

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:- "k:\664\A Current Projects\BV6525 - F A\SiteAcc19AMPK.vpi" at 09:19:04 on Thursday, 31 May 2001

RUN TITLE

FA Byrkley Park Site Access Junction 2019 AM Peak

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

```

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)
                    I
                    I
                    I
                    I
                    I
                    I
                    I
MINOR ROAD (ARM B)
    
```

ARM A IS B5234 East
ARM B IS Site Access
ARM C IS B5234 West

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)	10.50 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	215.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	215.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	215.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.50 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 I	I I I	I NUMBER OF MINUTES FROM START WHEN			I RATE OF FLOW (VEH/MIN) I		
		I FLOW STARTS I	I TOP OF PEAK I	I FLOW STOPS I	I BEFORE I	I AT TOP I	I AFTER I
		I TO RISE I	I IS REACHED I	I FALLING I	I PEAK I	I OF PEAK I	I PEAK I
I ARM A I	I	I 15.00 I	I 45.00 I	I 75.00 I	I 2.64 I	I 3.96 I	I 2.64 I
I ARM B I	I	I 15.00 I	I 45.00 I	I 75.00 I	I 0.00 I	I 0.00 I	I 0.00 I
I ARM C I	I	I 15.00 I	I 45.00 I	I 75.00 I	I 3.69 I	I 5.53 I	I 3.69 I

I I I I I	I I I I I	I TURNING PROPORTIONS			
		I TURNING COUNTS (VEH/HR) I			
		I (PERCENTAGE OF H.V.S) I			
I	I	I FROM/TO I	I ARM A I	I ARM B I	I ARM C I
I	I	I 07.45 - 09.15 I	I	I	I
I	I	I ARM A I	I 0.000 I	I 0.251 I	I 0.749 I
I	I	I	I 0.0 I	I 53.0 I	I 158.0 I
I	I	I	I (0.0) I	I (10.0) I	I (10.0) I
I	I	I	I	I	I
I	I	I ARM B I	I 0.000 I	I 0.000 I	I 0.000 I
I	I	I	I ??????? I	I ??????? I	I ??????? I
I	I	I	I (10.0) I	I (0.0) I	I (10.0) I
I	I	I	I	I	I
I	I	I ARM C I	I 0.925 I	I 0.075 I	I 0.000 I
I	I	I	I 273.0 I	I 22.0 I	I 0.0 I
I	I	I	I (10.0) I	I (10.0) I	I (0.0) I
I	I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

I I I	I I I	I I I	I I I	I I I	I I I	I I I	I I I	I I I	I I I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	
			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
I 07.45-08.00									I
I B-AC	I 0.00	I 10.31	I 0.000		I 0.0	I 0.0	I 0.0		I
I C-A	I 3.41								I
I C-B	I 0.28	I 11.42	I 0.024		I 0.0	I 0.0	I 0.4		I
I A-B	I 0.66								I
I A-C	I 1.98								I
I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
I MAJOR RD. CENT RES VIS TO LEFT VISIBILITY									
I MARGINAL	I LANE WIDTH	I WIDTH	I WIDTH	I (AHEAD FOR MAJOR)	I TO RIGHT				
I CHANGE:	I (.1M)	I (.1M)	I (.1M)	I (M)	I (M)				
I B-AC	I 0.147	I 0.005	I 0.017	I 0.006	I 0.009				
I C-B	I 0.120	I 0.004		I 0.010					

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	0.00	10.12	0.000		0.0	0.0	0.0	
C-A	4.07							
C-B	0.33	11.30	0.029		0.0	0.0	0.4	
A-B	0.79							
A-C	2.36							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE: LANE WIDTH WIDTH (AHEAD FOR MAJOR) TO RIGHT								
(VEH/MIN) (.1M) (.1M) (.1M) (M) (M)								
B-AC	0.143	0.006	0.006	0.017	0.006		0.008	
C-B	0.118	0.005	0.010					

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	0.00	9.86	0.000		0.0	0.0	0.0	
C-A	4.99							
C-B	0.40	11.12	0.036		0.0	0.0	0.6	
A-B	0.97							
A-C	2.89							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE: LANE WIDTH WIDTH (AHEAD FOR MAJOR) TO RIGHT								
(VEH/MIN) (.1M) (.1M) (.1M) (M) (M)								
B-AC	0.138	0.007	0.006	0.017	0.006		0.008	
C-B	0.117	0.006	0.010					

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	0.00	9.86	0.000		0.0	0.0	0.0	
C-A	4.99							
C-B	0.40	11.12	0.036		0.0	0.0	0.6	
A-B	0.97							
A-C	2.89							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE: LANE WIDTH WIDTH (AHEAD FOR MAJOR) TO RIGHT								
(VEH/MIN) (.1M) (.1M) (.1M) (M) (M)								
B-AC	0.138	0.007	0.006	0.017	0.006		0.008	
C-B	0.117	0.006	0.010					

