO I ARM A I ARM B I ARM C I ARM D I

TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
17.00 - 17.15									
	ARM A	0.000	0.302	0.653	0.045				
		0.0	87.0	188.0	13.0				
		( 0.0)	( 0.0)	( 2.0)	( 0.0)				
	ARM B	0.614	0.000	0.281	0.105				
		35.0	0.0	16.0	6.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.924	0.051	0.000	0.025				
		146.0	8.0	0.0	4.0				
		( 4.0)	( 0.0)	( 0.0)	( 25.0)				
	ARM D	0.462	0.385	0.154	0.000				
		12.0	10.0	4.0	0.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				

TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
17.15 - 17.30									
	ARM A	0.000	0.348	0.599	0.054				
		0.0	97.0	167.0	15.0				
		( 0.0)	( 0.0)	( 1.0)	( 0.0)				
	ARM B	0.605	0.000	0.211	0.184				
		23.0	0.0	8.0	7.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.906	0.037	0.000	0.058				
		173.0	7.0	0.0	11.0				
		( 2.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.409	0.455	0.136	0.000				
		18.0	20.0	6.0	0.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				

TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
17.30 - 17.45									
	ARM A	0.000	0.267	0.691	0.042				
		0.0	76.0	197.0	12.0				
		( 0.0)	( 0.0)	( 2.0)	( 0.0)				
	ARM B	0.607	0.000	0.232	0.161				
		34.0	0.0	13.0	9.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.967	0.011	0.000	0.022				
		176.0	2.0	0.0	4.0				
		( 4.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.500	0.250	0.250	0.000				
		14.0	7.0	7.0	0.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				

TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
17.45 - 18.00									
	ARM A	0.000	0.284	0.690	0.026				
		0.0	65.0	158.0	6.0				
		( 0.0)	( 2.0)	( 2.0)	( 0.0)				
	ARM B	0.739	0.000	0.065	0.196				
		34.0	0.0	3.0	9.0				
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.942	0.039	0.000	0.019				
		146.0	6.0	0.0	3.0				
		( 3.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.308	0.423	0.269	0.000				
		8.0	11.0	7.0	0.0				
		( 0.0)	( 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 BETWEEN TIME SEGMENTS  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS



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-CD	0.81	5.77	0.140		0.49	0.17	2.6		0.20
B-A	2.29	4.51	0.508		1.94	1.09	17.9		0.47
A-B	4.34								
A-C	10.56								
A-D	0.40								
AB-CD ( 1.01)		8.45	0.120		0.18	0.12	1.8		0.13
AB-C ( 10.78)									
D-AB	1.24	8.72	0.142		0.21	0.17	2.6		0.13
D-C	0.46	3.84	0.119		0.19	0.14	2.2		0.30
C-D	0.20								
C-A	9.70								
C-B	0.40								
CD-AB ( 1.12)		7.56	0.148		0.09	0.15	2.2		0.15
CD-A ( 10.23)									

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

QUEUE FOR STREAM B-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.4
17.30	0.2
17.45	0.5
18.00	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	1.8	**
17.30	0.9	*
17.45	1.9	**
18.00	1.1	*

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.4
17.45	0.2
18.00	0.2

QUEUE FOR STREAM D-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.1
17.30	0.1
17.45	0.2
18.00	0.1

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.3
17.45	0.1
18.00	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * DELAY	* INCLUSIVE QUEUEING * DELAY
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-CD	70.7	18.9	0.27
B-A	125.8	80.2	0.64
A-B	325.1		
A-C	710.3		
A-D	46.0		
AB-CD	76.8	9.4	0.12
AB-C	750.1		
D-AB	99.2	14.5	0.15
D-C	23.8	8.2	0.34
C-D	21.9		
C-A	639.1		
C-B	22.9		
CD-AB	70.3	10.1	0.14
CD-A	690.7		
ALL	2085.0	141.5	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 RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

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

STREAM B-A

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

Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM D-A	STREAM C-B	STREAM D-B	
0.00	0.00	0.00	

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

STREAM D-C

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

Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM B-C	STREAM A-D	STREAM B-D	
0.00	0.00	0.00	

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

STREAM CD-B

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D	STREAM A-C
660.83	0.24	0.24	0.00	

