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

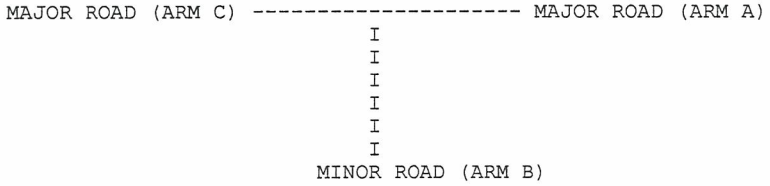
PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

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



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

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

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	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF 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	2.64	3.96	2.64
ARM B	15.00	45.00	75.00	0.00	0.00	0.00
ARM C	15.00	45.00	75.00	3.69	5.53	3.69

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

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	0.147	0.005	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)
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:

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	0.143	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:

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	0.138	0.007	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:

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	0.138	0.007	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:

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	0.143	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							

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	0.147	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)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-A	374.3	249.6				
C-B	30.2	20.1	2.7	0.09	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	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.

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[Printed at 09:24:10 on 31/05/01]

TRL LIMITED

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

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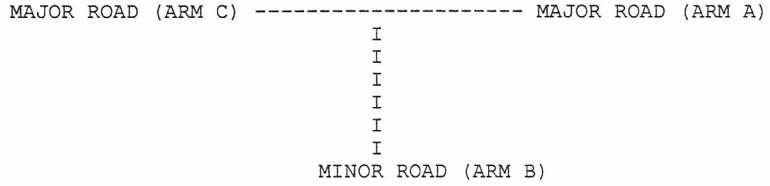
Run with file:- "k:\664\a) Current Projects\BV6525 - F A\SiteAcc19AMOffPK.vpi" at 09:26:28 on Thursday, 31 May 2001

RUN TITLE
****
FA Byrkley Park Site Access Junction 2019 AM Off Peak

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



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

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

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

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF 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	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

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) 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

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)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	45.2	30.2	4.3	0.10	4.3	0.10
C-A	152.2	101.5				
C-B	28.8	19.2	2.5	0.09	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	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 ==========

[Printed at 09:26:41 on 31/05/01]

TRL LIMITED

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAR 2001)

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

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

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

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF 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	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

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15		TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S)		
	ARM A	0.000 0.0 (0.0)	0.000 0.0 (10.0)	1.000 202.0 (10.0)
	ARM B	0.707 53.0 (10.0)	0.000 0.0 (0.0)	0.293 22.0 (10.0)
	ARM C	1.000 161.0 (10.0)	0.000 0.0 (10.0)	0.000 0.0 (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)
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)	VISIBILITY TO RIGHT (M)
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)	VISIBILITY TO RIGHT (M)
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)	VISIBILITY TO RIGHT (M)
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)	VISIBILITY TO RIGHT (M)
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							

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	

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)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	102.8	68.6	11.8	0.11	11.8	0.11
C-A	220.8	147.2				
C-B	0.0	0.0	0.0	0.00	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	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 ==========

[Printed at 16:36:24 on 31/05/01]

TRL LIMITED

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
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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

.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

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

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

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF 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	2.15	3.23	2.15
ARM B	15.00	45.00	75.00	0.41	0.62	0.41
ARM C	15.00	45.00	75.00	2.17	3.26	2.17

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
13.45 - 15.15	ARM A	0.000	0.070	0.930
		0.0	12.0	160.0
		(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	0.879	0.121	0.000
		153.0	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

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)
13.45-14.00								
B-AC	0.41	10.78	0.038		0.0	0.0	0.6	
C-A	1.91							
C-B	0.26	11.55	0.023		0.0	0.0	0.3	
A-B	0.15							
A-C	2.00							

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	0.121	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)
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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)
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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)
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