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	0.00	10.12	0.000		0.0	0.0	0.0	
C-A	4.07							
C-B	0.33	11.30	0.029		0.0	0.0	0.5	
A-B	0.79							
A-C	2.36							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY								
MARGINAL CHANGE: LANE WIDTH WIDTH (AHEAD FOR MAJOR) TO RIGHT								
(VEH/MIN) (.1M) (.1M) (.1M) (M) (M)								
B-AC	0.143	0.006	0.006	0.017	0.006		0.008	
C-B	0.118	0.005	0.010					

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	0.00	10.31	0.000		0.0	0.0	0.0	
C-A	3.41							
C-B	0.28	11.42	0.024		0.0	0.0	0.4	
A-B	0.66							
A-C	1.98							

MARGINAL CHANGE:	LANE WIDTH (.1M)	CAPACITY (PCU/MIN) MAJOR RD. WIDTH (.1M)	EFFECT ON CENT RES WIDTH (.1M)	OF MARGINAL CHANGES IN: VIS TO LEFT (AHEAD FOR MAJOR) (M)	MAJOR RD. CENT RES WIDTH (.1M)	VISIBILITY TO RIGHT (M)
B-AC	0.147	0.005	0.017	0.006		0.009
C-B	0.120	0.004		0.010		

WARNING THE JUNCTION MODELLED CAN CARRY HIGH-SPEED MAJOR ROAD TRAFFIC. (AG23 REF. 8.4.2(v)).

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-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)	* INCLUSIVE QUEUEING * * DELAY * (MIN)
B-AC	0.0	0.0	0.0	0.00
C-A	374.3	249.6		
C-B	30.2	20.1	2.7	0.09
A-B	72.7	48.4		
A-C	216.7	144.4		
ALL	693.8	462.6	2.7	0.00

* 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:- "k:\664\A) Current Projects\BV6525 - F A\SiteAccl9AMOffPK.vpi" at 09:26:28 on Thursday, 31 May 2001

RUN TITLE

FA Byrkley Park Site Access Junction 2019 AM Off Peak

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

```

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)
                        I
                        I
                        I
                        I
                        I
                        I
                        I
MINOR ROAD (ARM B)
    
```

ARM A IS B5234 East
ARM B IS Site Access
ARM C IS B5234 West

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)	10.50 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	215.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	215.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	215.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.50 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 09.45 AND ENDS 11.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I I I	I I I	I NUMBER OF MINUTES FROM START WHEN I			I RATE OF FLOW (VEH/MIN) I		
		I I I	I I I	I I I	I I I	I I I	I I I
ARM	FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK	
ARM A	15.00	45.00	75.00	1.34	2.01	1.34	
ARM B	15.00	45.00	75.00	0.41	0.62	0.41	
ARM C	15.00	45.00	75.00	1.65	2.47	1.65	

I I I I	I I I I	I TURNING PROPORTIONS I			
		I TURNING COUNTS (VEH/HR) I			
		I (PERCENTAGE OF H.V.S) I			
TIME	FROM/TO	ARM A	ARM B	ARM C	
09.45 - 11.15	ARM A	0.000	0.112	0.888	
		0.0	12.0	95.0	
		(0.0)	(10.0)	(10.0)	
	ARM B	0.364	0.000	0.636	
		12.0	0.0	21.0	
		(10.0)	(0.0)	(10.0)	
	ARM C	0.841	0.159	0.000	
		111.0	21.0	0.0	
		(10.0)	(10.0)	(0.0)	

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

I I 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)
	09.45-10.00								
	B-AC	0.41	11.02	0.037		0.0	0.0	0.6	
	C-A	1.39							
	C-B	0.26	11.75	0.022		0.0	0.0	0.3	
	A-B	0.15							
	A-C	1.19							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
	MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
	B-AC	0.156	0.003	0.017	0.006	0.009			
	C-B	0.123	0.002		0.011				

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)
10.00-10.15								
B-AC	0.49	10.93	0.045		0.0	0.0	0.7	
C-A	1.66							
C-B	0.31	11.68	0.027		0.0	0.0	0.4	
A-B	0.18							
A-C	1.42							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.154	0.003	0.017	0.006	0.009			
C-B	0.122	0.002		0.011				

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)
10.15-10.30								
B-AC	0.60	10.81	0.056		0.0	0.1	0.9	
C-A	2.03							
C-B	0.38	11.59	0.033		0.0	0.0	0.5	
A-B	0.22							
A-C	1.74							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.151	0.004	0.017	0.006	0.009			
C-B	0.122	0.003		0.011				

