

TRL LIMITED

(C) COPYRIGHT 2001

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

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:-

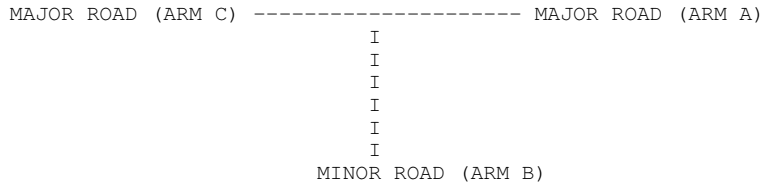
"b:\191-200\192\0006\Calculations\PICADY\Bournemouth Rd_Westfield Rd\BournemouthRd_WestfieldRd_AM_Proposed.vpi"
at 09:29:02 on Thursday, 26 June 2008

RUN TITLE

Bournemouth Rd > Westfield Rd AM Proposed

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Bournemouth Road (N)
ARM B IS Westfield Road
ARM C IS Bournemouth Road (S)

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)	3.00 M.	I
I	- VISIBILITY	I (VC-B)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	80.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	100.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	2.20 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

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 TO RISE	MINUTES FROM START WHEN TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.90	11.85	7.90
ARM B	15.00	45.00	75.00	2.00	3.00	2.00
ARM C	15.00	45.00	75.00	8.20	12.30	8.20

TIME	TURNING PROPORTIONS			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.016	0.984
		(0.0)	(10.0)	(10.0)
	ARM B	0.125	0.000	0.875
		20.0	0.0	140.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.970	0.030	0.000
		636.0	20.0	0.0
		(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

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)
07.45-08.00								
B-AC	2.00	7.08	0.283		0.0	0.4	5.5	
C-AB	0.52	13.49	0.039		0.0	0.1	0.8	
C-A	7.68							
A-B	0.13							
A-C	7.78							

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)
08.00-08.15								
B-AC	2.39	6.62	0.361		0.4	0.6	7.9	
C-AB	0.81	14.45	0.056		0.1	0.1	1.3	
C-A	8.99							
A-B	0.15							
A-C	9.28							

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)
08.15-08.30								
B-AC	2.92	5.94	0.492		0.6	0.9	13.1	
C-AB	1.24	15.44	0.081		0.1	0.1	2.2	
C-A	10.75							
A-B	0.18							
A-C	11.37							

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)
08.30-08.45								
B-AC	2.92	5.94	0.492		0.9	0.9	14.1	
C-AB	1.25	15.45	0.081		0.1	0.2	2.3	
C-A	10.75							
A-B	0.18							
A-C	11.37							

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)
08.45-09.00								
B-AC	2.39	6.62	0.361		0.9	0.6	9.2	
C-AB	0.81	14.46	0.056		0.2	0.1	1.4	
C-A	8.98							
A-B	0.15							
A-C	9.28							

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)
09.00-09.15								
B-AC	2.00	7.08	0.283		0.6	0.4	6.3	
C-AB	0.53	13.49	0.039		0.1	0.1	0.8	
C-A	7.67							
A-B	0.13							
A-C	7.78							

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	0.4
08.15	0.6 *
08.30	0.9 *
08.45	0.9 *
09.00	0.6 *
09.15	0.4

QUEUE FOR STREAM C-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
09.00	0.1
09.15	0.1

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	219.4	56.0	0.26
C-AB	77.3	8.8	0.11
C-A	822.2		
A-B	13.7		
A-C	852.9		
ALL	1985.5	64.8	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 JOB

***** PICADY 4 run completed.
 ===== end of file =====

[Printed at 09:29:15 on 26/06/2008]

TRL LIMITED

(C) COPYRIGHT 2001

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

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:-

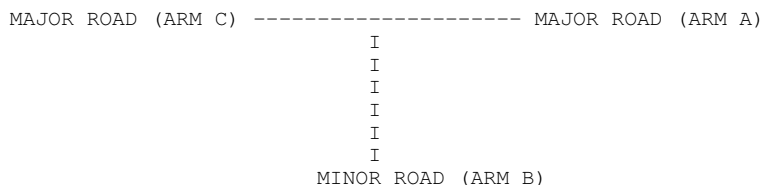
"b:\191-200\192\0006\Calculations\PICADY\Bournemouth Rd_Westfield Rd\BournemouthRd_WestfieldRd_PM_Proposed.vpi"
at 16:48:31 on Wednesday, 25 June 2008

