

## **Appendix H Junction Modelling: South Quay Access (on CD only)**

---



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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads June AM 2017 with dev (ROBUST).vpi"  
(drive-on-the-left ) at 15:38:58 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

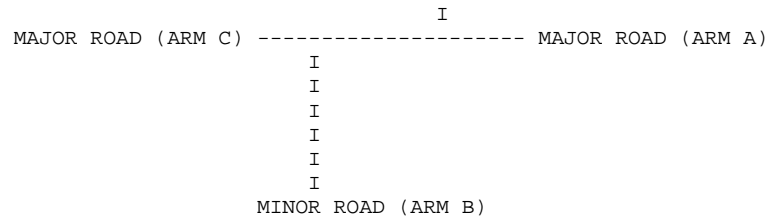
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK	
ARM A	15.00	45.00	75.00	7.69	11.53	7.69	
ARM B	15.00	45.00	75.00	0.25	0.38	0.25	
ARM C	15.00	45.00	75.00	6.39	9.58	6.39	
ARM D	15.00	45.00	75.00	1.56	2.34	1.56	

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.028	0.802	0.171
		0.0	17.0	493.0	105.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)

```

I           I ARM B I 0.600 I 0.000 I 0.400 I 0.000 I
I           I      I 12.0 I 0.0 I 8.0 I 0.0 I
I           I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM C I 0.841 I 0.022 I 0.000 I 0.137 I
I           I      I 430.0 I 11.0 I 0.0 I 70.0 I
I           I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM D I 0.600 I 0.000 I 0.400 I 0.000 I
I           I      I 75.0 I 0.0 I 50.0 I 0.0 I
I           I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY  GEOMETRIC DELAYI
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
I 07.45-08.00
I B-C           0.10     8.37     0.012           0.0  0.0     0.2
I B-AD          0.15     5.53     0.027           0.0  0.0     0.4
I A-B           0.21
I A-C           6.16
I A-D           1.31     8.27     0.159           0.0  0.2     2.7
I D-A           0.94     9.05     0.104           0.0  0.1     1.7
I D-BC          0.63     5.15     0.121           0.0  0.1     1.9
I C-D           0.88
I C-A           5.38
I C-B           0.14     8.39     0.016           0.0  0.0     0.2
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-C           0.090     0.009
I B-AD          0.058     0.013     0.020     0.004     0.006
I C-B           0.092     0.009
I D-A           0.091     0.008
I D-BC          0.057     0.014     0.020     0.004     0.005
I A-D           0.096     0.008
-----

```

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
I	08.00-08.15									I
I	B-C	0.12	8.00	0.015		0.0	0.0	0.2		I
I	B-AD	0.18	4.99	0.036		0.0	0.0	0.5		I
I	A-B	0.25								I
I	A-C	7.36								I
I	A-D	1.57	7.95	0.197		0.2	0.2	3.5		I
I	D-A	1.12	8.64	0.130		0.1	0.1	2.2		I
I	D-BC	0.75	4.59	0.162		0.1	0.2	2.7		I
I	C-D	1.04								I
I	C-A	6.42								I
I	C-B	0.16	8.03	0.020		0.0	0.0	0.3		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)		(M)		I
I										I
I	B-C	0.086	0.010					0.008		I
I	B-AD	0.053	0.016		0.020	0.003		0.005		I
I	C-B	0.088	0.010			0.008				I
I	D-A	0.086	0.009					0.009		I
I	D-BC	0.051	0.016		0.020	0.003		0.005		I
I	A-D	0.092	0.009			0.008				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)	I
I	08.15-08.30									I
I	B-C	0.15	7.50	0.020		0.0	0.0	0.3		I
I	B-AD	0.22	4.24	0.052		0.0	0.1	0.8		I
I	A-B	0.31								I
I	A-C	9.01								I
I	A-D	1.92	7.52	0.255		0.2	0.3	4.9		I
I	D-A	1.37	8.03	0.171		0.1	0.2	3.0		I
I	D-BC	0.91	3.82	0.239		0.2	0.3	4.3		I
I	C-D	1.28								I
I	C-A	7.86								I
I	C-B	0.20	7.54	0.027		0.0	0.0	0.4		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.081	0.012			0.008	I
I	B-AD	0.045	0.019	0.020	0.003	0.004	I
I	C-B	0.083	0.013		0.008		I
I	D-A	0.081	0.011			0.008	I
I	D-BC	0.042	0.020	0.020	0.003	0.004	I
I	A-D	0.087	0.011		0.008		I

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
I	08.30-08.45									I
I	B-C	0.15	7.49	0.020		0.0	0.0	0.3		I
I	B-AD	0.22	4.24	0.052		0.1	0.1	0.8		I
I	A-B	0.31								I
I	A-C	9.01								I
I	A-D	1.92	7.52	0.255		0.3	0.3	5.1		I
I	D-A	1.37	8.03	0.171		0.2	0.2	3.1		I
I	D-BC	0.91	3.82	0.239		0.3	0.3	4.6		I
I	C-D	1.28								I
I	C-A	7.86								I
I	C-B	0.20	7.54	0.027		0.0	0.0	0.4		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.081	0.012				0.008			I
I	B-AD	0.045	0.019	0.020	0.003	0.004				I
I	C-B	0.083	0.013		0.008					I
I	D-A	0.080	0.011			0.008				I
I	D-BC	0.042	0.020	0.020	0.003	0.004				I
I	A-D	0.087	0.011		0.008					I

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
I	08.45-09.00									I
I	B-C	0.12	8.00	0.015		0.0	0.0	0.2		I
I	B-AD	0.18	4.99	0.036		0.1	0.0	0.6		I



I	A-B	0.25								I
I	A-C	7.36								I
I	A-D	1.57	7.95	0.197		0.3	0.2	3.8		I
I	D-A	1.12	8.63	0.130		0.2	0.2	2.3		I
I	D-BC	0.75	4.59	0.163		0.3	0.2	3.1		I
I	C-D	1.04								I
I	C-A	6.42								I
I	C-B	0.16	8.03	0.020		0.0	0.0	0.3		I

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)				
I	B-C	0.086	0.010			0.008				I
I	B-AD	0.053	0.016	0.020	0.003	0.005				I
I	C-B	0.088	0.011		0.008					I
I	D-A	0.086	0.009			0.009				I
I	D-BC	0.051	0.016	0.020	0.003	0.005				I
I	A-D	0.092	0.009		0.008					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	09.00-09.15								I
I	B-C	0.10	8.37	0.012	0.0	0.0	0.2		I
I	B-AD	0.15	5.53	0.027	0.0	0.0	0.4		I
I	A-B	0.21							I
I	A-C	6.16							I
I	A-D	1.31	8.27	0.159	0.2	0.2	2.9		I
I	D-A	0.94	9.04	0.104	0.2	0.1	1.8		I
I	D-BC	0.63	5.15	0.121	0.2	0.1	2.2		I
I	C-D	0.88							I
I	C-A	5.38							I
I	C-B	0.14	8.38	0.016	0.0	0.0	0.3		I

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)				
I	B-C	0.090	0.009			0.009				I
I	B-AD	0.058	0.013	0.020	0.004	0.006				I
I	C-B	0.092	0.009		0.009					I
I	D-A	0.090	0.008			0.010				I

I	D-BC	0.057	0.014	0.020	0.004	0.005	I
I	A-D	0.096	0.008		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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 B-AD**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.0
09.15	0.0

**QUEUE FOR STREAM A-D**

---

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

**QUEUE FOR STREAM D-A**

---

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	0.2
09.15	0.1

-----  
**QUEUE FOR STREAM D-BC**  
 -----

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.1

-----  
**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**  
 -----

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I						
I	I	I	I	I	* DELAY *	I	* DELAY *	I						
I	I	I	I	I	I	I	I	I						
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)						
I	B-C	I	11.0	I	7.3	I	1.4	I	0.13	I	1.4	I	0.13	I
I	B-AD	I	16.5	I	11.0	I	3.5	I	0.21	I	3.5	I	0.21	I
I	A-B	I	23.3	I	15.5	I		I		I		I		I
I	A-C	I	676.0	I	450.7	I		I		I		I		I
I	A-D	I	144.0	I	96.0	I	23.0	I	0.16	I	23.0	I	0.16	I
I	D-A	I	102.8	I	68.6	I	14.0	I	0.14	I	14.0	I	0.14	I
I	D-BC	I	68.6	I	45.7	I	18.9	I	0.28	I	18.9	I	0.28	I

I	C-D	I	96.0	I	64.0	I		I		I		I		
I	C-A	I	589.6	I	393.1	I		I		I		I		
I	C-B	I	15.1	I	10.1	I	1.9	I	0.13	I	1.9	I	0.13	I
-----														
I	ALL	I	1742.8	I	1161.9	I	62.8	I	0.04	I	62.8	I	0.04	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads August PM 2017 with dev (ROBUST).vpi"  
(drive-on-the-left ) at 15:53:47 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

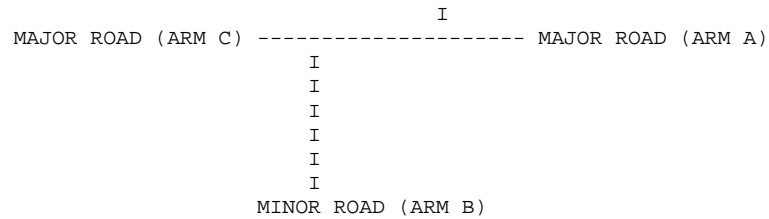
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	- WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	- WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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	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	I 15.00	I 45.00	I 75.00	I 8.14	I 12.21	I 8.14
I	ARM B	I 15.00	I 45.00	I 75.00	I 0.71	I 1.07	I 0.71
I	ARM C	I 15.00	I 45.00	I 75.00	I 7.64	I 11.46	I 7.64
I	ARM D	I 15.00	I 45.00	I 75.00	I 4.36	I 6.54	I 4.36

