

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:-

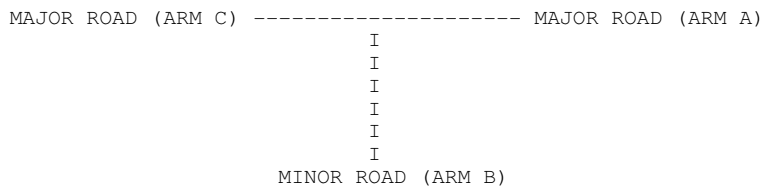
"E:\Projects\7000-0710-64 Barton Farm, Winchester\PICADY\October 2009 Work\Bereweek Road\Existing Junction\  
2009 Base AM & PM.vpi"  
(drive-on-the-left) at 16:09:08 on Wednesday, 14 October 2009

RUN INFORMATION  
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RUN TITLE : Andover Road/Bereweek Road Junction 2009 AM & PM Base  
LOCATION : Winchester  
DATE : 22/05/09  
CLIENT : Cala Homes (South) Limited  
ENUMERATOR : mff  
JOB NUMBER : 0710-64  
STATUS :  
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY  
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INPUT DATA  
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ARM A IS Andover Road (South)  
ARM B IS Bereweek Road  
ARM C IS Andover Road (North)

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  
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I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	( W ) 6.90 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 ) 180.00 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	( VB-C ) 22.0 M.	I
I	- VISIBILITY TO RIGHT	I	( VB-A ) 19.0 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	3.50 M.	I
I	WIDTH AT 10 M FROM JUNCTION	I	2.50 M.	I
I	WIDTH AT 15 M FROM JUNCTION	I	2.50 M.	I
I	WIDTH AT 20 M FROM JUNCTION	I	2.50 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	678.20		0.25		0.25	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: 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	7.81	0.346		0.34	0.52	7.5		0.19
B-A	1.95	4.64	0.419		0.39	0.69	9.7		0.37
C-AB	8.09	17.19	0.471		0.89	1.69	25.4		0.11
C-A	6.29								
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	7.78	0.347		0.52	0.53	7.8		0.20
B-A	1.95	4.63	0.420		0.69	0.71	10.5		0.37
C-AB	8.13	17.22	0.472		1.69	1.72	26.2		0.11
C-A	6.26								
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	8.49	0.259		0.53	0.36	5.5		0.16
B-A	1.59	5.50	0.289		0.71	0.41	6.6		0.26
C-AB	5.26	15.98	0.329		1.72	0.93	14.3		0.09
C-A	6.49								
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	8.87	0.208		0.36	0.27	4.1		0.14
B-A	1.33	6.12	0.217		0.41	0.28	4.4		0.21
C-AB	3.77	15.11	0.250		0.93	0.60	9.1		0.09
C-A	6.07								
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	0.4
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 SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.45	0.6	*
08.00	0.9	*
08.15	1.7	**
08.30	1.7	**
08.45	0.9	*
09.00	0.6	*

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)	I	(MIN)	I	(MIN)	I
I	I	I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	B-C	I	202.3	I	134.9	I	33.7	I
I	B-A	I	145.9	I	97.3	I	40.8	I
I	C-AB	I	513.3	I	342.2	I	96.9	I
I	C-A	I	565.8	I	377.2	I		I
I	A-B	I	93.6	I	62.4	I		I
I	A-C	I	359.2	I	239.5	I		I
I	ALL	I	1880.2	I	1253.5	I	171.3	I
							0.09	
							171.4	
							0.09	

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

\*\*\*\*\*END OF 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	678.20		0.25		0.25	I

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



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)
16.30-16.45									
B-C	1.54	8.03	0.192		0.18	0.24	3.4		0.15
B-A	1.42	5.63	0.253		0.23	0.33	4.8		0.24
C-AB	2.77	12.76	0.217		0.32	0.47	7.1		0.10
C-A	4.60								
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)
16.45-17.00									
B-C	1.89	7.23	0.262		0.24	0.35	5.0		0.19
B-A	1.74	4.76	0.366		0.33	0.56	7.9		0.33
C-AB	4.03	13.27	0.303		0.47	0.78	11.7		0.11
C-A	5.00								
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	7.21	0.262		0.35	0.35	5.3		0.19
B-A	1.74	4.75	0.367		0.56	0.57	8.5		0.33
C-AB	4.04	13.28	0.304		0.78	0.79	12.0		0.11
C-A	4.99								
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	8.01	0.193		0.35	0.24	3.7		0.16
B-A	1.42	5.62	0.253		0.57	0.35	5.5		0.24
C-AB	2.78	12.77	0.218		0.79	0.49	7.3		0.10
C-A	4.59								
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	8.50	0.152		0.24	0.18	2.8		0.14
B-A	1.19	6.24	0.191		0.35	0.24	3.7		0.20
C-AB	2.09	12.45	0.168		0.49	0.33	5.0		0.10
C-A	4.09								
A-B	1.29								
A-C	6.37								

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

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 QUEUE FOR STREAM B-C  
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TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.2
16.45	0.2
17.00	0.3
17.15	0.4
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	0.3	
17.45	0.2	

-----  
 QUEUE FOR STREAM C-AB  
 -----

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.3	
16.45	0.5	
17.00	0.8	*
17.15	0.8	*
17.30	0.5	
17.45	0.3	

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 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD  
 -----

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING * * DELAY *	I	* INCLUSIVE QUEUEING * * DELAY *	I	
I		I	(VEH)	I	(VEH/H)	I	(MIN)	I	(MIN/VEH)
I	B-C	I	141.8	I	94.5	I	22.8	I	0.16
I	B-A	I	130.8	I	87.2	I	33.7	I	0.26
I	C-AB	I	266.6	I	177.7	I	47.8	I	0.18
I	C-A	I	410.6	I	273.7	I		I	
I	A-B	I	141.8	I	94.5	I		I	
I	A-C	I	699.2	I	466.1	I		I	
I	ALL	I	1790.7	I	1193.8	I	104.3	I	0.06

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

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