RUN TITLE

Bournemouth Rd > Westfield Rd PM Proposed

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Bournemouth Road (N)
ARM B IS Westfield Road
ARM C IS Bournemouth Road (S)

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)	3.00 M.	I
I	- VISIBILITY	I (VC-B)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	80.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	100.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	2.20 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

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

I	I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
		I	I	I	I	I	I
I	ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
I	I	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
I	ARM A	15.00	45.00	75.00	8.13	12.19	8.13
I	ARM B	15.00	45.00	75.00	0.54	0.81	0.54
I	ARM C	15.00	45.00	75.00	10.38	15.56	10.38

I	I	TURNING PROPORTIONS			
		I	I	I	
I	TIME	FROM/TO	ARM A	ARM B	ARM C
I	I	I	I	I	I
I	07.45 - 09.15	ARM A	0.000	0.026	0.974
I			(0.0)	(10.0)	(10.0)
I		ARM B	0.349	0.000	0.651
I			15.0	0.0	28.0
I			(10.0)	(0.0)	(10.0)
I		ARM C	0.954	0.046	0.000
I			792.0	38.0	0.0
I			(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
I	I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
I	I	I	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I	07.45-08.00								
I	B-AC	0.54	5.95	0.090		0.0	0.1	1.4	
I	C-AB	1.29	14.94	0.086		0.0	0.2	2.4	
I	C-A	9.09							
I	A-B	0.21							
I	A-C	7.91							

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
I	I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
I	I	I	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I	08.00-08.15								
I	B-AC	0.64	5.31	0.121		0.1	0.1	2.0	
I	C-AB	2.00	16.09	0.124		0.2	0.3	4.4	
I	C-A	10.39							
I	A-B	0.25							
I	A-C	9.45							

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)
08.15-08.30								
B-AC	0.79	4.33	0.182		0.1	0.2	3.1	
C-AB	3.48	17.67	0.197		0.3	0.7	9.9	
C-A	11.69							
A-B	0.31							
A-C	11.57							

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)
08.30-08.45								
B-AC	0.79	4.32	0.182		0.2	0.2	3.3	
C-AB	3.50	17.69	0.198		0.7	0.7	10.3	
C-A	11.67							
A-B	0.31							
A-C	11.57							

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)
08.45-09.00								
B-AC	0.64	5.30	0.121		0.2	0.1	2.2	
C-AB	2.01	16.11	0.125		0.7	0.3	4.7	
C-A	10.38							
A-B	0.25							
A-C	9.45							

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)
09.00-09.15								
B-AC	0.54	5.95	0.090		0.1	0.1	1.6	
C-AB	1.30	14.95	0.087		0.3	0.2	2.6	
C-A	9.08							
A-B	0.21							
A-C	7.91							

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	0.2
08.45	0.2
09.00	0.1
09.15	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	0.7 *
08.45	0.7 *
09.00	0.3
09.15	0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	59.0	39.3	13.5
C-AB	203.5	135.7	34.4
C-A	934.6	623.0	
A-B	23.3	15.5	
A-C	868.0	578.7	
ALL	2088.4	1392.2	47.9

* 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

***** PICADY 4 run completed.
 ===== end of file =====

[Printed at 16:48:37 on 25/06/2008]

TRL LIMITED

(C) COPYRIGHT 2001

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

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

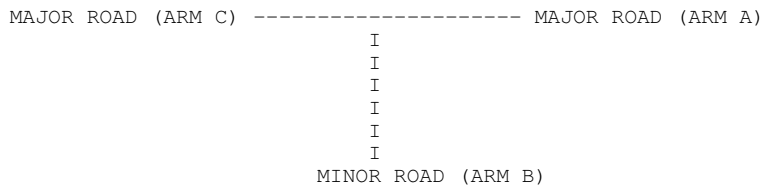
Run with file:-
"b:\191-200\192\0006\Calculations\PICADY\Leigh Rd_Belmont Rd\LeighRd_BelmontRd_AM_Proposed.vpi"
at 09:35:09 on Thursday, 26 June 2008