I	I	TURNING PROPORTIONS					
		I	I	I	I		
I		TURNING COUNTS (VEH/HR)					
I		(PERCENTAGE OF H.V.S)					
I	TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D	
I	16.45 - 18.15	I	I	I	I	I	
I		I	ARM A	I 0.000	I 0.045	I 0.680	I 0.275
I		I	I	I 0.0	I 29.0	I 443.0	I 179.0
I		I	I	I ( 0.0)	I ( 10.0)	I ( 10.0)	I ( 10.0)
I		I	I	I	I	I	I

```

I           I ARM B I 0.596 I 0.000 I 0.404 I 0.000 I
I           I       I 34.0 I 0.0 I 23.0 I 0.0 I
I           I       I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I       I       I       I       I
I           I ARM C I 0.773 I 0.031 I 0.000 I 0.196 I
I           I       I 472.0 I 19.0 I 0.0 I 120.0 I
I           I       I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I       I       I       I       I
I           I ARM D I 0.602 I 0.000 I 0.398 I 0.000 I
I           I       I 210.0 I 0.0 I 139.0 I 0.0 I
I           I       I ( 10.0)I ( 10.0)I ( 10.0)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 TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAYI
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
I 16.45-17.00 I
I B-C 0.29 8.14 0.035 0.0 0.0 0.5 I
I B-AD 0.43 5.17 0.082 0.0 0.1 1.3 I
I A-B 0.36 I
I A-C 5.54 I
I A-D 2.24 7.91 0.283 0.0 0.4 5.5 I
I D-A 2.63 8.14 0.323 0.0 0.5 6.6 I
I D-BC 1.74 4.61 0.377 0.0 0.6 8.0 I
I C-D 1.50 I
I C-A 5.90 I
I C-B 0.24 8.22 0.029 0.0 0.0 0.4 I
I I
I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN: I
I MAJOR RD. CENT RES VIS TO LEFT VISIBILITY I
I MARGINAL LANE WIDTH WIDTH WIDTH (AHEAD FOR MAJOR) TO RIGHT I
I CHANGE: (.1M) (.1M) (.1M) (M) (M) I
I I
I B-C 0.088 0.009 0.009 I
I B-AD 0.055 0.015 0.020 0.004 0.005 I
I C-B 0.090 0.010 0.008 I
I D-A 0.082 0.008 0.009 I
I D-BC 0.051 0.016 0.020 0.003 0.005 I
I A-D 0.092 0.009 0.008 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)	I	
I	17.00-17.15									I	
I	B-C	0.34	7.69	0.045		0.0	0.0	0.7		I	
I	B-AD	0.51	4.55	0.111		0.1	0.1	1.8		I	
I	A-B	0.43								I	
I	A-C	6.61								I	
I	A-D	2.67	7.52	0.355		0.4	0.5	7.8		I	
I	D-A	3.13	7.22	0.434		0.5	0.7	10.6		I	
I	D-BC	2.07	3.87	0.536		0.6	1.1	14.7		I	
I	C-D	1.79								I	
I	C-A	7.05								I	
I	C-B	0.28	7.82	0.036		0.0	0.0	0.5		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I	
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I	
I										I	
I	B-C	0.083	0.011					0.008		I	
I	B-AD	0.048	0.018		0.020	0.003		0.005		I	
I	C-B	0.086	0.011			0.008				I	
I	D-A	0.075	0.010					0.008		I	
I	D-BC	0.044	0.019		0.020	0.003		0.004		I	
I	A-D	0.087	0.011			0.008				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)	I	
I	17.15-17.30									I	
I	B-C	0.42	7.05	0.060		0.0	0.1	0.9		I	
I	B-AD	0.62	3.70	0.168		0.1	0.2	2.8		I	
I	A-B	0.53								I	
I	A-C	8.10								I	
I	A-D	3.27	6.99	0.468		0.5	0.9	12.1		I	
I	D-A	3.84	4.07	0.942		0.7	5.7	59.8		I	
I	D-BC	2.54	2.66	0.954		1.1	5.1	53.1		I	
I	C-D	2.19								I	
I	C-A	8.63								I	
I	C-B	0.35	7.28	0.048		0.0	0.0	0.7		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.076	0.013			0.007	I
I	B-AD	0.039	0.022	0.020	0.003	0.004	I
I	C-B	0.080	0.014		0.007		I
I	D-A	0.064	0.011			0.007	I
I	D-BC	0.034	0.024	0.020	0.002	0.003	I
I	A-D	0.081	0.014		0.007		I

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
I	17.30-17.45									I
I	B-C	0.42	6.97	0.060		0.1	0.1	1.0		I
I	B-AD	0.62	3.64	0.171		0.2	0.2	3.0		I
I	A-B	0.53								I
I	A-C	8.10								I
I	A-D	3.27	6.99	0.468		0.9	0.9	12.9		I
I	D-A	3.84	3.85	0.997		5.7	9.2	113.7		I
I	D-BC	2.54	2.63	0.967		5.1	7.1	92.1		I
I	C-D	2.19								I
I	C-A	8.63								I
I	C-B	0.35	7.21	0.048		0.0	0.1	0.8		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.075	0.013				0.007			I
I	B-AD	0.038	0.022	0.020	0.003	0.004				I
I	C-B	0.079	0.014		0.007					I
I	D-A	0.062	0.010			0.007				I
I	D-BC	0.034	0.024	0.020	0.002	0.003				I
I	A-D	0.081	0.014		0.007					I

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
I	17.45-18.00									I
I	B-C	0.34	7.57	0.045		0.1	0.0	0.7		I
I	B-AD	0.51	4.44	0.114		0.2	0.1	2.1		I

I	A-B	0.43										I
I	A-C	6.61										I
I	A-D	2.67	7.52	0.355		0.9	0.6	8.8				I
I	D-A	3.13	6.61	0.474		9.2	0.9	27.0				I
I	D-BC	2.07	3.72	0.558		7.1	1.4	36.0				I
I	C-D	1.79										I
I	C-A	7.05										I
I	C-B	0.28	7.71	0.037		0.1	0.0	0.6				I

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)		
I	B-C	0.082	0.011		0.008	I	
I	B-AD	0.047	0.018	0.020	0.003	0.005	I
I	C-B	0.085	0.012		0.008		I
I	D-A	0.073	0.009			0.008	I
I	D-BC	0.044	0.019	0.020	0.003	0.004	I
I	A-D	0.087	0.011		0.008		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	18.00-18.15								I
I	B-C	0.29	8.11	0.035	0.0	0.0	0.6		I
I	B-AD	0.43	5.15	0.083	0.1	0.1	1.4		I
I	A-B	0.36							I
I	A-C	5.54							I
I	A-D	2.24	7.91	0.283	0.6	0.4	6.2		I
I	D-A	2.63	8.07	0.325	0.9	0.5	7.7		I
I	D-BC	1.74	4.59	0.379	1.4	0.6	10.4		I
I	C-D	1.50							I
I	C-A	5.90							I
I	C-B	0.24	8.20	0.029	0.0	0.0	0.5		I

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)		
I	B-C	0.087	0.009		0.008	I	
I	B-AD	0.054	0.015	0.020	0.004	0.005	I
I	C-B	0.090	0.010		0.008		I
I	D-A	0.081	0.008			0.009	I

I	D-BC	0.051	0.016	0.020	0.003	0.005	I
I	A-D	0.092	0.010		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

**QUEUE FOR STREAM B-AD**

---

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 A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	*
17.30	0.9	*
17.45	0.9	*
18.00	0.6	*
18.15	0.4	

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

17.00	0.5	
17.15	0.7	*
17.30	5.7	*****
17.45	9.2	*****
18.00	0.9	*
18.15	0.5	

**QUEUE FOR STREAM D-BC**

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
17.00	0.6	*
17.15	1.1	*
17.30	5.1	*****
17.45	7.1	*****
18.00	1.4	*
18.15	0.6	*

**QUEUE FOR STREAM C-B**

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
17.00	0.0	
17.15	0.0	
17.30	0.0	
17.45	0.1	
18.00	0.0	
18.15	0.0	

**QUEUEING DELAY INFORMATION OVER WHOLE PERIOD**

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	I	(VEH)	I	(MIN)	I	(MIN)	I
I	I	I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	B-C	I	31.5	I	4.4	I	4.4	I
I	B-AD	I	46.6	I	12.3	I	12.3	I
I	A-B	I	39.8	I		I		I
I	A-C	I	607.4	I		I		I
I	A-D	I	245.4	I	53.4	I	53.4	I
I	D-A	I	288.0	I	225.5	I	225.5	I
I	D-BC	I	190.6	I	214.2	I	214.3	I

I	C-D	I	164.5	I	109.7	I		I		I		I		
I	C-A	I	647.2	I	431.5	I		I		I		I		
I	C-B	I	26.1	I	17.4	I	3.5	I	0.13	I	3.5	I	0.13	I
-----														
I	ALL	I	2287.2	I	1524.8	I	513.4	I	0.22	I	513.5	I	0.22	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads August AM 2017 with dev (ROBUST).vpi"  
(drive-on-the-left ) at 15:48:34 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

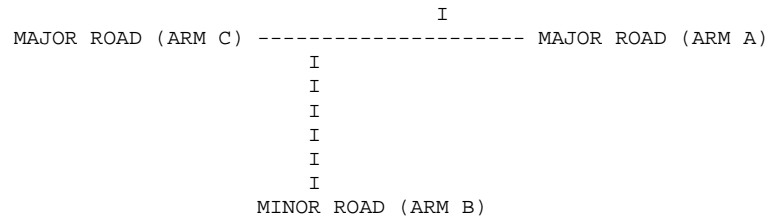
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I



I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
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	9.81	14.72	9.81	
ARM B	15.00	45.00	75.00	0.29	0.43	0.29	
ARM C	15.00	45.00	75.00	8.24	12.36	8.24	
ARM D	15.00	45.00	75.00	1.86	2.79	1.86	

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.027	0.810	0.163
		0.0	21.0	636.0	128.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)