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)
10.30-10.45								
B-AC	0.60	10.81	0.056		0.1	0.1	0.9	
C-A	2.03							
C-B	0.38	11.59	0.033		0.0	0.0	0.5	
A-B	0.22							
A-C	1.74							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.151	0.004	0.017	0.006	0.009			
C-B	0.122	0.003		0.011				

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)
10.45-11.00								
B-AC	0.49	10.93	0.045		0.1	0.0	0.7	
C-A	1.66							
C-B	0.31	11.68	0.027		0.0	0.0	0.4	
A-B	0.18							
A-C	1.42							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.154	0.003	0.017	0.006	0.009			
C-B	0.122	0.002		0.011				

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)
11.00-11.15								
B-AC	0.41	11.02	0.037		0.0	0.0	0.6	
C-A	1.39							
C-B	0.26	11.75	0.022		0.0	0.0	0.4	
A-B	0.15							
A-C	1.19							

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:						
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)	
B-AC	0.156	0.003	0.017	0.006	0.009	
C-B	0.123	0.002		0.011		

WARNING THE JUNCTION MODELLED CAN CARRY HIGH-SPEED MAJOR ROAD TRAFFIC. (AG23 REF. 8.4.2(v)).

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
10.00	0.0
10.15	0.0
10.30	0.1
10.45	0.1
11.00	0.0
11.15	0.0

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
10.00	0.0
10.15	0.0
10.30	0.0
10.45	0.0
11.00	0.0
11.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	45.2	30.2	4.3	0.10
C-A	152.2	101.5		
C-B	28.8	19.2	2.5	0.09
A-B	16.5	11.0		
A-C	130.3	86.8		
ALL	373.0	248.6	6.9	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

***** 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:- "k:\664\A) Current Projects\BV6525 - F A\SiteAcc19PMPK.vpi" at 09:38:38 on Thursday, 31 May 2001

RUN TITLE

FA Byrkley Park Site Access Junction 2019 PMPeak

.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 B5234 East
ARM B IS Site Access
ARM C IS B5234 West

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)	10.50 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	215.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	215.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	215.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.50 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

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

I I I	I I I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
		I I I	I I I	I I I	I I I	I I I	I I I
ARM	FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK	
ARM A	15.00	45.00	75.00	2.53	3.79	2.53	
ARM B	15.00	45.00	75.00	0.94	1.41	0.94	
ARM C	15.00	45.00	75.00	2.01	3.02	2.01	

I I I I	I I I I	TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	
16.45 - 18.15	ARM A	0.000	0.000	1.000	
		(0.0)	(10.0)	(10.0)	
	ARM B	0.707	0.000	0.293	
		53.0	0.0	22.0	
		(10.0)	(0.0)	(10.0)	
	ARM C	1.000	0.000	0.000	
		161.0	0.0	0.0	
		(10.0)	(10.0)	(0.0)	

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

I I 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)
	16.45-17.00								
	B-AC	0.94	10.07	0.093		0.0	0.1	1.5	
	C-A	2.01							
	C-B	0.00	11.45	0.000		0.0	0.0	0.0	
	A-B	0.00							
	A-C	2.53							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
	MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
	B-AC	0.151	0.004	0.017	0.006	0.009			
	C-B	0.120	0.004		0.010				

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)
17.00-17.15								
B-AC	1.12	9.89	0.113		0.1	0.1	1.9	
C-A	2.40							
C-B	0.00	11.33	0.000		0.0	0.0	0.0	
A-B	0.00							
A-C	3.02							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	TO RIGHT VISIBILITY			
B-AC	0.148	0.005	0.017	0.006	0.009			
C-B	0.119	0.004		0.010				

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)
17.15-17.30								
B-AC	1.37	9.65	0.142		0.1	0.2	2.4	
C-A	2.94							
C-B	0.00	11.16	0.000		0.0	0.0	0.0	
A-B	0.00							
A-C	3.69							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	TO RIGHT VISIBILITY			
B-AC	0.144	0.006	0.017	0.006	0.008			
C-B	0.117	0.005		0.010				

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)
17.30-17.45								
B-AC	1.37	9.65	0.142		0.2	0.2	2.5	
C-A	2.94							
C-B	0.00	11.16	0.000		0.0	0.0	0.0	
A-B	0.00							
A-C	3.69							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	TO RIGHT VISIBILITY			
B-AC	0.144	0.006	0.017	0.006	0.008			
C-B	0.117	0.005		0.010				

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)
17.45-18.00								
B-AC	1.12	9.89	0.113		0.2	0.1	2.0	
C-A	2.40							
C-B	0.00	11.33	0.000		0.0	0.0	0.0	
A-B	0.00							
A-C	3.02							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	TO RIGHT VISIBILITY			
B-AC	0.148	0.005	0.017	0.006	0.009			
C-B	0.119	0.004		0.010				