STREAM AB-D

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B	
660.83	0.24	0.24	0.00	

STREAM B-CD

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

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

STREAM D-AB

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

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

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
I	D	I	100	I

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Demand set: AM 2028 DM

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY

Demand set: AM 2028 DM

		TURNING PROPORTIONS							
		TURNING COUNTS							
		(PERCENTAGE OF H.V.S)							
TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
07.45 - 08.00	ARM A	0.000	0.0	0.273	56.0	0.693	142.0	0.034	7.0
		( 0.0)	( 4.0)	( 5.0)	( 14.0)				
	ARM B	0.840	63.0	0.000	0.0	0.093	7.0	0.067	5.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.936	235.0	0.036	9.0	0.000	0.0	0.028	7.0
		( 4.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.763	29.0	0.237	9.0	0.000	0.0	0.000	0.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
08.00 - 08.15	ARM A	0.000	0.0	0.202	41.0	0.749	152.0	0.049	10.0
		( 0.0)	( 0.0)	( 10.0)	( 10.0)				
	ARM B	0.812	56.0	0.000	0.0	0.072	5.0	0.116	8.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.910	263.0	0.045	13.0	0.000	0.0	0.045	13.0
		( 3.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.533	16.0	0.233	7.0	0.233	7.0	0.000	0.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
08.15 - 08.30	ARM A	0.000	0.0	0.239	57.0	0.672	160.0	0.088	21.0
		( 0.0)	( 4.0)	( 7.0)	( 0.0)				
	ARM B	0.763	58.0	0.000	0.0	0.105	8.0	0.132	10.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.917	242.0	0.053	14.0	0.000	0.0	0.030	8.0
		( 2.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.667	22.0	0.152	5.0	0.182	6.0	0.000	0.0
		( 9.0)	( 0.0)	( 17.0)	( 0.0)				
08.30 - 08.45	ARM A	0.000	0.0	0.241	58.0	0.689	166.0	0.071	17.0
		( 0.0)	( 2.0)	( 4.0)	( 0.0)				
	ARM B	0.780	39.0	0.000	0.0	0.160	8.0	0.060	3.0
		( 3.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.905	229.0	0.063	16.0	0.000	0.0	0.032	8.0
		( 4.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.672	43.0	0.188	12.0	0.141	9.0	0.000	0.0
		( 0.0)	( 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 BETWEEN TIME SEGMENTS  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS



I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	08.30-08.45										I
I	B-CD	0.73	0.76	0.952		11.61	11.72	175.0		16.82	I
I	B-A	2.57	2.59	0.995		37.73	38.09	568.6		15.11	I
I	A-B	3.87									I
I	A-C	11.09									I
I	A-D	1.14									I
I	AB-CD	( 1.44)	6.73	0.214		0.28	0.22	3.2		0.19	I
I	AB-C	( 11.51)									I
I	D-AB	3.61	6.67	0.541		0.37	1.13	15.5		0.32	I
I	D-C	0.59	1.79	0.329		0.31	0.46	6.3		0.82	I
I	C-D	0.53									I
I	C-A	15.30									I
I	C-B	1.07									I
I	CD-AB	( 1.84)	7.31	0.252		0.17	0.25	3.8		0.18	I
I	CD-A	( 18.08)									I

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

QUEUE FOR STREAM B-CD

TIME SEGMENT	NO. OF VEHICLES	
ENDING	IN QUEUE	
08.00	3.9	****
08.15	6.3	*****
08.30	11.6	*****
08.45	11.7	*****

QUEUE FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES	
ENDING	IN QUEUE	
08.00	13.0	*****
08.15	22.8	*****
08.30	37.7	*****
08.45	38.1	*****

QUEUE FOR STREAM AB-CD

TIME SEGMENT	NO. OF VEHICLES
ENDING	IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.2

QUEUE FOR STREAM D-AB

TIME SEGMENT	NO. OF VEHICLES	
ENDING	IN QUEUE	
08.00	0.5	
08.15	0.3	
08.30	0.4	
08.45	1.1	*

QUEUE FOR STREAM D-C

TIME SEGMENT	NO. OF VEHICLES
ENDING	IN QUEUE
08.00	0.0
08.15	0.3
08.30	0.3
08.45	0.5

QUEUE FOR STREAM CD-AB

TIME SEGMENT	NO. OF VEHICLES
ENDING	IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2