```

I           I ARM B I 0.652 I 0.000 I 0.348 I 0.000 I
I           I      I 15.0 I 0.0 I 8.0 I 0.0 I
I           I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM C I 0.848 I 0.021 I 0.000 I 0.131 I
I           I      I 559.0 I 14.0 I 0.0 I 86.0 I
I           I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM D I 0.597 I 0.000 I 0.403 I 0.000 I
I           I      I 89.0 I 0.0 I 60.0 I 0.0 I
I           I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY  GEOMETRIC DELAYI
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
I 07.45-08.00
I B-C          0.10      7.69      0.013
I B-AD         0.19      4.76      0.039
I A-B          0.26
I A-C          7.95
I A-D          1.60      7.80      0.205
I D-A          1.11      8.45      0.132
I D-BC         0.75      4.35      0.172
I C-D          1.08
I C-A          6.99
I C-B          0.17      7.88      0.022
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-C          0.085      0.011
I B-AD         0.050      0.017      0.020      0.003      0.005
I C-B          0.087      0.011
I D-A          0.085      0.010
I D-BC         0.048      0.018      0.020      0.003      0.005
I A-D          0.090      0.010
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)	I	
I	08.00-08.15									I	
I	B-C	0.12	7.22	0.017		0.0	0.0	0.2		I	
I	B-AD	0.22	4.06	0.055		0.0	0.1	0.8		I	
I	A-B	0.31								I	
I	A-C	9.49								I	
I	A-D	1.91	7.40	0.258		0.3	0.3	5.0		I	
I	D-A	1.33	7.88	0.169		0.1	0.2	2.9		I	
I	D-BC	0.90	3.63	0.247		0.2	0.3	4.5		I	
I	C-D	1.28								I	
I	C-A	8.34								I	
I	C-B	0.21	7.42	0.028		0.0	0.0	0.4		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I	
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I	
I										I	
I	B-C	0.080	0.013					0.008		I	
I	B-AD	0.043	0.020		0.020	0.003		0.004		I	
I	C-B	0.082	0.013			0.008				I	
I	D-A	0.079	0.011					0.008		I	
I	D-BC	0.040	0.021		0.020	0.003		0.004		I	
I	A-D	0.086	0.012			0.007				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)	I	
I	08.15-08.30									I	
I	B-C	0.15	6.56	0.022		0.0	0.0	0.3		I	
I	B-AD	0.27	3.10	0.088		0.1	0.1	1.3		I	
I	A-B	0.38								I	
I	A-C	11.63								I	
I	A-D	2.34	6.84	0.342		0.3	0.5	7.3		I	
I	D-A	1.63	6.88	0.236		0.2	0.3	4.4		I	
I	D-BC	1.10	2.64	0.416		0.3	0.7	9.0		I	
I	C-D	1.57								I	
I	C-A	10.22								I	
I	C-B	0.26	6.79	0.038		0.0	0.0	0.6		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	

	MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)	TO RIGHT (M)	
I	B-C	0.072	0.015			0.007	I
I	B-AD	0.033	0.025	0.020	0.002	0.003	I
I	C-B	0.075	0.016		0.007		I
I	D-A	0.070	0.013			0.007	I
I	D-BC	0.029	0.026	0.020	0.002	0.003	I
I	A-D	0.079	0.015		0.007		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)	I
I	08.30-08.45									I
I	B-C	0.15	6.56	0.022		0.0	0.0	0.3		I
I	B-AD	0.27	3.09	0.089		0.1	0.1	1.4		I
I	A-B	0.38								I
I	A-C	11.63								I
I	A-D	2.34	6.83	0.342		0.5	0.5	7.7		I
I	D-A	1.63	6.85	0.238		0.3	0.3	4.6		I
I	D-BC	1.10	2.63	0.416		0.7	0.7	10.2		I
I	C-D	1.57								I
I	C-A	10.22								I
I	C-B	0.26	6.78	0.038		0.0	0.0	0.6		I
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)			
I	B-C	0.072	0.015				0.007			I
I	B-AD	0.033	0.025	0.020	0.002	0.003				I
I	C-B	0.075	0.016		0.007					I
I	D-A	0.070	0.013			0.007				I
I	D-BC	0.029	0.026	0.020	0.002	0.003				I
I	A-D	0.079	0.015		0.007					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)	I
I	08.45-09.00									I
I	B-C	0.12	7.21	0.017		0.0	0.0	0.3		I
I	B-AD	0.22	4.05	0.055		0.1	0.1	0.9		I

I	A-B	0.31								I
I	A-C	9.49								I
I	A-D	1.91	7.39	0.258		0.5	0.4	5.5		I
I	D-A	1.33	7.86	0.169		0.3	0.2	3.2		I
I	D-BC	0.90	3.63	0.247		0.7	0.3	5.5		I
I	C-D	1.28								I
I	C-A	8.34								I
I	C-B	0.21	7.41	0.028		0.0	0.0	0.5		I
-----										
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
			MAJOR RD.	CENT RES	VIS TO LEFT			VISIBILITY		
	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)			TO RIGHT		
	CHANGE:	(.1M)	(.1M)	(.1M)	(M)			(M)		
I	B-C	0.079	0.013					0.008		I
I	B-AD	0.043	0.021	0.020	0.003			0.004		I
I	C-B	0.082	0.013		0.008					I
I	D-A	0.079	0.011					0.008		I
I	D-BC	0.040	0.021	0.020	0.003			0.004		I
I	A-D	0.086	0.012		0.007					I

-----										
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
I	09.00-09.15									I
I	B-C	0.10	7.68	0.013		0.0	0.0	0.2		I
I	B-AD	0.19	4.75	0.039		0.1	0.0	0.6		I
I	A-B	0.26								I
I	A-C	7.95								I
I	A-D	1.60	7.80	0.205		0.4	0.3	4.0		I
I	D-A	1.11	8.44	0.132		0.2	0.2	2.4		I
I	D-BC	0.75	4.34	0.173		0.3	0.2	3.4		I
I	C-D	1.08								I
I	C-A	6.99								I
I	C-B	0.17	7.87	0.022		0.0	0.0	0.4		I
-----										
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
			MAJOR RD.	CENT RES	VIS TO LEFT			VISIBILITY		
	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)			TO RIGHT		
	CHANGE:	(.1M)	(.1M)	(.1M)	(M)			(M)		
I	B-C	0.085	0.011					0.008		I
I	B-AD	0.050	0.017	0.020	0.003			0.005		I
I	C-B	0.087	0.011		0.008					I
I	D-A	0.085	0.010					0.009		I

I	D-BC	0.048	0.018	0.020	0.003	0.005	I
I	A-D	0.090	0.010		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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 B-AD**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

**QUEUE FOR STREAM A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.3	
08.30	0.5	*
08.45	0.5	*
09.00	0.4	
09.15	0.3	

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE

08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

-----  
**QUEUE FOR STREAM D-BC**  
 -----

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	

-----  
**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**  
 -----

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	I	I	I	I	I	I	I	I	I	I	I
I	I	I	I	I	I	I	I	I	I	I	I
I	B-C	I	11.0	I 7.3	I	1.6	I 0.14	I	1.6	I 0.14	I
I	B-AD	I	20.6	I 13.7	I	5.8	I 0.28	I	5.8	I 0.28	I
I	A-B	I	28.8	I 19.2	I		I	I	I	I	I
I	A-C	I	872.1	I 581.4	I		I	I	I	I	I
I	A-D	I	175.5	I 117.0	I	33.2	I 0.19	I	33.2	I 0.19	I
I	D-A	I	122.0	I 81.4	I	19.7	I 0.16	I	19.7	I 0.16	I
I	D-BC	I	82.3	I 54.8	I	35.4	I 0.43	I	35.4	I 0.43	I

I	C-D	I	117.9	I	78.6	I		I		I		I		
I	C-A	I	766.5	I	511.0	I		I		I		I		
I	C-B	I	19.2	I	12.8	I	2.7	I	0.14	I	2.7	I	0.14	I
-----														
I	ALL	I	2215.9	I	1477.3	I	98.3	I	0.04	I	98.3	I	0.04	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads PM 2011 with dev (ROBUST).vpi"  
(drive-on-the-left ) at 14:54:04 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

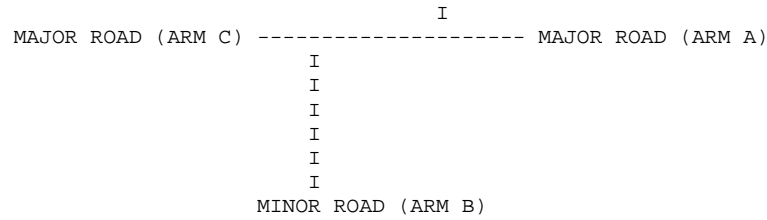
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK	
ARM A	15.00	45.00	75.00	6.81	10.22	6.81	
ARM B	15.00	45.00	75.00	0.71	1.07	0.71	
ARM C	15.00	45.00	75.00	6.29	9.43	6.29	
ARM D	15.00	45.00	75.00	4.36	6.54	4.36	

