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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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

Run with file:-
"C:\Documents and Settings\CByrtus.SLR\Desktop\Site Access AM + DEVT.vpi"
(drive-on-the-left) at 15:49:39 on Tuesday, 26 June 2012

RUN INFORMATION

RUN TITLE: AM PEAK TESTS - SITE ACCESS
LOCATION: Overton Road
DATE: 26/06/12
CLIENT:
ENUMERATOR: cbyrtus [BRA1274D]
JOB NUMBER:
STATUS:
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 Overton Road South
ARM B IS Site Access
ARM C IS Overton Road North

STREAM LABELLING CONVENTION

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

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

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.30 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 200.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 0.0 M.
- VISIBILITY TO RIGHT	(VB-A) 0.0 M.
- LANE 1 WIDTH	(WB-C) 2.20 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.08

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
439.58	0.19	0.08	0.12	0.27

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
689.79	0.25	0.25

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 PEAK 2013 + DEVT

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK IS REACHED	FLOW STOPS TO RISE	RATE OF FLOW (VEH/MIN) BEFORE FALLING	AT TOP PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	1.24	1.86	1.24
ARM B	15.00	45.00	75.00	0.17	0.26	0.17
ARM C	15.00	45.00	75.00	1.27	1.91	1.27

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
07.45 - 09.15	ARM A	0.000	0.000	1.000
		0.0	0.0	99.0
		(0.0)	(0.0)	(6.0)
	ARM B	0.071	0.000	0.929
		1.0	0.0	13.0
		(0.0)	(0.0)	(7.0)
	ARM C	0.853	0.147	0.000
		87.0	15.0	0.0
		(10.0)	(7.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
FOR DEMAND SET AM PEAK 2013 + DEVT
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	0.18	8.52	0.021		0.00	0.02	0.3		0.12
C-AB	0.21	11.11	0.019		0.00	0.02	0.3		0.09
C-A	1.07								
A-B	0.00								
A-C	1.24								

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)
08.00-08.15									
B-AC	0.21	8.47	0.025		0.02	0.03	0.4		0.12
C-AB	0.25	11.18	0.023		0.02	0.03	0.4		0.09
C-A	1.27								
A-B	0.00								
A-C	1.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/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	0.26	8.39	0.031		0.03	0.03	0.5		0.12
C-AB	0.32	11.28	0.028		0.03	0.04	0.5		0.09
C-A	1.55								
A-B	0.00								
A-C	1.82								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	0.26	8.39	0.031		0.03	0.03	0.5		0.12
C-AB	0.32	11.28	0.028		0.04	0.04	0.5		0.09
C-A	1.55								
A-B	0.00								
A-C	1.82								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	0.21	8.47	0.025		0.03	0.03	0.4		0.12
C-AB	0.25	11.18	0.023		0.04	0.03	0.4		0.09
C-A	1.27								
A-B	0.00								
A-C	1.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	0.18	8.52	0.021		0.03	0.02	0.3		0.12
C-AB	0.21	11.11	0.019		0.03	0.02	0.3		0.09
C-A	1.07								
A-B	0.00								
A-C	1.24								

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
09.00	0.0
09.15	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
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	19.3	12.8	2.3	0.12	2.3	0.12
C-AB	23.5	15.6	2.6	0.11	2.6	0.11
C-A	116.9	78.0				
A-B	0.0	0.0				
A-C	136.3	90.8				
ALL	295.9	197.3	4.9	0.02	4.9	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 JOB

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.08

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
439.58	0.19	0.08	0.12	0.27

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
689.79	0.25	0.25

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 PEAK 2017 + DEVT

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK IS REACHED	FLOW STOPS TO RISE	FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00		1.30	1.95	1.30
ARM B	15.00	45.00	75.00		0.17	0.26	0.17
ARM C	15.00	45.00	75.00		1.33	1.99	1.33

