

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 + Dev AM & PM.vpi"  
(drive-on-the-left) at 16:18:07 on Wednesday, 14 October 2009

RUN INFORMATION  
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RUN TITLE : Andover Road/Bereweek Road Improved Junction 2009 AM & PM Base + Dev  
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  
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INPUT DATA  
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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  
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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 ) 6.00 M.	I
I	CENTRAL RESERVE WIDTH	I	( WCR ) 0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	( WC-B ) 2.50 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	4.00 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	DERIVED: 0 PCU	I

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

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

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

I	Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	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	700.35		0.27		0.27	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/Bereweeke 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	3.14	7.67	0.409		0.43	0.68	9.7		0.22
B-A	1.95	3.52	0.553		0.52	1.14	15.2		0.60
C-AB	4.02	9.56	0.421		0.50	0.74	11.1		0.18
A-B	1.25								
A-C	5.54								

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	3.14	7.64	0.411		0.68	0.69	10.3		0.22
B-A	1.95	3.51	0.554		1.14	1.19	17.5		0.63
C-AB	4.02	9.56	0.421		0.74	0.75	11.4		0.18
A-B	1.25								
A-C	5.54								

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)
08.30-08.45									
B-C	2.56	8.35	0.307		0.69	0.45	7.0		0.17
B-A	1.59	4.52	0.351		1.19	0.56	9.1		0.35
C-AB	3.28	9.90	0.332		0.75	0.51	7.7		0.15
A-B	1.02								
A-C	4.52								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	2.15	8.79	0.244		0.45	0.33	5.1		0.15
B-A	1.33	5.26	0.253		0.56	0.35	5.5		0.26
C-AB	2.75	10.14	0.271		0.51	0.38	5.7		0.14
A-B	0.85								
A-C	3.79								

\*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	0.4
08.15	0.7 *
08.30	0.7 *
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	0.5 *
08.15	1.1 *
08.30	1.2 *
08.45	0.6 *
09.00	0.3



QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
07.45	0.4	
08.00	0.5	
08.15	0.7	*
08.30	0.8	*
08.45	0.5	*
09.00	0.4	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I STREAM I	TOTAL DEMAND I	* QUEUEING * I	* INCLUSIVE QUEUEING * I
I I	I I	* DELAY * I	* DELAY * I
I I	I I	I I	I I
I I	(VEH) (VEH/H) I	(MIN) (MIN/VEH) I	(MIN) (MIN/VEH) I
I B-C I	235.4 I 156.9 I	42.9 I 0.18 I	42.9 I 0.18 I
I B-A I	145.9 I 97.3 I	59.3 I 0.41 I	59.3 I 0.41 I
I C-AB I	301.4 I 201.0 I	48.8 I 0.16 I	48.8 I 0.16 I
I A-B I	93.6 I 62.4 I	I I	I I
I A-C I	415.7 I 277.1 I	I I	I I
I ALL I	2302.8 I 1535.2 I	151.0 I 0.07 I	151.0 I 0.07 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 I	Slope For Opposing I	Slope For Opposing I
I STREAM B-A STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B I
I 0.00 0.00	0.00	0.00	0.00 I

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

I Intercept For Slope For Opposing	Slope For Opposing I
I STREAM C-B STREAM A-C	STREAM A-B I
I 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	3.36	6.49	0.517		0.57	1.03	14.4		0.31
B-A	1.74	3.40	0.513		0.45	0.98	13.2		0.58
C-AB	2.64	7.73	0.342		0.34	0.52	7.7		0.20
A-B	1.89								
A-C	12.29								

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	3.36	6.47	0.519		1.03	1.05	15.7		0.32
B-A	1.74	3.40	0.513		0.98	1.01	15.0		0.60
C-AB	2.64	7.73	0.342		0.52	0.52	7.9		0.20
A-B	1.89								
A-C	12.29								

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	2.74	7.39	0.371		1.05	0.60	9.5		0.22
B-A	1.42	4.48	0.318		1.01	0.48	7.8		0.33
C-AB	2.16	8.44	0.256		0.52	0.35	5.3		0.16
A-B	1.54								
A-C	10.04								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-C	2.30	8.01	0.287		0.60	0.41	6.4		0.18
B-A	1.19	5.26	0.227		0.48	0.30	4.7		0.25
C-AB	1.81	8.95	0.202		0.35	0.26	3.8		0.14
A-B	1.29								
A-C	8.41								

\*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	0.4
16.45	0.6 *
17.00	1.0 *
17.15	1.1 *
17.30	0.6 *
17.45	0.4

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.3
16.45	0.5
17.00	1.0 *
17.15	1.0 *
17.30	0.5
17.45	0.3



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QUEUE FOR STREAM C-AB

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

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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I	STREAM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I	I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	B-C	I	251.9	167.9	I	59.8	0.24	I	59.9	0.24	I
I	B-A	I	130.8	87.2	I	51.1	0.39	I	51.1	0.39	I
I	C-AB	I	198.2	132.1	I	33.5	0.17	I	33.5	0.17	I
I	A-B	I	141.8	94.5	I	I	I	I	I	I	I
I	A-C	I	922.2	614.8	I	I	I	I	I	I	I
I	ALL	I	2287.6	1525.1	I	144.5	0.06	I	144.5	0.06	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\*\*\*\*\*

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