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.000	0.053	0.618	0.328
		0.0	29.0	337.0	179.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)

```

I           I ARM B I 0.596 I 0.000 I 0.404 I 0.000 I
I           I       I 34.0 I 0.0 I 23.0 I 0.0 I
I           I       I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I       I       I       I       I
I           I ARM C I 0.724 I 0.038 I 0.000 I 0.239 I
I           I       I 364.0 I 19.0 I 0.0 I 120.0 I
I           I       I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I       I       I       I       I
I           I ARM D I 0.602 I 0.000 I 0.398 I 0.000 I
I           I       I 210.0 I 0.0 I 139.0 I 0.0 I
I           I       I ( 10.0)I ( 10.0)I ( 10.0)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 TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAYI
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
I 16.45-17.00 I
I B-C 0.29 8.49 0.034 0.0 0.0 0.5 I
I B-AD 0.43 5.72 0.074 0.0 0.1 1.1 I
I A-B 0.36 I
I A-C 4.21 I
I A-D 2.24 8.25 0.271 0.0 0.4 5.2 I
I D-A 2.63 8.60 0.305 0.0 0.4 6.2 I
I D-BC 1.74 5.14 0.338 0.0 0.5 6.9 I
I C-D 1.50 I
I C-A 4.55 I
I C-B 0.24 8.57 0.028 0.0 0.0 0.4 I
I I
I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN: I
I MAJOR RD. CENT RES VIS TO LEFT VISIBILITY I
I MARGINAL LANE WIDTH WIDTH WIDTH (AHEAD FOR MAJOR) TO RIGHT I
I CHANGE: (.1M) (.1M) (.1M) (M) (M) I
I I
I B-C 0.091 0.008 0.009 I
I B-AD 0.061 0.012 0.006 I
I C-B 0.094 0.008 0.009 I
I D-A 0.086 0.007 0.009 I
I D-BC 0.057 0.014 0.005 I
I A-D 0.096 0.008 0.008 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)	I
I	17.00-17.15									I
I	B-C	0.34	8.13	0.042		0.0	0.0	0.6		I
I	B-AD	0.51	5.21	0.097		0.1	0.1	1.5		I
I	A-B	0.43								I
I	A-C	5.03								I
I	A-D	2.67	7.93	0.337		0.4	0.5	7.2		I
I	D-A	3.13	7.94	0.395		0.4	0.6	9.2		I
I	D-BC	2.07	4.53	0.458		0.5	0.8	11.3		I
I	C-D	1.79								I
I	C-A	5.43								I
I	C-B	0.28	8.24	0.034		0.0	0.0	0.5		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I
I										I
I	B-C	0.088	0.009					0.009		I
I	B-AD	0.055	0.015		0.020	0.004		0.005		I
I	C-B	0.091	0.009			0.008				I
I	D-A	0.081	0.008					0.008		I
I	D-BC	0.051	0.016		0.020	0.003		0.005		I
I	A-D	0.092	0.009			0.008				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)	I
I	17.15-17.30									I
I	B-C	0.42	7.61	0.055		0.0	0.1	0.8		I
I	B-AD	0.62	4.51	0.138		0.1	0.2	2.3		I
I	A-B	0.53								I
I	A-C	6.16								I
I	A-D	3.27	7.49	0.437		0.5	0.8	10.8		I
I	D-A	3.84	6.40	0.600		0.6	1.4	19.3		I
I	D-BC	2.54	3.56	0.713		0.8	2.1	26.4		I
I	C-D	2.19								I
I	C-A	6.65								I
I	C-B	0.35	7.79	0.045		0.0	0.0	0.7		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.082	0.011			0.008	I
I	B-AD	0.048	0.018	0.020	0.003	0.005	I
I	C-B	0.086	0.012		0.008		I
I	D-A	0.072	0.009			0.008	I
I	D-BC	0.042	0.020	0.020	0.003	0.004	I
I	A-D	0.087	0.012		0.008		I

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
I	17.30-17.45									I
I	B-C	0.42	7.59	0.055		0.1	0.1	0.9		I
I	B-AD	0.62	4.49	0.138		0.2	0.2	2.4		I
I	A-B	0.53								I
I	A-C	6.16								I
I	A-D	3.27	7.49	0.437		0.8	0.8	11.4		I
I	D-A	3.84	6.20	0.620		1.4	1.6	22.6		I
I	D-BC	2.54	3.53	0.720		2.1	2.3	33.2		I
I	C-D	2.19								I
I	C-A	6.65								I
I	C-B	0.35	7.77	0.045		0.0	0.0	0.7		I

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-C	0.082	0.011				0.008			
I	B-AD	0.048	0.018	0.020		0.003	0.005			
I	C-B	0.086	0.012			0.008				
I	D-A	0.072	0.009				0.008			
I	D-BC	0.042	0.020	0.020		0.003	0.004			
I	A-D	0.087	0.012			0.008				

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
I	17.45-18.00									I
I	B-C	0.34	8.09	0.042		0.1	0.0	0.7		I
I	B-AD	0.51	5.18	0.098		0.2	0.1	1.7		I

I	A-B	0.43								I
I	A-C	5.03								I
I	A-D	2.67	7.93	0.337		0.8	0.5		8.1	I
I	D-A	3.13	7.83	0.401		1.6	0.7		11.0	I
I	D-BC	2.07	4.50	0.461		2.3	0.9		15.3	I
I	C-D	1.79								I
I	C-A	5.43								I
I	C-B	0.28	8.21	0.035		0.0	0.0		0.6	I

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)
I	B-C	0.087	0.009			0.008
I	B-AD	0.055	0.015	0.020	0.004	0.005
I	C-B	0.090	0.010		0.008	
I	D-A	0.080	0.008			0.008
I	D-BC	0.051	0.016	0.020	0.003	0.005
I	A-D	0.092	0.009		0.008	

-----

-----

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
I	18.00-18.15									I
I	B-C	0.29	8.47	0.034		0.0	0.0	0.5		I
I	B-AD	0.43	5.71	0.074		0.1	0.1	1.3		I
I	A-B	0.36								I
I	A-C	4.21								I
I	A-D	2.24	8.25	0.271		0.5	0.4	5.9		I
I	D-A	2.63	8.56	0.307		0.7	0.4	7.0		I
I	D-BC	1.74	5.13	0.339		0.9	0.5	8.4		I
I	C-D	1.50								I
I	C-A	4.55								I
I	C-B	0.24	8.55	0.028		0.0	0.0	0.4		I

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)
I	B-C	0.091	0.008			0.009
I	B-AD	0.060	0.012	0.020	0.004	0.006
I	C-B	0.094	0.008		0.009	
I	D-A	0.086	0.007			0.009

I	D-BC	0.057	0.014	0.020	0.004	0.005	I
I	A-D	0.096	0.008		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

**QUEUE FOR STREAM B-AD**

---

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 A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	
17.30	0.8	*
17.45	0.8	*
18.00	0.5	*
18.15	0.4	

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE



17.00	0.4	
17.15	0.6	*
17.30	1.4	*
17.45	1.6	**
18.00	0.7	*
18.15	0.4	

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.8	*
17.30	2.1	**
17.45	2.3	**
18.00	0.9	*
18.15	0.5	*

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

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	31.5	I 21.0	I	4.1	I 0.13	I	4.1	I 0.13	I
I	B-AD	I	46.6	I 31.1	I	10.3	I 0.22	I	10.3	I 0.22	I
I	A-B	I	39.8	I 26.5	I		I	I		I	I
I	A-C	I	462.1	I 308.1	I		I	I		I	I
I	A-D	I	245.4	I 163.6	I	48.6	I 0.20	I	48.6	I 0.20	I
I	D-A	I	288.0	I 192.0	I	75.2	I 0.26	I	75.2	I 0.26	I
I	D-BC	I	190.6	I 127.1	I	101.5	I 0.53	I	101.5	I 0.53	I

I	C-D	I	164.5	I	109.7	I		I		I		I		
I	C-A	I	499.1	I	332.7	I		I		I		I		
I	C-B	I	26.1	I	17.4	I	3.3	I	0.13	I	3.3	I	0.13	I
-----														
I	ALL	I	1993.7	I	1329.2	I	242.9	I	0.12	I	243.0	I	0.12	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads June AM 2011 with dev (ROBUST).vpi"  
(drive-on-the-left ) at 15:18:57 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

South Quay cross-roads

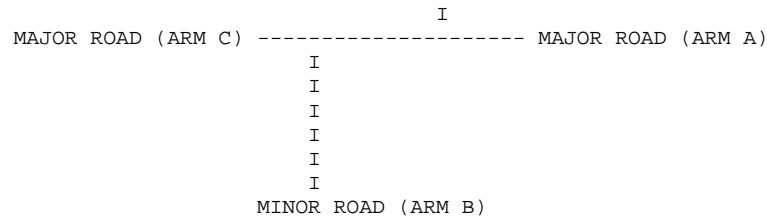
**.MAJOR/MINOR JUNCTION CAPACITY AND DELAY**  
\*\*\*\*\*

INPUT DATA

-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
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	7.29	10.93	7.29	
ARM B	15.00	45.00	75.00	0.25	0.38	0.25	
ARM C	15.00	45.00	75.00	6.01	9.02	6.01	
ARM D	15.00	45.00	75.00	1.56	2.34	1.56	

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.029	0.791	0.180
		0.0	17.0	461.0	105.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)

```

I           I ARM B I 0.600 I 0.000 I 0.400 I 0.000 I
I           I      I 12.0 I 0.0 I 8.0 I 0.0 I
I           I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I      I      I      I      I      I
I           I ARM C I 0.832 I 0.023 I 0.000 I 0.146 I
I           I      I 400.0 I 11.0 I 0.0 I 70.0 I
I           I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I      I      I      I      I      I
I           I ARM D I 0.600 I 0.000 I 0.400 I 0.000 I
I           I      I 75.0 I 0.0 I 50.0 I 0.0 I
I           I      I ( 10.0)I ( 10.0)I ( 10.0)I ( 0.0)I
I           I      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 DELAYI
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
I 07.45-08.00 I
I B-C 0.10 8.48 0.012 0.0 0.0 0.2 I
I B-AD 0.15 5.69 0.026 0.0 0.0 0.4 I
I A-B 0.21 I I I I I
I A-C 5.76 I
I A-D 1.31 8.36 0.157 0.0 0.2 2.7 I
I D-A 0.94 9.16 0.102 0.0 0.1 1.6 I
I D-BC 0.63 5.31 0.118 0.0 0.1 1.9 I
I C-D 0.88 I
I C-A 5.00 I
I C-B 0.14 8.49 0.016 0.0 0.0 0.2 I
I I
I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN: I
I MAJOR RD. CENT RES VIS TO LEFT VISIBILITY I
I MARGINAL LANE WIDTH WIDTH WIDTH (AHEAD FOR MAJOR) TO RIGHT I
I CHANGE: (.1M) (.1M) (.1M) (M) (M) I
I I
I B-C 0.091 0.008 0.009 I
I B-AD 0.060 0.013 0.006 I
I C-B 0.093 0.008 0.009 I
I D-A 0.092 0.007 0.010 I
I D-BC 0.058 0.013 0.006 I
I A-D 0.097 0.007 0.008 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)	I
I	08.00-08.15									I
I	B-C	0.12	8.13	0.015		0.0	0.0	0.2		I
I	B-AD	0.18	5.18	0.035		0.0	0.0	0.5		I
I	A-B	0.25								I
I	A-C	6.88								I
I	A-D	1.57	8.07	0.194		0.2	0.2	3.5		I
I	D-A	1.12	8.77	0.128		0.1	0.1	2.1		I
I	D-BC	0.75	4.78	0.156		0.1	0.2	2.6		I
I	C-D	1.04								I
I	C-A	5.97								I
I	C-B	0.16	8.16	0.020		0.0	0.0	0.3		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I
I										I
I	B-C	0.088	0.010					0.009		I
I	B-AD	0.055	0.015		0.020	0.004		0.005		I
I	C-B	0.090	0.010			0.008				I
I	D-A	0.088	0.008					0.009		I
I	D-BC	0.053	0.016		0.020	0.003		0.005		I
I	A-D	0.093	0.009			0.008				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)	I
I	08.15-08.30									I
I	B-C	0.15	7.65	0.019		0.0	0.0	0.3		I
I	B-AD	0.22	4.48	0.049		0.0	0.1	0.7		I
I	A-B	0.31								I
I	A-C	8.43								I
I	A-D	1.92	7.66	0.251		0.2	0.3	4.8		I
I	D-A	1.37	8.21	0.167		0.1	0.2	2.9		I
I	D-BC	0.91	4.04	0.226		0.2	0.3	4.1		I
I	C-D	1.28								I
I	C-A	7.31								I
I	C-B	0.20	7.69	0.026		0.0	0.0	0.4		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.083	0.012			0.008	I
I	B-AD	0.047	0.018	0.020	0.003	0.005	I
I	C-B	0.085	0.012		0.008		I
I	D-A	0.082	0.010			0.009	I
I	D-BC	0.045	0.019	0.020	0.003	0.004	I
I	A-D	0.089	0.011		0.008		I