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.000	1.000
		0.0	0.0	104.0
		(0.0)	(0.0)	(6.0)
	ARM B	0.071	0.000	0.929
		1.0	0.0	13.0
		(0.0)	(0.0)	(7.0)
	ARM C	0.858	0.142	0.000
		91.0	15.0	0.0
		(10.0)	(7.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
FOR DEMAND SET AM PEAK 2017 + DEVT
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	0.18	8.51	0.021		0.00	0.02	0.3		0.12
C-AB	0.21	11.12	0.019		0.00	0.02	0.3		0.09
C-A	1.12								
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)
08.00-08.15									
B-AC	0.21	8.45	0.025		0.02	0.03	0.4		0.12
C-AB	0.26	11.20	0.023		0.02	0.03	0.4		0.09
C-A	1.33								
A-B	0.00								
A-C	1.56								

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)
08.15-08.30									
B-AC	0.26	8.37	0.031		0.03	0.03	0.5		0.12
C-AB	0.32	11.31	0.028		0.03	0.04	0.5		0.09
C-A	1.62								
A-B	0.00								
A-C	1.91								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/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	0.26	8.37	0.031		0.03	0.03	0.5		0.12
C-AB	0.32	11.31	0.028		0.04	0.04	0.6		0.09
C-A	1.62								
A-B	0.00								
A-C	1.91								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	0.21	8.45	0.025		0.03	0.03	0.4		0.12
C-AB	0.26	11.20	0.023		0.04	0.03	0.4		0.09
C-A	1.33								
A-B	0.00								
A-C	1.56								

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)
09.00-09.15									
B-AC	0.18	8.51	0.021		0.03	0.02	0.3		0.12
C-AB	0.21	11.12	0.019		0.03	0.02	0.3		0.09
C-A	1.12								
A-B	0.00								
A-C	1.30								

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
09.00	0.0
09.15	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
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	19.3	12.8	2.3	0.12	2.3	0.12
C-AB	23.6	15.7	2.6	0.11	2.6	0.11
C-A	122.3	81.5				
A-B	0.0	0.0				
A-C	143.1	95.4				
ALL	308.3	205.5	4.9	0.02	4.9	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 JOB

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

[Printed at 11:34:19 on 19/07/2012]

TRL LIMITED

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

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RELEASE 3.0 (JUNE 2006)

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EMAIL: SoftwareBureau@trl.co.uk

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Run with file:-
"C:\Documents and Settings\CByrtus.SLR\Desktop\Site Access PM + DEVT.vpi"
(drive-on-the-left) at 15:57:35 on Tuesday, 26 June 2012

RUN INFORMATION
****

RUN TITLE: PM PEAK TESTS - SITE ACCESS
LOCATION: Overton Road
DATE: 26/06/12
CLIENT:
ENUMERATOR: cbyrtus [BRA1274D]
JOB NUMBER:
STATUS:
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 Overton Road South
ARM B IS Site Access
ARM C IS Overton Road North

STREAM LABELLING CONVENTION

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

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

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.30 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 200.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 0.0 M.
- VISIBILITY TO RIGHT	(VB-A) 0.0 M.
- LANE 1 WIDTH	(WB-C) 2.20 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.08

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
439.58	0.19	0.08	0.12	0.27

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
689.79	0.25	0.25

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 PEAK 2013 + DEVT

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK IS REACHED	FLOW STOPS FALLING TO RISE	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	0.95	1.42	0.95
ARM B	15.00	45.00	75.00	0.21	0.32	0.21
ARM C	15.00	45.00	75.00	1.46	2.19	1.46