RUN TITLE

Leigh Road > Belmont Road AM Proposed

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Leigh Road (E)
ARM B IS Belmont Road
ARM C IS Leigh Road (W)

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)	3.00 M.	I
I	- VISIBILITY	I (VC-B)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	50.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	80.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	2.20 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

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

I	I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
		I	I	I	I	I	I
I	ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
I	I	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
I	ARM A	15.00	45.00	75.00	14.94	22.41	14.94
I	ARM B	15.00	45.00	75.00	0.36	0.54	0.36
I	ARM C	15.00	45.00	75.00	7.36	11.04	7.36

I	I	TURNING PROPORTIONS			
		I	I	I	
I	TIME	FROM/TO	ARM A	ARM B	ARM C
I	07.45 - 09.15	ARM A	0.000	0.146	0.854
I			(0.0)	(10.0)	(10.0)
I		ARM B	0.724	0.000	0.276
I			21.0	0.0	8.0
I			(10.0)	(0.0)	(10.0)
I		ARM C	0.997	0.003	0.000
I			587.0	2.0	0.0
I			(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
I	I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
I	I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I	07.45-08.00								
I	B-AC	0.36	3.79	0.096		0.0	0.1	1.5	
I	C-A	7.34							
I	C-B	0.03	6.43	0.004		0.0	0.0	0.1	
I	A-B	2.17							
I	A-C	12.76							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
I		MARGINAL	LANE WIDTH	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY		
I		CHANGE:	(.1M)	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT		
I				(.1M)	(.1M)	(M)	(M)		
I	B-AC		0.052	0.015	0.014	0.002	0.003		
I	C-B		0.071	0.019		0.006			

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)
08.00-08.15								
B-AC	0.43	2.95	0.147		0.1	0.2	2.4	
C-A	8.76							
C-B	0.03	5.66	0.005		0.0	0.0	0.1	
A-B	2.60							
A-C	15.24							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)		TO RIGHT (M)	
B-AC	0.039	0.018	0.014	0.002			0.003	
C-B	0.062	0.023		0.006				

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)
08.15-08.30								
B-AC	0.53	1.73	0.306		0.2	0.4	5.5	
C-A	10.73							
C-B	0.04	4.59	0.008		0.0	0.0	0.1	
A-B	3.18							
A-C	18.66							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)		TO RIGHT (M)	
B-AC	0.022	0.022	0.014	0.001			0.001	
C-B	0.051	0.028		0.005				

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)
08.30-08.45								
B-AC	0.53	1.73	0.306		0.4	0.4	6.3	
C-A	10.73							
C-B	0.04	4.59	0.008		0.0	0.0	0.1	
A-B	3.18							
A-C	18.66							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)		TO RIGHT (M)	
B-AC	0.022	0.022	0.014	0.001			0.001	
C-B	0.051	0.028		0.005				

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)
08.45-09.00								
B-AC	0.43	2.95	0.147		0.4	0.2	2.9	
C-A	8.76							
C-B	0.03	5.66	0.005		0.0	0.0	0.1	
A-B	2.60							
A-C	15.24							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)		TO RIGHT (M)	
B-AC	0.039	0.018	0.014	0.002			0.003	
C-B	0.062	0.023		0.006				

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)
09.00-09.15								
B-AC	0.36	3.79	0.096		0.2	0.1	1.7	
C-A	7.34							
C-B	0.03	6.43	0.004		0.0	0.0	0.1	
A-B	2.17							
A-C	12.76							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR)	TO RIGHT (M)			
B-AC	0.052	0.015	0.014	0.002	0.003			
C-B	0.071	0.019		0.006				