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
I	08.30-08.45									I
I	B-C	0.15	7.65	0.019		0.0	0.0	0.3		I
I	B-AD	0.22	4.48	0.049		0.1	0.1	0.8		I
I	A-B	0.31								I
I	A-C	8.43								I
I	A-D	1.92	7.66	0.251		0.3	0.3	5.0		I
I	D-A	1.37	8.21	0.167		0.2	0.2	3.0		I
I	D-BC	0.91	4.04	0.226		0.3	0.3	4.3		I
I	C-D	1.28								I
I	C-A	7.31								I
I	C-B	0.20	7.69	0.026		0.0	0.0	0.4		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.083	0.012				0.008			I
I	B-AD	0.047	0.018	0.020	0.003	0.005				I
I	C-B	0.085	0.012		0.008					I
I	D-A	0.082	0.010			0.009				I
I	D-BC	0.045	0.019	0.020	0.003	0.004				I
I	A-D	0.089	0.011		0.008					I

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
I	08.45-09.00									I
I	B-C	0.12	8.13	0.015		0.0	0.0	0.2		I
I	B-AD	0.18	5.18	0.035		0.1	0.0	0.6		I



I	A-B	0.25						I
I	A-C	6.88						I
I	A-D	1.57	8.07	0.194	0.3	0.2	3.8	I
I	D-A	1.12	8.77	0.128	0.2	0.1	2.3	I
I	D-BC	0.75	4.77	0.156	0.3	0.2	3.0	I
I	C-D	1.04						I
I	C-A	5.97						I
I	C-B	0.16	8.15	0.020	0.0	0.0	0.3	I
I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:							
I		MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY			I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)		I
I	B-C	0.088	0.010			0.009		I
I	B-AD	0.055	0.015	0.020	0.004	0.005		I
I	C-B	0.090	0.010		0.008			I
I	D-A	0.088	0.008			0.009		I
I	D-BC	0.053	0.016	0.020	0.003	0.005		I
I	A-D	0.093	0.009		0.008			I

---

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
I	09.00-09.15									I
I	B-C	0.10	8.47	0.012		0.0	0.0	0.2		I
I	B-AD	0.15	5.69	0.026		0.0	0.0	0.4		I
I	A-B	0.21								I
I	A-C	5.76								I
I	A-D	1.31	8.36	0.157		0.2	0.2	2.9		I
I	D-A	0.94	9.15	0.102		0.1	0.1	1.8		I
I	D-BC	0.63	5.30	0.118		0.2	0.1	2.1		I
I	C-D	0.88								I
I	C-A	5.00								I
I	C-B	0.14	8.49	0.016		0.0	0.0	0.3		I
I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
I		MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY			I		
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT		I		
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)		I		
I	B-C	0.091	0.008			0.009		I		
I	B-AD	0.060	0.013	0.020	0.004	0.006		I		
I	C-B	0.093	0.008		0.009			I		
I	D-A	0.092	0.007			0.010		I		

I	D-BC	0.058	0.013	0.020	0.004	0.006	I
I	A-D	0.097	0.007		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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 B-AD**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.0
09.15	0.0

**QUEUE FOR STREAM A-D**

---

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

**QUEUE FOR STREAM D-A**

---

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 D-BC**  
 -----

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.1

-----  
**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**  
 -----

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I						
I	I	I	I	I	* DELAY *	I	* DELAY *	I						
I	I	I	I	I	I	I	I	I						
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)						
I	B-C	I	11.0	I	7.3	I	1.4	I	0.13	I	1.4	I	0.13	I
I	B-AD	I	16.5	I	11.0	I	3.4	I	0.21	I	3.4	I	0.21	I
I	A-B	I	23.3	I	15.5	I		I		I		I		I
I	A-C	I	632.1	I	421.4	I		I		I		I		I
I	A-D	I	144.0	I	96.0	I	22.6	I	0.16	I	22.6	I	0.16	I
I	D-A	I	102.8	I	68.6	I	13.7	I	0.13	I	13.7	I	0.13	I
I	D-BC	I	68.6	I	45.7	I	17.9	I	0.26	I	17.9	I	0.26	I

I	C-D	I	96.0	I	64.0	I		I		I		I		
I	C-A	I	548.5	I	365.7	I		I		I		I		
I	C-B	I	15.1	I	10.1	I	1.9	I	0.13	I	1.9	I	0.13	I
-----														
I	ALL	I	1657.8	I	1105.2	I	60.8	I	0.04	I	60.8	I	0.04	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads August PM 2011 with dev (ROBUST).vpi"  
(drive-on-the-left ) at 15:09:25 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

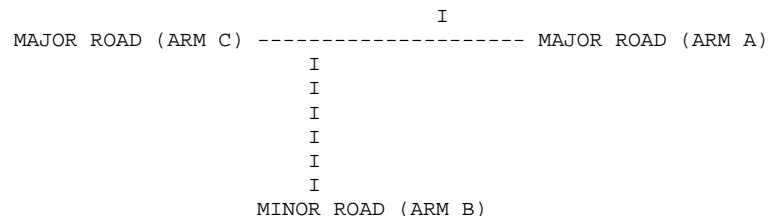
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK	
I ARM A	I 15.00	I 45.00	I 75.00	I 7.78	I 11.66	I 7.78	I
I ARM B	I 15.00	I 45.00	I 75.00	I 0.71	I 1.07	I 0.71	I
I ARM C	I 15.00	I 45.00	I 75.00	I 7.28	I 10.91	I 7.28	I
I ARM D	I 15.00	I 45.00	I 75.00	I 4.36	I 6.54	I 4.36	I

-----

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
I 16.45 - 18.15	I	I	I	I	I
I	I ARM A	I 0.000	I 0.047	I 0.666	I 0.288
I	I	I 0.0	I 29.0	I 414.0	I 179.0
I	I	I ( 0.0)	I ( 10.0)	I ( 10.0)	I ( 10.0)
I	I	I	I	I	I

```

I           I ARM B I 0.596 I 0.000 I 0.404 I 0.000 I
I           I       I 34.0 I 0.0 I 23.0 I 0.0 I
I           I       I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I       I       I       I       I
I           I ARM C I 0.761 I 0.033 I 0.000 I 0.206 I
I           I       I 443.0 I 19.0 I 0.0 I 120.0 I
I           I       I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I       I       I       I       I
I           I ARM D I 0.602 I 0.000 I 0.398 I 0.000 I
I           I       I 210.0 I 0.0 I 139.0 I 0.0 I
I           I       I ( 10.0)I ( 10.0)I ( 10.0)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 TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAYI
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
I 16.45-17.00 I
I B-C 0.29 8.23 0.035 0.0 0.0 0.5 I
I B-AD 0.43 5.32 0.080 0.0 0.1 1.2 I
I A-B 0.36 I
I A-C 5.18 I
I A-D 2.24 8.00 0.280 0.0 0.4 5.4 I
I D-A 2.63 8.26 0.318 0.0 0.5 6.5 I
I D-BC 1.74 4.75 0.366 0.0 0.6 7.7 I
I C-D 1.50 I
I C-A 5.54 I
I C-B 0.24 8.32 0.029 0.0 0.0 0.4 I
I I
I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN: I
I MAJOR RD. CENT RES VIS TO LEFT VISIBILITY I
I MARGINAL LANE WIDTH WIDTH WIDTH (AHEAD FOR MAJOR) TO RIGHT I
I CHANGE: (.1M) (.1M) (.1M) (M) (M) I
I I
I B-C 0.089 0.009 0.009 I
I B-AD 0.056 0.014 0.020 0.004 0.006 I
I C-B 0.092 0.009 0.009 I
I D-A 0.083 0.008 0.009 I
I D-BC 0.053 0.015 0.020 0.003 0.005 I
I A-D 0.093 0.009 0.008 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)	I	
I	17.00-17.15									I	
I	B-C	0.34	7.81	0.044		0.0	0.0	0.7		I	
I	B-AD	0.51	4.73	0.107		0.1	0.1	1.7		I	
I	A-B	0.43								I	
I	A-C	6.18								I	
I	A-D	2.67	7.63	0.350		0.4	0.5	7.6		I	
I	D-A	3.13	7.43	0.422		0.5	0.7	10.2		I	
I	D-BC	2.07	4.05	0.513		0.6	1.0	13.6		I	
I	C-D	1.79								I	
I	C-A	6.61								I	
I	C-B	0.28	7.94	0.036		0.0	0.0	0.5		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I	
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I	
I										I	
I	B-C	0.084	0.010					0.008		I	
I	B-AD	0.050	0.017		0.020	0.003		0.005		I	
I	C-B	0.087	0.011			0.008				I	
I	D-A	0.077	0.009					0.008		I	
I	D-BC	0.046	0.018		0.020	0.003		0.004		I	
I	A-D	0.088	0.011			0.008				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)	I	
I	17.15-17.30									I	
I	B-C	0.42	7.20	0.058		0.0	0.1	0.9		I	
I	B-AD	0.62	3.92	0.158		0.1	0.2	2.6		I	
I	A-B	0.53								I	
I	A-C	7.57								I	
I	A-D	3.27	7.13	0.459		0.5	0.8	11.7		I	
I	D-A	3.84	4.91	0.782		0.7	2.9	35.5		I	
I	D-BC	2.54	2.92	0.872		1.0	3.8	42.4		I	
I	C-D	2.19								I	
I	C-A	8.10								I	
I	C-B	0.35	7.42	0.047		0.0	0.0	0.7		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.078	0.013			0.008	I
I	B-AD	0.042	0.021	0.020	0.003	0.004	I
I	C-B	0.082	0.013		0.008		I
I	D-A	0.066	0.010			0.007	I
I	D-BC	0.036	0.023	0.020	0.002	0.003	I
I	A-D	0.083	0.013		0.007		I

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
I	17.30-17.45									I
I	B-C	0.42	7.15	0.059		0.1	0.1	0.9		I
I	B-AD	0.62	3.88	0.160		0.2	0.2	2.8		I
I	A-B	0.53								I
I	A-C	7.57								I
I	A-D	3.27	7.12	0.459		0.8	0.8	12.5		I
I	D-A	3.84	4.10	0.937		2.9	6.0	71.5		I
I	D-BC	2.54	2.81	0.904		3.8	5.1	67.8		I
I	C-D	2.19								I
I	C-A	8.10								I
I	C-B	0.35	7.37	0.047		0.0	0.0	0.7		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.077	0.013				0.008			I
I	B-AD	0.041	0.021	0.020	0.003	0.004				I
I	C-B	0.081	0.014		0.008					I
I	D-A	0.065	0.010			0.007				I
I	D-BC	0.036	0.023	0.020	0.002	0.003				I
I	A-D	0.083	0.013		0.007					I

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
I	17.45-18.00									I
I	B-C	0.34	7.72	0.044		0.1	0.0	0.7		I
I	B-AD	0.51	4.65	0.109		0.2	0.1	1.9		I

I	A-B	0.43								I
I	A-C	6.18								I
I	A-D	2.67	7.63	0.350	0.8	0.5	8.6			I
I	D-A	3.13	7.07	0.443	6.0	0.8	17.7			I
I	D-BC	2.07	3.96	0.524	5.1	1.2	25.3			I
I	C-D	1.79								I
I	C-A	6.61								I
I	C-B	0.28	7.86	0.036	0.0	0.0	0.6			I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY			I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I									I
I	B-C	0.083	0.011			0.008			I
I	B-AD	0.049	0.017	0.020	0.003	0.005			I
I	C-B	0.086	0.011		0.008				I
I	D-A	0.075	0.009			0.008			I
I	D-BC	0.046	0.019	0.020	0.003	0.004			I
I	A-D	0.088	0.011		0.008				I

---

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
I	18.00-18.15									I
I	B-C	0.29	8.21	0.035		0.0	0.0	0.6		I
I	B-AD	0.43	5.30	0.080		0.1	0.1	1.4		I
I	A-B	0.36								I
I	A-C	5.18								I
I	A-D	2.24	8.00	0.280		0.5	0.4	6.1		I
I	D-A	2.63	8.21	0.320		0.8	0.5	7.5		I
I	D-BC	1.74	4.73	0.367		1.2	0.6	9.7		I
I	C-D	1.50								I
I	C-A	5.54								I
I	C-B	0.24	8.30	0.029		0.0	0.0	0.5		I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY			I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I									I
I	B-C	0.088	0.009			0.009			I
I	B-AD	0.056	0.014	0.020	0.004	0.006			I
I	C-B	0.091	0.009		0.009				I
I	D-A	0.083	0.008			0.009			I

I	D-BC	0.053	0.015	0.020	0.003	0.005	I
I	A-D	0.093	0.009		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

**QUEUE FOR STREAM B-AD**

---

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 A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	*
17.30	0.8	*
17.45	0.8	*
18.00	0.5	*
18.15	0.4	

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE

17.00	0.5	
17.15	0.7	*
17.30	2.9	***
17.45	6.0	*****
18.00	0.8	*
18.15	0.5	

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	1.0	*
17.30	3.8	****
17.45	5.1	*****
18.00	1.2	*
18.15	0.6	*

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

I	STREAM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	B-C	I	31.5	I 21.0	I	4.3	I 0.14	I	4.3	I 0.14	I
I	B-AD	I	46.6	I 31.1	I	11.7	I 0.25	I	11.7	I 0.25	I
I	A-B	I	39.8	I 26.5	I		I	I		I	I
I	A-C	I	567.7	I 378.5	I		I	I		I	I
I	A-D	I	245.4	I 163.6	I	52.0	I 0.21	I	52.0	I 0.21	I
I	D-A	I	288.0	I 192.0	I	148.8	I 0.52	I	148.8	I 0.52	I
I	D-BC	I	190.6	I 127.1	I	166.4	I 0.87	I	166.5	I 0.87	I

I	C-D	I	164.5	I	109.7	I		I		I		I		
I	C-A	I	607.4	I	405.0	I		I		I		I		
I	C-B	I	26.1	I	17.4	I	3.4	I	0.13	I	3.4	I	0.13	I
-----														
I	ALL	I	2207.6	I	1471.8	I	386.7	I	0.18	I	386.8	I	0.18	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads August AM 2011 with dev (ROBUST).vpi"  
(drive-on-the-left ) at 15:05:18 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

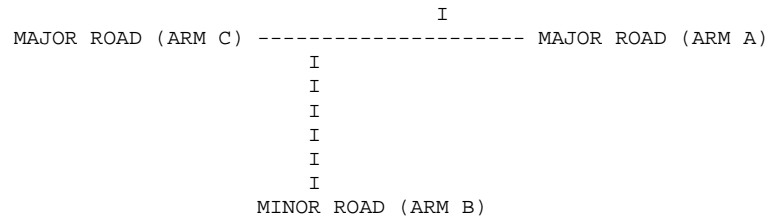
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I



I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
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	9.25	13.88	9.25	
ARM B	15.00	45.00	75.00	0.29	0.43	0.29	
ARM C	15.00	45.00	75.00	7.74	11.61	7.74	
ARM D	15.00	45.00	75.00	1.86	2.79	1.86	

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.028	0.799	0.173
		0.0	21.0	591.0	128.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)