STREAM B-CD

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

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

STREAM D-AB

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

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

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
I	D	I	100	I

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Demand set: AM 2028 DS

TIME PERIOD BEGINS 07.45 AND ENDS 08.45

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY

Demand set: AM 2028 DS

		TURNING PROPORTIONS							
		TURNING COUNTS							
		(PERCENTAGE OF H.V.S)							
TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
07.45 - 08.00	ARM A	0.000	0.289	0.678	0.033	0.0	61.0	143.0	7.0
		( 0.0)	( 3.0)	( 5.0)	( 14.0)				
	ARM B	0.875	0.000	0.073	0.052	84.0	0.0	7.0	5.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.937	0.036	0.000	0.028	237.0	9.0	0.0	7.0
		( 4.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.744	0.256	0.000	0.000	29.0	10.0	0.0	0.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
08.00 - 08.15	ARM A	0.000	0.217	0.734	0.048	0.0	45.0	152.0	10.0
		( 0.0)	( 0.0)	( 10.0)	( 10.0)				
	ARM B	0.843	0.000	0.056	0.101	75.0	0.0	5.0	9.0
		( 0.0)	( 0.0)	( 0.0)	( 11.0)				
	ARM C	0.911	0.045	0.000	0.045	265.0	13.0	0.0	13.0
		( 3.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.533	0.233	0.233	0.000	16.0	7.0	7.0	0.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
08.15 - 08.30	ARM A	0.000	0.258	0.656	0.086	0.0	63.0	160.0	21.0
		( 0.0)	( 3.0)	( 7.0)	( 0.0)				
	ARM B	0.796	0.000	0.082	0.122	78.0	0.0	8.0	12.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.917	0.053	0.000	0.030	244.0	14.0	0.0	8.0
		( 2.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.667	0.152	0.182	0.000	22.0	5.0	6.0	0.0
		( 9.0)	( 0.0)	( 17.0)	( 0.0)				
08.30 - 08.45	ARM A	0.000	0.259	0.672	0.069	0.0	64.0	166.0	17.0
		( 0.0)	( 2.0)	( 4.0)	( 0.0)				
	ARM B	0.810	0.000	0.127	0.063	51.0	0.0	8.0	4.0
		( 2.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.906	0.063	0.000	0.031	231.0	16.0	0.0	8.0
		( 4.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.672	0.188	0.141	0.000	43.0	12.0	9.0	0.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
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 THE PERCENTAGE OF HEAVY VEHICLES VARIES BETWEEN TIME SEGMENTS  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS



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-CD	0.80	0.59	1.348		21.46	24.61	345.5		40.99
B-A	3.40	2.59	1.312		95.06	107.21	1517.0		39.50
A-B	4.28								
A-C	11.09								
A-D	1.14								
AB-CD ( 1.43)		6.67	0.214		0.27	0.22	3.2		0.19
AB-C ( 11.38)									
D-AB	3.61	6.51	0.555		0.40	1.19	16.2		0.33
D-C	0.59	1.63	0.363		0.35	0.52	7.2		0.94
C-D	0.53								
C-A	15.40								
C-B	1.07								
CD-AB ( 1.84)		7.21	0.255		0.18	0.25	3.8		0.19
CD-A ( 18.18)									

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

QUEUE FOR STREAM B-CD

TIME SEGMENT	NO. OF VEHICLES	ENDING IN QUEUE
08.00	5.6	*****
08.15	11.2	*****
08.30	21.5	*****
08.45	24.6	*****

QUEUE FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES	ENDING IN QUEUE
08.00	32.6	*****
08.15	60.5	*****
08.30	95.1	*****
08.45	107.2	*****