QUEUE LENGTH PROBABILITY DISTRIBUTIONS

TIME PERIOD ENDING	MEAN QUEUE LENGTH (VEHS)	5 TH % ILE (VEHS)	90 TH % ILE (VEHS)	95 TH % ILE (VEHS)	PROBABILITY OF REACHING Q-MARKER
STREAM B-AC					
08.00	0	0	0	0	
08.15	0	0	0	0	
08.30	0	0	0	0	
08.45	0	0	0	0	
09.00	0	0	0	0	
09.15	0	0	0	0	
STREAM C-B					
08.00	0	0	0	0	
08.15	0	0	0	0	
08.30	0	0	0	0	
08.45	0	0	0	0	
09.00	0	0	0	0	
09.15	0	0	0	0	

NOTES:

1. MAXIMUM VALUE OF QUEUE DISTRIBUTION POINT = 199 (EQUIVALENT TO >= 199)
 2. PROBABILITY OF REACHING QUEUE MARKER TAKES ACCOUNT OFMULTI-STREAM QUEUEING AUTOMATICALLY
 3. ANY PROBABILITY LESS THAN 0.05 IS INDETERMINABLE
 4. ## INDICATES QUEUE TOO SMALL OR TOO BIG TO RELIABLY PREDICT DISTRIBUTION
 5. \$\$ INDICATES VARIANCE VERY SMALL IN RELATION TO MEANQUEUE :-
- FOR SMALL MEAN QUEUES (<20) THIS MEANS THAT ALL POINTS ON THE DISTRIBUTION WILL BE APPROX. EQUAL TO THE MEAN
- FOR LARGE MEAN QUEUES (>100) IT MEANS THAT THE VARIANCE HAS EXCEEDED ITS MAXIMUM, AND BEEN TRUNCATED - IN THIS CASE DISTRIBUTION CANNOT BE PREDICTED RELIABLY

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.4
08.45	0.4
09.00	0.2
09.15	0.1

KEY: * MEAN
 - 5TH PERCENTILE
 : 90TH PERCENTILE
 + 95TH PERCENTILE

QUEUE FOR STREAM C-B

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

KEY: * MEAN
 - 5TH PERCENTILE
 : 90TH PERCENTILE
 + 95TH PERCENTILE

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-AC	I	39.8	26.5	I	20.2	0.51	I	20.2	0.51	I
I	C-A	I	804.9	536.6	I			I			I
I	C-B	I	2.7	1.8	I	0.5	0.19	I	0.5	0.19	I
I	A-B	I	238.6	159.1	I			I			I
I	A-C	I	1400.0	933.3	I			I			I
I	ALL	I	2486.0	1657.3	I	20.7	0.01	I	20.7	0.01	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 JOB

***** PICADY 4 run completed.
 ===== end of file =====

TRL LIMITED

(C) COPYRIGHT 2001

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

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

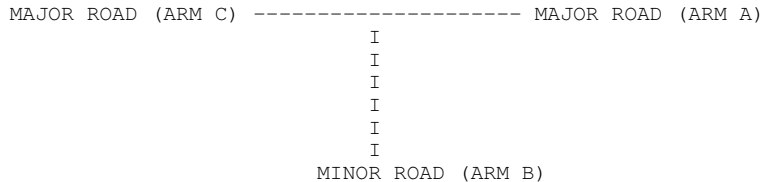
Run with file:-
"b:\191-200\192\0006\Calculations\PICADY\Leigh Rd_Belmont Rd\LeighRd_BelmontRd_PM_Proposed.vpi"
at 17:00:21 on Wednesday, 25 June 2008

RUN TITLE

Leigh Road > Belmont Road PM Proposed

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Leigh Road (E)
ARM B IS Belmont Road
ARM C IS Leigh Road (W)

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)	3.00 M.	I
I	- VISIBILITY	I (VC-B)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	50.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	80.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	2.20 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

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

I	I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
		I	I	I	I	I	I
I	ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
I	I	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
I	ARM A	15.00	45.00	75.00	9.45	14.17	9.45
I	ARM B	15.00	45.00	75.00	0.98	1.46	0.98
I	ARM C	15.00	45.00	75.00	10.01	15.02	10.01