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)
18.00-18.15								
B-AC	0.94	10.07	0.093		0.1	0.1	1.6	
C-A	2.01							
C-B	0.00	11.45	0.000		0.0	0.0	0.0	
A-B	0.00							
A-C	2.53							

MARGINAL CHANGE:	LANE WIDTH (.1M)	CAPACITY (PCU/MIN) MAJOR RD. WIDTH (.1M)	EFFECT ON CENT RES WIDTH (.1M)	OF MARGINAL CHANGES IN: VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)
B-AC	0.151	0.004	0.017	0.006	0.009
C-B	0.120	0.004		0.010	

WARNING THE JUNCTION MODELLED CAN CARRY HIGH-SPEED MAJOR ROAD TRAFFIC. (AG23 REF. 8.4.2(v)).

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-B

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)	DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* INCLUSIVE QUEUEING * * DELAY * (MIN/VEH)
B-AC	102.8	68.6	11.8	0.11
C-A	220.8	147.2		
C-B	0.0	0.0	0.0	0.00
A-B	0.0	0.0		
A-C	277.0	184.7		
ALL	600.6	400.4	11.8	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

***** 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:- "k:\664\A) Current Projects\BV6525 - F A\SiteAcc19PMOffPK.vpi" at 09:41:01 on Thursday, 31 May 2001

RUN TITLE

FA Byrkley Park Site Access Junction 2019 PM Off Peak 7

.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 B5234 East
ARM B IS Site Access
ARM C IS B5234 West

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)	10.50 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	215.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	215.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	215.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.50 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 13.45 AND ENDS 15.15

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	ARM	I	I	I	I	I	I
I	I	I	I	I	I	I	I
I	I	TO RISE	IS REACHED	FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
I	ARM A	I 15.00	I 45.00	I 75.00	I 2.15	I 3.23	I 2.15
I	ARM B	I 15.00	I 45.00	I 75.00	I 0.41	I 0.62	I 0.41
I	ARM C	I 15.00	I 45.00	I 75.00	I 2.17	I 3.26	I 2.17

		TURNING PROPORTIONS							
		TURNING COUNTS (VEH/HR)							
		(PERCENTAGE OF H.V.S)							
I	TIME	I	FROM/TO	I	ARM A	I	ARM B	I	ARM C
I	13.45 - 15.15	I	ARM A	I	0.000	I	0.070	I	0.930
I		I		I	0.0	I	12.0	I	160.0
I		I		I	(0.0)	I	(10.0)	I	(10.0)
I		I	ARM B	I	0.364	I	0.000	I	0.636
I		I		I	12.0	I	0.0	I	21.0
I		I		I	(10.0)	I	(0.0)	I	(10.0)
I		I	ARM C	I	0.879	I	0.121	I	0.000
I		I		I	153.0	I	21.0	I	0.0
I		I		I	(10.0)	I	(10.0)	I	(0.0)
I		I		I		I		I	

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	13.45-14.00								
I	B-AC	0.41	10.78	0.038		0.0	0.0	0.6	
I	C-A	1.91							
I	C-B	0.26	11.55	0.023		0.0	0.0	0.3	
I	A-B	0.15							
I	A-C	2.00							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
MAJOR RD. CENT RES VIS TO LEFT VISIBILITY									
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT		
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)		
I	B-AC	0.151	0.004	0.017	0.006	0.009			
I	C-B	0.121	0.003		0.011				

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)
14.00-14.15								
B-AC	0.49	10.64	0.046		0.0	0.0	0.7	
C-A	2.28							
C-B	0.31	11.44	0.027		0.0	0.0	0.4	
A-B	0.18							
A-C	2.39							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.149	0.004	0.017	0.006	0.009			
C-B	0.120	0.004		0.010				

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)
14.15-14.30								
B-AC	0.60	10.45	0.058		0.0	0.1	0.9	
C-A	2.80							
C-B	0.38	11.30	0.034		0.0	0.0	0.5	
A-B	0.22							
A-C	2.92							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.145	0.005	0.017	0.006	0.008			
C-B	0.118	0.005		0.010				

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)
14.30-14.45								
B-AC	0.60	10.45	0.058		0.1	0.1	0.9	
C-A	2.80							
C-B	0.38	11.30	0.034		0.0	0.0	0.5	
A-B	0.22							
A-C	2.92							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.145	0.005	0.017	0.006	0.008			
C-B	0.118	0.005		0.010				

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)
14.45-15.00								
B-AC	0.49	10.64	0.046		0.1	0.0	0.7	
C-A	2.28							
C-B	0.31	11.44	0.027		0.0	0.0	0.4	
A-B	0.18							
A-C	2.39							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.149	0.004	0.017	0.006	0.009			
C-B	0.120	0.004		0.010				