QUEUE FOR STREAM AB-CD

TIME SEGMENT	NO. OF VEHICLES	ENDING IN QUEUE
08.00	0.1	
08.15	0.2	
08.30	0.3	
08.45	0.2	

QUEUE FOR STREAM D-AB

TIME SEGMENT	NO. OF VEHICLES	ENDING IN QUEUE
08.00	0.5	*
08.15	0.3	
08.30	0.4	
08.45	1.2	*

QUEUE FOR STREAM D-C

TIME SEGMENT	NO. OF VEHICLES	ENDING IN QUEUE
08.00	0.0	
08.15	0.3	
08.30	0.3	
08.45	0.5	*

QUEUE FOR STREAM CD-AB

TIME SEGMENT	NO. OF VEHICLES	ENDING IN QUEUE
08.00	0.2	
08.15	0.2	
08.30	0.2	
08.45	0.3	



STREAM B-CD

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

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

STREAM D-AB

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

---

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

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
I	D	I	100	I

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Demand set: PM 2028 DM

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY

Demand set: PM 2028 DM

		TURNING PROPORTIONS															
		TURNING COUNTS															
		(PERCENTAGE OF H.V.S)															
TIME		FROM/TO	I	ARM	A	I	ARM	B	I	ARM	C	I	ARM	D			
17.00 - 17.15	ARM A	I	0.000	I	0.307	I	0.649	I	0.045	I	0.0	I	103.0	I	218.0	I	15.0
		I	( 0.0)	I	( 0.0)	I	( 2.0)	I	( 0.0)	I		I		I		I	
	ARM B	I	0.627	I	0.000	I	0.269	I	0.104	I	42.0	I	0.0	I	18.0	I	7.0
		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
	ARM C	I	0.923	I	0.049	I	0.000	I	0.027	I	169.0	I	9.0	I	0.0	I	5.0
		I	( 4.0)	I	( 0.0)	I	( 0.0)	I	( 22.0)	I		I		I		I	
	ARM D	I	0.452	I	0.387	I	0.161	I	0.000	I	14.0	I	12.0	I	5.0	I	0.0
		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
17.15 - 17.30	ARM A	I	0.000	I	0.353	I	0.595	I	0.052	I	0.0	I	115.0	I	194.0	I	17.0
		I	( 0.0)	I	( 0.0)	I	( 1.0)	I	( 0.0)	I		I		I		I	
	ARM B	I	0.614	I	0.000	I	0.205	I	0.182	I	27.0	I	0.0	I	9.0	I	8.0
		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
	ARM C	I	0.905	I	0.036	I	0.000	I	0.059	I	201.0	I	8.0	I	0.0	I	13.0
		I	( 2.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
	ARM D	I	0.412	I	0.451	I	0.137	I	0.000	I	21.0	I	23.0	I	7.0	I	0.0
		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
17.30 - 17.45	ARM A	I	0.000	I	0.270	I	0.688	I	0.042	I	0.0	I	90.0	I	229.0	I	14.0
		I	( 0.0)	I	( 0.0)	I	( 1.0)	I	( 0.0)	I		I		I		I	
	ARM B	I	0.621	I	0.000	I	0.227	I	0.152	I	41.0	I	0.0	I	15.0	I	10.0
		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
	ARM C	I	0.967	I	0.009	I	0.000	I	0.024	I	204.0	I	2.0	I	0.0	I	5.0
		I	( 3.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
	ARM D	I	0.500	I	0.250	I	0.250	I	0.000	I	16.0	I	8.0	I	8.0	I	0.0
		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
17.45 - 18.00	ARM A	I	0.000	I	0.287	I	0.687	I	0.026	I	0.0	I	77.0	I	184.0	I	7.0
		I	( 0.0)	I	( 1.0)	I	( 2.0)	I	( 0.0)	I		I		I		I	
	ARM B	I	0.759	I	0.000	I	0.056	I	0.185	I	41.0	I	0.0	I	3.0	I	10.0
		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
	ARM C	I	0.944	I	0.039	I	0.000	I	0.017	I	169.0	I	7.0	I	0.0	I	3.0
		I	( 2.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	I		I		I		I	
	ARM D	I	0.300	I	0.433	I	0.267	I	0.000	I	9.0	I	13.0	I	8.0	I	0.0
		I	( 0.0)	I	( 0.0)	I	( 0.0)	I	( 0.0)	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 BETWEEN TIME SEGMENTS  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS





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-CD	0.87	1.44	0.603		10.27	3.63	104.2		5.75
B-A	2.73	3.49	0.784		15.49	7.35	171.4		3.69
A-B	5.11								
A-C	12.22								
A-D	0.46								
AB-CD	( 1.26)	8.05	0.157		0.20	0.16	2.4		0.15
AB-C	( 12.73)								
D-AB	1.47	8.17	0.180		0.27	0.22	3.4		0.15
D-C	0.53	3.15	0.169		0.31	0.21	3.3		0.38
C-D	0.20								
C-A	11.33								
C-B	0.47								
CD-AB	( 1.33)	6.95	0.192		0.12	0.19	2.9		0.18
CD-A	( 11.94)								

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

QUEUE FOR STREAM B-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	6.4	*****
17.30	6.0	*****
17.45	10.3	*****
18.00	3.6	****

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	9.3	*****
17.30	7.5	*****
17.45	15.5	*****
18.00	7.4	*****

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.2	
17.30	0.2	
17.45	0.2	
18.00	0.2	

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.2	
17.30	0.6	*
17.45	0.3	
18.00	0.2	

QUEUE FOR STREAM D-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.1	
17.30	0.2	
17.45	0.3	
18.00	0.2	

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.2	
17.30	0.3	
17.45	0.1	
18.00	0.2	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-CD	80.6	376.8	4.68
B-A	151.9	549.7	3.62
A-B	384.5		
A-C	824.0		
A-D	52.9		
AB-CD	(86.0)	11.2	0.13
AB-C	(867.9)		
D-AB	114.8	19.6	0.17
D-C	27.7	13.1	0.47
C-D	25.9		
C-A	743.1		
C-B	26.0		
CD-AB	(81.3)	13.1	0.16
CD-A	(802.3)		
ALL	2431.5	983.6	0.40