```

I           I ARM B I 0.652 I 0.000 I 0.348 I 0.000 I
I           I      I 15.0 I 0.0 I 8.0 I 0.0 I
I           I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM C I 0.838 I 0.023 I 0.000 I 0.139 I
I           I      I 519.0 I 14.0 I 0.0 I 86.0 I
I           I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM D I 0.597 I 0.000 I 0.403 I 0.000 I
I           I      I 89.0 I 0.0 I 60.0 I 0.0 I
I           I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY      GEOMETRIC DELAYI
I          (VEH/MIN) (VEH/MIN) CAPACITY  FLOW        QUEUE  QUEUE    (VEH.MIN/  (VEH.MIN/  I
I          (RFC)      (RFC)      (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 07.45-08.00
I B-C          0.10      7.84      0.013
I B-AD         0.19      4.98      0.038
I A-B          0.26
I A-C          7.39
I A-D          1.60      7.93      0.202
I D-A          1.11      8.61      0.129
I D-BC         0.75      4.56      0.164
I C-D          1.08
I C-A          6.49
I C-B          0.17      8.02      0.022
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-C          0.086      0.010
I B-AD         0.052      0.016      0.020      0.003      0.005
I C-B          0.088      0.011      0.008
I D-A          0.086      0.009
I D-BC         0.050      0.017      0.020      0.003      0.005
I A-D          0.092      0.009
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)	I
I	08.00-08.15									I
I	B-C	0.12	7.40	0.016		0.0	0.0	0.2		I
I	B-AD	0.22	4.33	0.052		0.0	0.1	0.8		I
I	A-B	0.31								I
I	A-C	8.82								I
I	A-D	1.91	7.55	0.253		0.2	0.3	4.9		I
I	D-A	1.33	8.08	0.164		0.1	0.2	2.8		I
I	D-BC	0.90	3.88	0.231		0.2	0.3	4.2		I
I	C-D	1.28								I
I	C-A	7.75								I
I	C-B	0.21	7.59	0.028		0.0	0.0	0.4		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I
I										I
I	B-C	0.081	0.012					0.008		I
I	B-AD	0.046	0.019		0.020	0.003		0.005		I
I	C-B	0.084	0.013			0.008				I
I	D-A	0.081	0.011					0.009		I
I	D-BC	0.043	0.020		0.020	0.003		0.004		I
I	A-D	0.087	0.011			0.008				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)	I
I	08.15-08.30									I
I	B-C	0.15	6.79	0.022		0.0	0.0	0.3		I
I	B-AD	0.27	3.42	0.080		0.1	0.1	1.2		I
I	A-B	0.38								I
I	A-C	10.80								I
I	A-D	2.34	7.02	0.333		0.3	0.5	7.1		I
I	D-A	1.63	7.20	0.226		0.2	0.3	4.2		I
I	D-BC	1.10	2.94	0.373		0.3	0.6	7.8		I
I	C-D	1.57								I
I	C-A	9.49								I
I	C-B	0.26	7.00	0.037		0.0	0.0	0.5		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.075	0.015			0.007	I
I	B-AD	0.036	0.024	0.020	0.002	0.004	I
I	C-B	0.077	0.015		0.007		I
I	D-A	0.073	0.013			0.008	I
I	D-BC	0.032	0.024	0.020	0.002	0.003	I
I	A-D	0.081	0.014		0.007		I

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
I	08.30-08.45									I
I	B-C	0.15	6.78	0.022		0.0	0.0	0.3		I
I	B-AD	0.27	3.42	0.080		0.1	0.1	1.3		I
I	A-B	0.38								I
I	A-C	10.80								I
I	A-D	2.34	7.02	0.333		0.5	0.5	7.4		I
I	D-A	1.63	7.18	0.227		0.3	0.3	4.3		I
I	D-BC	1.10	2.94	0.373		0.6	0.6	8.6		I
I	C-D	1.57								I
I	C-A	9.49								I
I	C-B	0.26	7.00	0.037		0.0	0.0	0.6		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.075	0.015				0.007			I
I	B-AD	0.036	0.024	0.020	0.002	0.004				I
I	C-B	0.077	0.015		0.007					I
I	D-A	0.073	0.013			0.008				I
I	D-BC	0.032	0.024	0.020	0.002	0.003				I
I	A-D	0.081	0.014		0.007					I

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
I	08.45-09.00									I
I	B-C	0.12	7.39	0.016		0.0	0.0	0.3		I
I	B-AD	0.22	4.32	0.052		0.1	0.1	0.9		I

I	A-B	0.31								I
I	A-C	8.82								I
I	A-D	1.91	7.55	0.253		0.5	0.3	5.4		I
I	D-A	1.33	8.06	0.165		0.3	0.2	3.1		I
I	D-BC	0.90	3.88	0.231		0.6	0.3	5.0		I
I	C-D	1.28								I
I	C-A	7.75								I
I	C-B	0.21	7.59	0.028		0.0	0.0	0.4		I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY				
MARGINAL	LANE WIDTH		WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT				
CHANGE:	(.1M)		(.1M)	(.1M)	(M)	(M)				
I	B-C	0.081	0.012			0.008				I
I	B-AD	0.046	0.019	0.020	0.003	0.005				I
I	C-B	0.083	0.013		0.008					I
I	D-A	0.081	0.011			0.008				I
I	D-BC	0.043	0.020	0.020	0.003	0.004				I
I	A-D	0.087	0.011		0.008					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	09.00-09.15								I
I	B-C	0.10	7.83	0.013	0.0	0.0	0.2		I
I	B-AD	0.19	4.98	0.038	0.1	0.0	0.6		I
I	A-B	0.26							I
I	A-C	7.39							I
I	A-D	1.60	7.93	0.202	0.3	0.3	4.0		I
I	D-A	1.11	8.59	0.129	0.2	0.2	2.3		I
I	D-BC	0.75	4.55	0.165	0.3	0.2	3.2		I
I	C-D	1.08							I
I	C-A	6.49							I
I	C-B	0.17	8.02	0.022	0.0	0.0	0.3		I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY				
MARGINAL	LANE WIDTH		WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT				
CHANGE:	(.1M)		(.1M)	(.1M)	(M)	(M)				
I	B-C	0.086	0.010			0.008				I
I	B-AD	0.052	0.016	0.020	0.003	0.005				I
I	C-B	0.088	0.011		0.008					I
I	D-A	0.086	0.009			0.009				I

I	D-BC	0.050	0.017	0.020	0.003	0.005	I
I	A-D	0.092	0.009		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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 B-AD**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