I	I	TURNING PROPORTIONS			
		I	I	I	
I	TIME	FROM/TO	ARM A	ARM B	ARM C
I	07.45 - 09.15	ARM A	0.000	0.074	0.926
I			0.0	56.0	700.0
I			(0.0)	(10.0)	(10.0)
I		ARM B	0.910	0.000	0.090
I			71.0	0.0	7.0
I			(10.0)	(0.0)	(10.0)
I		ARM C	0.998	0.002	0.000
I			799.0	2.0	0.0
I			(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
I	I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
I	I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I	07.45-08.00								
I	B-AC	0.98	4.14	0.236		0.0	0.3	4.2	
I	C-A	9.99							
I	C-B	0.03	7.89	0.003		0.0	0.0	0.0	
I	A-B	0.70							
I	A-C	8.75							
I									
I		EFFECT ON CAPACITY (PCU/MIN) OF			MARGINAL CHANGES IN:				
I		MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)		(M)		
I									
I	B-AC	0.062	0.013	0.014	0.003	0.004			
I	C-B	0.087	0.012		0.008				

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)
08.00-08.15								
B-AC	1.16	3.46	0.337		0.3	0.5	6.8	
C-A	11.93							
C-B	0.03	7.40	0.004		0.0	0.0	0.1	
A-B	0.84							
A-C	10.45							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)		TO RIGHT (M)	
B-AC	0.052	0.015	0.014	0.002			0.003	
C-B	0.082	0.014		0.007				

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)
08.15-08.30								
B-AC	1.43	2.50	0.569		0.5	1.2	15.3	
C-A	14.61							
C-B	0.04	6.73	0.005		0.0	0.0	0.1	
A-B	1.02							
A-C	12.80							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)		TO RIGHT (M)	
B-AC	0.037	0.018	0.014	0.002			0.002	
C-B	0.074	0.018		0.007				

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)
08.30-08.45								
B-AC	1.43	2.50	0.569		1.2	1.2	18.2	
C-A	14.61							
C-B	0.04	6.73	0.005		0.0	0.0	0.1	
A-B	1.02							
A-C	12.80							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)		TO RIGHT (M)	
B-AC	0.037	0.018	0.014	0.002			0.002	
C-B	0.074	0.018		0.007				

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)
08.45-09.00								
B-AC	1.16	3.46	0.337		1.2	0.5	8.8	
C-A	11.93							
C-B	0.03	7.40	0.004		0.0	0.0	0.1	
A-B	0.84							
A-C	10.45							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)		TO RIGHT (M)	
B-AC	0.052	0.015	0.014	0.002			0.003	
C-B	0.082	0.014		0.007				

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)
09.00-09.15								
B-AC	0.98	4.14	0.236		0.5	0.3	5.0	
C-A	9.99							
C-B	0.03	7.89	0.003		0.0	0.0	0.0	
A-B	0.70							
A-C	8.75							

MARGINAL CHANGE:	LANE WIDTH (.1M)	EFFECT ON CAPACITY MAJOR RD. WIDTH (.1M)	(PCU/MIN) OF CENT RES WIDTH (.1M)	MARGINAL CHANGES IN: VIS TO LEFT (AHEAD FOR MAJOR) (M)	TO RIGHT VISIBILITY (M)
B-AC	0.062	0.013	0.014	0.003	0.004
C-B	0.087	0.012		0.008	

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.3
08.15	0.5
08.30	1.2 *
08.45	1.2 *
09.00	0.5 *
09.15	0.3

QUEUE FOR STREAM C-B

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)	DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	(MIN/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MIN)	(MIN/VEH)
B-AC	107.0	71.3	58.3	0.55	58.3	0.55
C-A	1095.6	730.4				
C-B	2.7	1.8	0.4	0.14	0.4	0.14
A-B	76.8	51.2				
A-C	959.8	639.9				
ALL	2241.9	1494.6	58.7	0.03	58.7	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 JOB