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
16.45 - 18.15	ARM A	0.000	0.000	1.000
		0.0	0.0	76.0
		(0.0)	(7.0)	(2.0)
	ARM B	0.118	0.000	0.882
		2.0	0.0	15.0
		(0.0)	(0.0)	(7.0)
	ARM C	0.889	0.111	0.000
		104.0	13.0	0.0
		(2.0)	(7.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
FOR DEMAND SET PM PEAK 2013 + DEVT
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.21	8.49	0.025		0.00	0.03	0.4		0.12
C-AB	0.18	11.35	0.016		0.00	0.02	0.3		0.09
C-A	1.28								
A-B	0.00								
A-C	0.95								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.25	8.44	0.030		0.03	0.03	0.5		0.12
C-AB	0.22	11.47	0.020		0.02	0.02	0.4		0.09
C-A	1.53								
A-B	0.00								
A-C	1.14								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.31	8.38	0.037		0.03	0.04	0.6		0.12
C-AB	0.28	11.64	0.024		0.02	0.03	0.5		0.09
C-A	1.86								
A-B	0.00								
A-C	1.39								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.31	8.38	0.037		0.04	0.04	0.6		0.12
C-AB	0.28	11.64	0.024		0.03	0.03	0.5		0.09
C-A	1.86								
A-B	0.00								
A-C	1.39								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.25	8.44	0.030		0.04	0.03	0.5		0.12
C-AB	0.22	11.47	0.020		0.03	0.02	0.4		0.09
C-A	1.53								
A-B	0.00								
A-C	1.14								

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)
18.00-18.15									
B-AC	0.21	8.49	0.025		0.03	0.03	0.4		0.12
C-AB	0.18	11.35	0.016		0.02	0.02	0.3		0.09
C-A	1.28								
A-B	0.00								
A-C	0.95								

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
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	23.4	15.6	2.8	0.12	2.8	0.12
C-AB	20.8	13.9	2.2	0.11	2.2	0.11
C-A	140.2	93.5				
A-B	0.0	0.0				
A-C	104.6	69.7				
ALL	289.0	192.7	5.0	0.02	5.0	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 JOB

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
573.96	0.21	0.08

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
439.58	0.19	0.08	0.12	0.27

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
689.79	0.25	0.25

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 PEAK 2017 + DEVT

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK IS REACHED	FLOW STOPS FALLING TO RISE	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	0.99	1.48	0.99
ARM B	15.00	45.00	75.00	0.21	0.32	0.21
ARM C	15.00	45.00	75.00	1.52	2.29	1.52

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
16.45 - 18.15	ARM A	0.000	0.000	1.000
		0.0	0.0	79.0
		(0.0)	(0.0)	(2.0)
	ARM B	0.118	0.000	0.882
		2.0	0.0	15.0
		(0.0)	(0.0)	(7.0)
	ARM C	0.893	0.107	0.000
		109.0	13.0	0.0
		(2.0)	(7.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
FOR DEMAND SET PM PEAK 2017 + DEVT
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.21	8.48	0.025		0.00	0.03	0.4		0.12
C-AB	0.18	11.38	0.016		0.00	0.02	0.3		0.09
C-A	1.35								
A-B	0.00								
A-C	0.99								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.25	8.43	0.030		0.03	0.03	0.5		0.12
C-AB	0.23	11.51	0.020		0.02	0.02	0.4		0.09
C-A	1.60								
A-B	0.00								
A-C	1.18								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/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	0.31	8.37	0.037		0.03	0.04	0.6		0.12
C-AB	0.29	11.68	0.025		0.02	0.03	0.5		0.09
C-A	1.95								
A-B	0.00								
A-C	1.45								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/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	0.31	8.37	0.037		0.04	0.04	0.6		0.12
C-AB	0.29	11.68	0.025		0.03	0.03	0.5		0.09
C-A	1.95								
A-B	0.00								
A-C	1.45								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/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	0.25	8.43	0.030		0.04	0.03	0.5		0.12
C-AB	0.23	11.51	0.020		0.03	0.02	0.4		0.09
C-A	1.60								
A-B	0.00								
A-C	1.18								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.21	8.48	0.025		0.03	0.03	0.4		0.12
C-AB	0.19	11.38	0.016		0.02	0.02	0.3		0.09
C-A	1.35								
A-B	0.00								
A-C	0.99								

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
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	23.4	15.6	2.8	0.12	2.8	0.12
C-AB	20.9	14.0	2.2	0.10	2.2	0.10
C-A	147.0	98.0				
A-B	0.0	0.0				
A-C	108.7	72.5				
ALL	300.1	200.0	5.0	0.02	5.0	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 JOB

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