**QUEUE FOR STREAM A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.5
08.45	0.5
09.00	0.3
09.15	0.3

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

**QUEUE FOR STREAM D-BC**

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.2	
08.15	0.3	
08.30	0.6	*
08.45	0.6	*
09.00	0.3	
09.15	0.2	

**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**

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	11.0	I 7.3	I	1.5	I 0.14	I	1.5	I 0.14	I
I	B-AD	I	20.6	I 13.7	I	5.3	I 0.26	I	5.3	I 0.26	I
I	A-B	I	28.8	I 19.2	I		I	I		I	I
I	A-C	I	810.4	I 540.3	I		I	I		I	I
I	A-D	I	175.5	I 117.0	I	32.2	I 0.18	I	32.2	I 0.18	I
I	D-A	I	122.0	I 81.4	I	18.9	I 0.15	I	18.9	I 0.15	I
I	D-BC	I	82.3	I 54.8	I	31.3	I 0.38	I	31.3	I 0.38	I

I	C-D	I	117.9	I	78.6	I		I		I		I		
I	C-A	I	711.7	I	474.4	I		I		I		I		
I	C-B	I	19.2	I	12.8	I	2.6	I	0.14	I	2.6	I	0.14	I
-----														
I	ALL	I	2099.3	I	1399.5	I	91.9	I	0.04	I	91.9	I	0.04	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads June PM 2017 with dev (low).vpi"  
(drive-on-the-left ) at 15:41:08 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

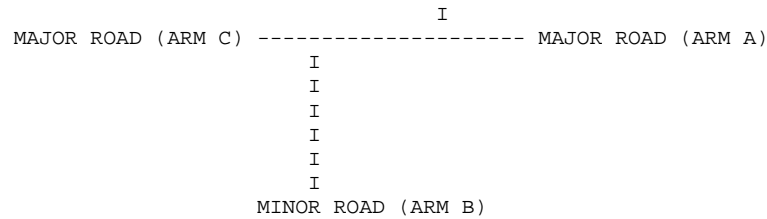
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	- WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	- WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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 NUMBER OF MINUTES FROM START WHEN			I RATE OF FLOW (VEH/MIN) I		
		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	I 15.00	I 45.00	I 75.00	I 6.31	I 9.47	I 6.31
I	ARM B	I 15.00	I 45.00	I 75.00	I 0.55	I 0.83	I 0.55
I	ARM C	I 15.00	I 45.00	I 75.00	I 6.03	I 9.04	I 6.03
I	ARM D	I 15.00	I 45.00	I 75.00	I 3.39	I 5.08	I 3.39

		I TURNING PROPORTIONS				
		I TURNING COUNTS (VEH/HR)				
		I (PERCENTAGE OF H.V.S)				
I		I				
I	TIME	I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D
I	16.45 - 18.15	I	I	I	I	I
I		I ARM A	I 0.000	I 0.046	I 0.675	I 0.279
I		I	I 0.0	I 23.0	I 341.0	I 141.0
I		I	I ( 0.0)	I ( 10.0)	I ( 10.0)	I ( 10.0)
I		I	I	I	I	I

```

I           I ARM B I 0.591 I 0.000 I 0.409 I 0.000 I
I           I      I 26.0 I 0.0 I 18.0 I 0.0 I
I           I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM C I 0.772 I 0.031 I 0.000 I 0.197 I
I           I      I 372.0 I 15.0 I 0.0 I 95.0 I
I           I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM D I 0.601 I 0.000 I 0.399 I 0.000 I
I           I      I 163.0 I 0.0 I 108.0 I 0.0 I
I           I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY  GEOMETRIC DELAYI
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
I 16.45-17.00
I B-C          0.22      8.67      0.026                0.0  0.0      0.4
I B-AD         0.32      5.86      0.055                0.0  0.1      0.8
I A-B          0.29
I A-C          4.26
I A-D          1.76      8.33      0.212                0.0  0.3      3.8
I D-A          2.04      8.85      0.230                0.0  0.3      4.2
I D-BC         1.35      5.37      0.252                0.0  0.3      4.6
I C-D          1.19
I C-A          4.65
I C-B          0.19      8.68      0.022                0.0  0.0      0.3
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-C          0.093      0.007                0.009
I B-AD         0.062      0.012      0.020      0.004      0.006
I C-B          0.095      0.007                0.009
I D-A          0.089      0.007                0.009
I D-BC         0.059      0.013      0.020      0.004      0.006
I A-D          0.097      0.007                0.008
-----

```

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
I	17.00-17.15									I
I	B-C	0.27	8.34	0.032		0.0	0.0	0.5		I
I	B-AD	0.39	5.38	0.072		0.1	0.1	1.1		I
I	A-B	0.34								I
I	A-C	5.09								I
I	A-D	2.10	8.03	0.262		0.3	0.4	5.1		I
I	D-A	2.43	8.35	0.291		0.3	0.4	5.9		I
I	D-BC	1.61	4.83	0.334		0.3	0.5	6.9		I
I	C-D	1.42								I
I	C-A	5.55								I
I	C-B	0.22	8.37	0.027		0.0	0.0	0.4		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)		(M)		I
I										I
I	B-C	0.089	0.008					0.009		I
I	B-AD	0.057	0.014		0.020	0.004		0.006		I
I	C-B	0.092	0.009			0.009				I
I	D-A	0.084	0.008					0.009		I
I	D-BC	0.054	0.015		0.020	0.003		0.005		I
I	A-D	0.093	0.009			0.008				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)	I
I	17.15-17.30									I
I	B-C	0.33	7.87	0.042		0.0	0.0	0.6		I
I	B-AD	0.48	4.72	0.101		0.1	0.1	1.6		I
I	A-B	0.42								I
I	A-C	6.23								I
I	A-D	2.58	7.61	0.339		0.4	0.5	7.3		I
I	D-A	2.98	7.50	0.397		0.4	0.6	9.2		I
I	D-BC	1.97	4.06	0.486		0.5	0.9	12.3		I
I	C-D	1.74								I
I	C-A	6.80								I
I	C-B	0.27	7.95	0.034		0.0	0.0	0.5		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.084	0.010			0.008	I
I	B-AD	0.050	0.017	0.020	0.003	0.005	I
I	C-B	0.088	0.011		0.008		I
I	D-A	0.077	0.009			0.008	I
I	D-BC	0.046	0.018	0.020	0.003	0.004	I
I	A-D	0.088	0.011		0.008		I

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
I	17.30-17.45									I
I	B-C	0.33	7.86	0.042		0.0	0.0	0.7		I
I	B-AD	0.48	4.72	0.101		0.1	0.1	1.7		I
I	A-B	0.42								I
I	A-C	6.23								I
I	A-D	2.58	7.61	0.339		0.5	0.5	7.6		I
I	D-A	2.98	7.47	0.399		0.6	0.7	9.8		I
I	D-BC	1.97	4.06	0.487		0.9	0.9	13.6		I
I	C-D	1.74								I
I	C-A	6.80								I
I	C-B	0.27	7.95	0.035		0.0	0.0	0.5		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.084	0.010				0.008			I
I	B-AD	0.050	0.017	0.020	0.003	0.005				I
I	C-B	0.087	0.011		0.008					I
I	D-A	0.077	0.009			0.008				I
I	D-BC	0.046	0.019	0.020	0.003	0.004				I
I	A-D	0.088	0.011		0.008					I

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
I	17.45-18.00									I
I	B-C	0.27	8.32	0.032		0.0	0.0	0.5		I
I	B-AD	0.39	5.37	0.072		0.1	0.1	1.2		I



I	D-BC	0.059	0.013	0.020	0.004	0.006	I
I	A-D	0.096	0.007		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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

**QUEUE FOR STREAM B-AD**

---

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

**QUEUE FOR STREAM A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3
17.15	0.4
17.30	0.5
17.45	0.5
18.00	0.4
18.15	0.3

\*  
\*

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------



17.00	0.3	
17.15	0.4	
17.30	0.6	*
17.45	0.7	*
18.00	0.4	
18.15	0.3	

-----  
**QUEUE FOR STREAM D-BC**  
 -----

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
17.00	0.3	
17.15	0.5	
17.30	0.9	*
17.45	0.9	*
18.00	0.5	*
18.15	0.3	

-----  
**QUEUE FOR STREAM C-B**  
 -----

TIME SEGMENT	NO. OF	
ENDING	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**  
 -----

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		I
I	I	I	I	I	* DELAY *	I	* DELAY *	I		I
I	I	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	24.7	I	16.5	I	3.1	I	0.12	I
I	B-AD	I	35.7	I	23.8	I	7.3	I	0.21	I
I	A-B	I	31.5	I	21.0	I		I		I
I	A-C	I	467.6	I	311.7	I		I		I
I	A-D	I	193.3	I	128.9	I	33.6	I	0.17	I
I	D-A	I	223.5	I	149.0	I	40.4	I	0.18	I
I	D-BC	I	148.1	I	98.7	I	51.2	I	0.35	I

I	C-D	I	130.3	I	86.8	I		I		I		I		
I	C-A	I	510.1	I	340.1	I		I		I		I		
I	C-B	I	20.6	I	13.7	I	2.5	I	0.12	I	2.5	I	0.12	I
-----														
I	ALL	I	1785.3	I	1190.2	I	138.1	I	0.08	I	138.1	I	0.08	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads June AM 2017 with dev (low).vpi"  
(drive-on-the-left ) at 15:35:56 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

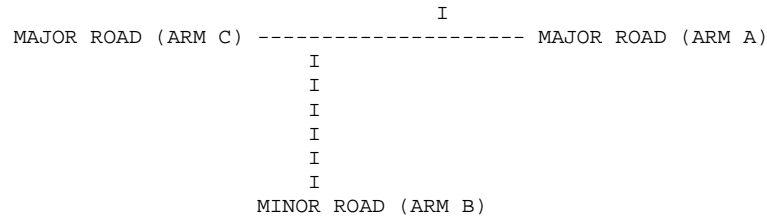
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK	
I ARM A	I 15.00	I 45.00	I 75.00	I 7.56	I 11.34	I 7.56	I
I ARM B	I 15.00	I 45.00	I 75.00	I 0.25	I 0.38	I 0.25	I
I ARM C	I 15.00	I 45.00	I 75.00	I 6.22	I 9.34	I 6.22	I
I ARM D	I 15.00	I 45.00	I 75.00	I 1.56	I 2.34	I 1.56	I