\* 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)

STREAM B-A

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

Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM D-A	STREAM C-B	STREAM D-B	
0.00	0.00	0.00	

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

STREAM D-C

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

Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM B-C	STREAM A-D	STREAM B-D	
0.00	0.00	0.00	

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

STREAM CD-B

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D	STREAM A-C
660.83	0.24	0.24	0.00	

STREAM AB-D

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B	
660.83	0.24	0.24	0.00	

STREAM B-CD

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

---

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

STREAM D-AB

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

---

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

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
I	D	I	100	I

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Demand set: PM 2028 DS

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.  
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY

Demand set: PM 2028 DS

		TURNING PROPORTIONS							
		TURNING COUNTS							
		(PERCENTAGE OF H.V.S)							
TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
17.00 - 17.15	ARM A	0.000	0.339	0.619	0.042	0.0	121.0	221.0	15.0
		( 0.0)	( 0.0)	( 2.0)	( 0.0)				
	ARM B	0.679	0.000	0.231	0.090	53.0	0.0	18.0	7.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.924	0.049	0.000	0.027	170.0	9.0	0.0	5.0
		( 4.0)	( 0.0)	( 0.0)	( 22.0)				
	ARM D	0.452	0.387	0.161	0.000	14.0	12.0	5.0	0.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
17.15 - 17.30	ARM A	0.000	0.388	0.563	0.049	0.0	135.0	196.0	17.0
		( 0.0)	( 0.0)	( 1.0)	( 0.0)				
	ARM B	0.660	0.000	0.170	0.170	35.0	0.0	9.0	9.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.906	0.036	0.000	0.058	202.0	8.0	0.0	13.0
		( 2.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.396	0.472	0.132	0.000	21.0	25.0	7.0	0.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
17.30 - 17.45	ARM A	0.000	0.302	0.658	0.040	0.0	106.0	231.0	14.0
		( 0.0)	( 0.0)	( 1.0)	( 0.0)				
	ARM B	0.667	0.000	0.192	0.141	52.0	0.0	15.0	11.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.967	0.009	0.000	0.024	205.0	2.0	0.0	5.0
		( 3.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.485	0.273	0.242	0.000	16.0	9.0	8.0	0.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
17.45 - 18.00	ARM A	0.000	0.322	0.654	0.025	0.0	91.0	185.0	7.0
		( 0.0)	( 1.0)	( 2.0)	( 0.0)				
	ARM B	0.788	0.000	0.045	0.167	52.0	0.0	3.0	11.0
		( 0.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM C	0.944	0.039	0.000	0.017	170.0	7.0	0.0	3.0
		( 2.0)	( 0.0)	( 0.0)	( 0.0)				
	ARM D	0.290	0.452	0.258	0.000	9.0	14.0	8.0	0.0
		( 0.0)	( 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 BETWEEN TIME SEGMENTS  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS



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-CD	0.93	1.29	0.726		22.37	17.92	302.2		16.42
B-A	3.47	3.39	1.022		43.99	45.49	671.2		13.60
A-B	6.08								
A-C	12.36								
A-D	0.47								
AB-CD	( 1.16)	8.05	0.144		0.19	0.15	2.2		0.15
AB-C	( 12.89)								
D-AB	1.56	8.14	0.191		0.29	0.24	3.7		0.15
D-C	0.54	2.95	0.184		0.35	0.23	3.7		0.42
C-D	0.20								
C-A	11.33								
C-B	0.47								
CD-AB	( 1.41)	6.68	0.211		0.13	0.21	3.1		0.19
CD-A	( 11.95)								

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

QUEUE FOR STREAM B-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	10.4	*****
17.30	12.9	*****
17.45	22.4	*****
18.00	17.9	*****

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	20.5	*****
17.30	24.7	*****
17.45	44.0	*****
18.00	45.5	*****

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.1

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.3	
17.30	0.6	*
17.45	0.3	
18.00	0.2	

QUEUE FOR STREAM D-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.1
17.30	0.3
17.45	0.3
18.00	0.2

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.3
17.30	0.4
17.45	0.1
18.00	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-CD	83.3	824.8	9.90
B-A	192.7	1687.9	8.76
A-B	453.2		
A-C	833.3		
A-D	53.0		
AB-CD	81.0	10.5	0.13
AB-C	870.7		
D-AB	120.4	21.0	0.17
D-C	28.1	14.2	0.51
C-D	25.9		
C-A	746.1		
C-B	26.0		
CD-AB	86.0	14.7	0.17
CD-A	806.2		
ALL	2562.0	2573.1	1.00

\* 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\*\*\*\*\*

===== end of file =====