***** PICADY 4 run completed.

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

TRL LIMITED

(C) COPYRIGHT 2001

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGTH
BY PERMISSION OF THE CONTROLLER OF HMSO

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

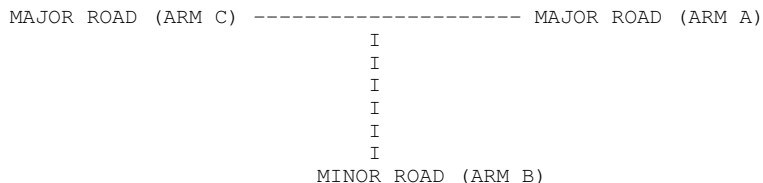
Run with file:-
"b:\191-200\192\0006\Calculations\PICADY\Leigh Rd_Falklands Rd\LeighRd_FalklandsRd_AM_Proposed.vpi"
at 09:35:37 on Thursday, 26 June 2008

RUN TITLE

Leigh Road > Falkland Road AM Proposed

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Leigh Road (E)
ARM B IS Falklands Road
ARM C IS Leigh Road (W)

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)	3.00 M.	I
I	- VISIBILITY	I (VC-B)	50.0 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	50.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	50.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	2.20 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

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

I	I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
		I	I	I	I	I	I
I	I	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
I	I	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
I	ARM A	15.00	45.00	75.00	5.88	8.81	5.88
I	ARM B	15.00	45.00	75.00	2.05	3.07	2.05
I	ARM C	15.00	45.00	75.00	2.60	3.90	2.60

I	I	TURNING PROPORTIONS				
		I	I	I		
I	I	TURNING COUNTS (VEH/HR)	(PERCENTAGE OF H.V.S)			
I	I	TIME	FROM/TO	ARM A	ARM B	ARM C
I		07.45 - 09.15				
I			ARM A	0.000	0.617	0.383
I				0.0	290.0	180.0
I				(0.0)	(10.0)	(10.0)
I			ARM B	0.640	0.000	0.360
I				105.0	0.0	59.0
I				(10.0)	(0.0)	(10.0)
I			ARM C	0.582	0.418	0.000
I				121.0	87.0	0.0
I				(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

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)
I	07.45-08.00								
I	B-AC	2.05	6.55	0.313		0.0	0.4	6.3	
I	C-AB	1.29	9.48	0.136		0.0	0.2	2.8	
I	C-A	1.31							
I	A-B	3.63							
I	A-C	2.25							

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)
I	08.00-08.15								
I	B-AC	2.45	6.30	0.388		0.4	0.6	8.9	
I	C-AB	1.61	9.42	0.171		0.2	0.2	3.7	
I	C-A	1.50							
I	A-B	4.33							
I	A-C	2.69							

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)
08.15-08.30								
B-AC	3.00	5.95	0.504		0.6	1.0	13.7	
C-AB	2.09	9.33	0.224		0.2	0.4	5.4	
C-A	1.71							
A-B	5.30							
A-C	3.29							

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)
08.30-08.45								
B-AC	3.00	5.95	0.504		1.0	1.0	14.8	
C-AB	2.09	9.34	0.224		0.4	0.4	5.4	
C-A	1.71							
A-B	5.30							
A-C	3.29							

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)
08.45-09.00								
B-AC	2.45	6.30	0.389		1.0	0.7	10.3	
C-AB	1.61	9.42	0.171		0.4	0.3	3.8	
C-A	1.49							
A-B	4.33							
A-C	2.69							

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)
09.00-09.15								
B-AC	2.05	6.55	0.313		0.7	0.5	7.3	
C-AB	1.29	9.48	0.136		0.3	0.2	2.8	
C-A	1.31							
A-B	3.63							
A-C	2.25							

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	0.4
08.15	0.6 *
08.30	1.0 *
08.45	1.0 *
09.00	0.7 *
09.15	0.5

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	224.9	61.2	0.27
C-AB	149.7	24.0	0.16
C-A	135.6		
A-B	397.7		
A-C	246.8		
ALL	1154.6	85.2	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 JOB

***** PICADY 4 run completed.
 ===== end of file =====

[Printed at 09:35:43 on 26/06/2008]

