

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 4.0 (SEPT 2008)

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Run with file:-

"E:\Projects\7000-0710-64 Barton Farm, Winchester\PICADY\October 2009 Work\Bereweek Road\Improved Junction\
2009 Base AM & PM.vpi"
(drive-on-the-left) at 16:13:36 on Wednesday, 14 October 2009

RUN INFORMATION

RUN TITLE : Andover Road/Bereweek Road Improved Junction 2009 AM & PM Base
LOCATION : Winchester
DATE : 26/05/09
CLIENT : Cala Homes (South) Limited
ENUMERATOR : mff
JOB NUMBER : 0710-64
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 Andover Road (South)
ARM B IS Bereweek Road
ARM C IS Andover 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) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.50 M.
- VISIBILITY	(VC-B) 180.00 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 22.0 M.
- VISIBILITY TO RIGHT	(VB-A) 19.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.
WIDTH AT 5 M FROM JUNCTION	4.00 M.
WIDTH AT 10 M FROM JUNCTION	2.50 M.
WIDTH AT 15 M FROM JUNCTION	2.50 M.
WIDTH AT 20 M FROM JUNCTION	2.50 M.
- LENGTH OF FLARED SECTION	DERIVED: 0 PCU

 .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	A-C	STREAM A-B	A-B
0.00	0.00		0.00	

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

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

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

Intercept For	Slope For	Opposing	Slope For	Opposing
STREAM C-B	STREAM A-C	A-C	STREAM A-B	A-B
700.35	0.27		0.27	

(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: Andover Road/Berewecke Road Junction

TIME PERIOD BEGINS 07.30 AND ENDS 09.00

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

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	2.70	8.10	0.333		0.34	0.49	7.1		0.18
B-A	1.95	4.71	0.413		0.40	0.68	9.5		0.36
C-AB	2.57	9.70	0.265		0.26	0.36	5.4		0.14
A-B	1.25								
A-C	4.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	2.70	8.09	0.333		0.49	0.50	7.4		0.19
B-A	1.95	4.71	0.413		0.68	0.69	10.3		0.36
C-AB	2.57	9.70	0.265		0.36	0.36	5.4		0.14
A-B	1.25								
A-C	4.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	2.20	8.60	0.256		0.50	0.35	5.4		0.16
B-A	1.59	5.50	0.289		0.69	0.42	6.6		0.26
C-AB	2.10	10.00	0.210		0.36	0.27	4.0		0.13
A-B	1.02								
A-C	3.91								

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-C	1.84	8.93	0.207		0.35	0.26	4.1		0.14
B-A	1.33	6.08	0.219		0.42	0.29	4.5		0.21
C-AB	1.76	10.22	0.172		0.27	0.21	3.1		0.12
A-B	0.85								
A-C	3.27								

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
07.45	0.3
08.00	0.3
08.15	0.5
08.30	0.5
08.45	0.3
09.00	0.3

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.3
08.00	0.4
08.15	0.7 *
08.30	0.7 *
08.45	0.4
09.00	0.3

QUEUE FOR STREAM C-AB

TIME	NO. OF
SEGMENT	VEHICLES
ENDING	IN QUEUE
07.45	0.2
08.00	0.3
08.15	0.4
08.30	0.4
08.45	0.3
09.00	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I	I	I	I	I	* DELAY *	I	* DELAY *	I		
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	202.3	I	134.9	I	32.6	I	0.16	I
I	B-A	I	145.9	I	97.3	I	40.4	I	0.28	I
I	C-AB	I	192.7	I	128.5	I	25.0	I	0.13	I
I	A-B	I	93.6	I	62.4	I	I	I	I	I
I	A-C	I	359.2	I	239.5	I	I	I	I	I
I	ALL	I	1880.2	I	1253.5	I	98.0	I	0.05	I

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

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

.SLOPES AND INTERCEPT

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

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

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

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

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	I
I	STREAM C-B	STREAM	A-C	STREAM	A-B	I
I	700.35		0.27		0.27	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

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/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-C	1.89	7.42	0.255		0.23	0.34	4.9		0.18
B-A	1.74	4.69	0.371		0.34	0.57	8.1		0.34
C-AB	1.85	8.52	0.218		0.20	0.28	4.1		0.15
A-B	1.89								
A-C	9.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	1.89	7.41	0.255		0.34	0.34	5.1		0.18
B-A	1.74	4.69	0.371		0.57	0.58	8.7		0.34
C-AB	1.85	8.52	0.218		0.28	0.28	4.2		0.15
A-B	1.89								
A-C	9.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-C	1.54	8.08	0.191		0.34	0.24	3.7		0.15
B-A	1.42	5.54	0.257		0.58	0.35	5.6		0.24
C-AB	1.51	9.08	0.167		0.28	0.20	3.0		0.13
A-B	1.54								
A-C	7.61								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/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	1.29	8.54	0.151		0.24	0.18	2.8		0.14
B-A	1.19	6.15	0.194		0.35	0.24	3.8		0.20
C-AB	1.27	9.48	0.134		0.20	0.16	2.3		0.12
A-B	1.29								
A-C	6.37								

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
16.30	0.2
16.45	0.2
17.00	0.3
17.15	0.3
17.30	0.2
17.45	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.2
16.45	0.3
17.00	0.6 *
17.15	0.6 *
17.30	0.4
17.45	0.2

QUEUE FOR STREAM C-AB

TIME	NO. OF VEHICLES
16.30	0.2
16.45	0.2
17.00	0.3
17.15	0.3
17.30	0.2
17.45	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND		I	* QUEUEING * * DELAY *		I	* INCLUSIVE QUEUEING * * DELAY *		I
I	I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	B-C	I	141.8	94.5	I	22.4	0.16	I	22.4	0.16	I
I	B-A	I	130.8	87.2	I	34.3	0.26	I	34.3	0.26	I
I	C-AB	I	139.0	92.7	I	18.9	0.14	I	18.9	0.14	I
I	A-B	I	141.8	94.5	I			I			I
I	A-C	I	699.2	466.1	I			I			I
I	ALL	I	1790.7	1193.8	I	75.6	0.04	I	75.6	0.04	I

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 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*****

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