TRL LIMITED

(C) COPYRIGHT 2001

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

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

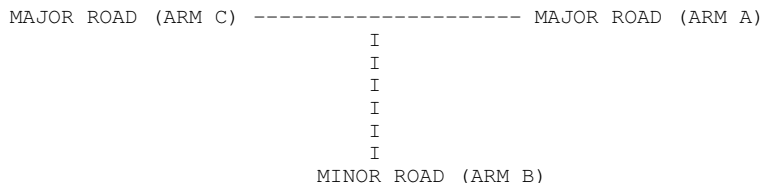
Run with file:-
"b:\191-200\192\0006\Calculations\PICADY\Leigh Rd_Falklands Rd\LeighRd_FalklandsRd_PM_Proposed.vpi"
at 17:10:43 on Wednesday, 25 June 2008

RUN TITLE

Leigh Road > Falkland Road PM Proposed

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Leigh Road (E)
ARM B IS Falklands Road
ARM C IS Leigh Road (W)

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)	3.00 M.	I
I	- VISIBILITY	I (VC-B)	50.0 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	50.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	50.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	2.20 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

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

I	I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
		I	I	I	I	I	I
I	ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
I	I	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
I	ARM A	15.00	45.00	75.00	3.08	4.61	3.08
I	ARM B	15.00	45.00	75.00	2.99	4.48	2.99
I	ARM C	15.00	45.00	75.00	2.79	4.18	2.79

I	I	TURNING PROPORTIONS			
		I	I	I	
I		TURNING COUNTS (VEH/HR)			
I		(PERCENTAGE OF H.V.S)			
I	TIME	FROM/TO	ARM A	ARM B	ARM C
I	07.45 - 09.15				
I		ARM A	0.000	0.419	0.581
I			0.0	103.0	143.0
I			(0.0)	(10.0)	(10.0)
I		ARM B	0.661	0.000	0.339
I			158.0	0.0	81.0
I			(10.0)	(0.0)	(10.0)
I		ARM C	0.722	0.278	0.000
I			161.0	62.0	0.0
I			(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
I		(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
I				(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I	07.45-08.00								
I	B-AC	2.99	6.85	0.436		0.0	0.8	10.4	
I	C-AB	0.95	10.48	0.091		0.0	0.1	1.9	
I	C-A	1.83							
I	A-B	1.29							
I	A-C	1.79							

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
I		(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
I				(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I	08.00-08.15								
I	B-AC	3.57	6.66	0.535		0.8	1.1	15.6	
I	C-AB	1.19	10.60	0.112		0.1	0.2	2.5	
I	C-A	2.14							
I	A-B	1.54							
I	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)
08.15-08.30								
B-AC	4.37	6.41	0.682		1.1	2.0	26.6	
C-AB	1.56	10.78	0.145		0.2	0.2	3.4	
C-A	2.52							
A-B	1.88							
A-C	2.61							

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)
08.30-08.45								
B-AC	4.37	6.41	0.682		2.0	2.0	30.2	
C-AB	1.56	10.78	0.145		0.2	0.2	3.5	
C-A	2.52							
A-B	1.88							
A-C	2.61							

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)
08.45-09.00								
B-AC	3.57	6.66	0.535		2.0	1.2	19.5	
C-AB	1.19	10.60	0.112		0.2	0.2	2.5	
C-A	2.14							
A-B	1.54							
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)
09.00-09.15								
B-AC	2.99	6.85	0.436		1.2	0.8	12.6	
C-AB	0.96	10.48	0.091		0.2	0.1	1.9	
C-A	1.83							
A-B	1.29							
A-C	1.79							

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	0.8 *
08.15	1.1 *
08.30	2.0 **
08.45	2.0 **
09.00	1.2 *
09.15	0.8 *

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.1

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	327.7	114.9	0.35
C-AB	111.1	15.7	0.14
C-A	194.7		
A-B	141.2		
A-C	196.1		
ALL	970.8	130.6	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 JOB

***** PICADY 4 run completed.
 ===== end of file =====

[Printed at 17:10:48 on 25/06/2008]