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
I 07.45 - 09.15	I	I	I	I	I
I	I ARM A	I 0.000	I 0.028	I 0.798	I 0.174
I	I	I 0.0	I 17.0	I 483.0	I 105.0
I	I	I ( 0.0)	I ( 10.0)	I ( 10.0)	I ( 10.0)
I	I	I	I	I	I

```

I           I ARM B I 0.600 I 0.000 I 0.400 I 0.000 I
I           I      I 12.0 I 0.0 I 8.0 I 0.0 I
I           I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM C I 0.837 I 0.022 I 0.000 I 0.141 I
I           I      I 417.0 I 11.0 I 0.0 I 70.0 I
I           I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM D I 0.600 I 0.000 I 0.400 I 0.000 I
I           I      I 75.0 I 0.0 I 50.0 I 0.0 I
I           I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY  GEOMETRIC DELAYI
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
I 07.45-08.00
I B-C           0.10      8.41      0.012
I B-AD          0.15      5.59      0.027
I A-B           0.21
I A-C           6.04
I A-D           1.31      8.31      0.158
I D-A           0.94      9.09      0.103
I D-BC          0.63      5.21      0.120
I C-D           0.88
I C-A           5.21
I C-B           0.14      8.42      0.016
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-C           0.091      0.008
I B-AD          0.059      0.013      0.020      0.004      0.006
I C-B           0.093      0.009
I D-A           0.091      0.007
I D-BC          0.057      0.013      0.020      0.004      0.005
I A-D           0.096      0.008
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)	I	
I	08.00-08.15									I	
I	B-C	0.12	8.04	0.015		0.0	0.0	0.2		I	
I	B-AD	0.18	5.06	0.035		0.0	0.0	0.5		I	
I	A-B	0.25								I	
I	A-C	7.21								I	
I	A-D	1.57	8.00	0.196		0.2	0.2	3.5		I	
I	D-A	1.12	8.69	0.129		0.1	0.1	2.1		I	
I	D-BC	0.75	4.66	0.160		0.1	0.2	2.7		I	
I	C-D	1.04								I	
I	C-A	6.22								I	
I	C-B	0.16	8.07	0.020		0.0	0.0	0.3		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I	
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I	
I										I	
I	B-C	0.087	0.010					0.008		I	
I	B-AD	0.053	0.016		0.020	0.004		0.005		I	
I	C-B	0.089	0.010			0.008				I	
I	D-A	0.087	0.009					0.009		I	
I	D-BC	0.051	0.016		0.020	0.003		0.005		I	
I	A-D	0.093	0.009			0.008				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)	I	
I	08.15-08.30									I	
I	B-C	0.15	7.54	0.019		0.0	0.0	0.3		I	
I	B-AD	0.22	4.33	0.051		0.0	0.1	0.8		I	
I	A-B	0.31								I	
I	A-C	8.83								I	
I	A-D	1.92	7.58	0.253		0.2	0.3	4.8		I	
I	D-A	1.37	8.11	0.169		0.1	0.2	2.9		I	
I	D-BC	0.91	3.91	0.234		0.2	0.3	4.2		I	
I	C-D	1.28								I	
I	C-A	7.62								I	
I	C-B	0.20	7.59	0.027		0.0	0.0	0.4		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	

	MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)	TO RIGHT (M)	
I	B-C	0.081	0.012			0.008	I
I	B-AD	0.046	0.019	0.020	0.003	0.005	I
I	C-B	0.084	0.013		0.008		I
I	D-A	0.081	0.011			0.009	I
I	D-BC	0.043	0.020	0.020	0.003	0.004	I
I	A-D	0.088	0.011		0.008		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)	I
I	08.30-08.45									I
I	B-C	0.15	7.54	0.019		0.0	0.0	0.3		I
I	B-AD	0.22	4.33	0.051		0.1	0.1	0.8		I
I	A-B	0.31								I
I	A-C	8.83								I
I	A-D	1.92	7.58	0.253		0.3	0.3	5.0		I
I	D-A	1.37	8.10	0.169		0.2	0.2	3.0		I
I	D-BC	0.91	3.90	0.234		0.3	0.3	4.5		I
I	C-D	1.28								I
I	C-A	7.62								I
I	C-B	0.20	7.58	0.027		0.0	0.0	0.4		I
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)			
I	B-C	0.081	0.012				0.008			I
I	B-AD	0.046	0.019	0.020	0.003		0.005			I
I	C-B	0.083	0.013		0.008					I
I	D-A	0.081	0.011				0.009			I
I	D-BC	0.043	0.020	0.020	0.003		0.004			I
I	A-D	0.088	0.011		0.008					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)	I
I	08.45-09.00									I
I	B-C	0.12	8.04	0.015		0.0	0.0	0.2		I
I	B-AD	0.18	5.06	0.035		0.1	0.0	0.6		I



I	A-B	0.25									I
I	A-C	7.21									I
I	A-D	1.57	8.00	0.196		0.3	0.2	3.8			I
I	D-A	1.12	8.69	0.129		0.2	0.1	2.3			I
I	D-BC	0.75	4.66	0.160		0.3	0.2	3.1			I
I	C-D	1.04									I
I	C-A	6.22									I
I	C-B	0.16	8.07	0.020		0.0	0.0	0.3			I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:											
		MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY						
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT						
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)						
I	B-C	0.087	0.010		0.008						I
I	B-AD	0.053	0.016	0.020	0.004	0.005					I
I	C-B	0.089	0.010		0.008						I
I	D-A	0.087	0.009			0.009					I
I	D-BC	0.051	0.016	0.020	0.003	0.005					I
I	A-D	0.093	0.009		0.008						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	09.00-09.15								I
I	B-C	0.10	8.40	0.012	0.0	0.0	0.2		I
I	B-AD	0.15	5.59	0.027	0.0	0.0	0.4		I
I	A-B	0.21							I
I	A-C	6.04							I
I	A-D	1.31	8.31	0.158	0.2	0.2	2.9		I
I	D-A	0.94	9.09	0.103	0.1	0.1	1.8		I
I	D-BC	0.63	5.21	0.120	0.2	0.1	2.2		I
I	C-D	0.88							I
I	C-A	5.21							I
I	C-B	0.14	8.42	0.016	0.0	0.0	0.3		I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:											
		MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY						
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT						
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)						
I	B-C	0.091	0.008		0.009						I
I	B-AD	0.059	0.013	0.020	0.004	0.006					I
I	C-B	0.093	0.009		0.009						I
I	D-A	0.091	0.007			0.010					I

I	D-BC	0.057	0.013	0.020	0.004	0.005	I
I	A-D	0.096	0.008		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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 B-AD**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.0
09.15	0.0

**QUEUE FOR STREAM A-D**

---

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

**QUEUE FOR STREAM D-A**

---

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 D-BC**  
 -----

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.1

-----  
**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**  
 -----

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I	I	I	I	I	* DELAY *	I	* DELAY *	I		
I	I	I	I	I	I	I	I	I		
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	11.0	I	7.3	I	1.4	I	0.13	I
I	B-AD	I	16.5	I	11.0	I	3.5	I	0.21	I
I	A-B	I	23.3	I	15.5	I		I		I
I	A-C	I	662.3	I	441.5	I		I		I
I	A-D	I	144.0	I	96.0	I	22.8	I	0.16	I
I	D-A	I	102.8	I	68.6	I	13.8	I	0.13	I
I	D-BC	I	68.6	I	45.7	I	18.5	I	0.27	I

I	C-D	I	96.0	I	64.0	I		I		I		I		
I	C-A	I	571.8	I	381.2	I		I		I		I		
I	C-B	I	15.1	I	10.1	I	1.9	I	0.13	I	1.9	I	0.13	I
-----														
I	ALL	I	1711.3	I	1140.8	I	62.0	I	0.04	I	62.0	I	0.04	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads August PM 2017 with dev (low).vpi"  
(drive-on-the-left ) at 15:51:29 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

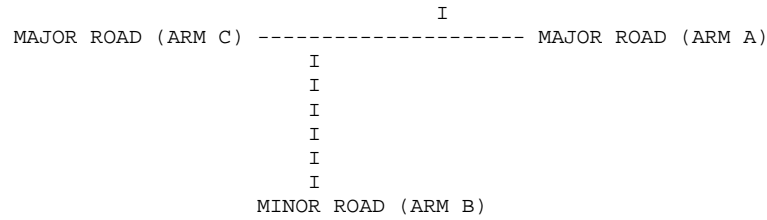
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK	
I ARM A	I 15.00	I 45.00	I 75.00	I 7.36	I 11.04	I 7.36	I
I ARM B	I 15.00	I 45.00	I 75.00	I 0.55	I 0.83	I 0.55	I
I ARM C	I 15.00	I 45.00	I 75.00	I 7.10	I 10.65	I 7.10	I
I ARM D	I 15.00	I 45.00	I 75.00	I 3.39	I 5.08	I 3.39	I

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
I 16.45 - 18.15	I	I	I	I	I
I	I ARM A	I 0.000	I 0.039	I 0.722	I 0.239
I	I	I 0.0	I 23.0	I 425.0	I 141.0
I	I	I ( 0.0)	I ( 10.0)	I ( 10.0)	I ( 10.0)
I	I	I	I	I	I

```

I          I ARM B I 0.591 I 0.000 I 0.409 I 0.000 I
I          I      I 26.0 I 0.0 I 18.0 I 0.0 I
I          I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I          I      I      I      I      I      I
I          I ARM C I 0.806 I 0.026 I 0.000 I 0.167 I
I          I      I 458.0 I 15.0 I 0.0 I 95.0 I
I          I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I          I      I      I      I      I      I
I          I ARM D I 0.601 I 0.000 I 0.399 I 0.000 I
I          I      I 163.0 I 0.0 I 108.0 I 0.0 I
I          I      I ( 10.0)I ( 10.0)I ( 10.0)I ( 0.0)I
I          I      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 DELAYI
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
I 16.45-17.00
I B-C          0.22      8.39      0.027          0.0  0.0      0.4
I B-AD         0.32      5.43      0.060          0.0  0.1      0.9
I A-B          0.29
I A-C          5.31
I A-D          1.76      8.06      0.219          0.0  0.3      4.0
I D-A          2.04      8.51      0.239          0.0  0.3      4.5
I D-BC         1.35      4.94      0.273          0.0  0.4      5.1
I C-D          1.19
I C-A          5.72
I C-B          0.19      8.40      0.022          0.0  0.0      0.3
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-C          0.090      0.008
I B-AD         0.057      0.014      0.020      0.004      0.006
I C-B          0.092      0.009
I D-A          0.085      0.008
I D-BC         0.055      0.015      0.020      0.003      0.005
I A-D          0.093      0.009
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)	I
I	17.00-17.15									I
I	B-C	0.27	7.99	0.034		0.0	0.0	0.5		I
I	B-AD	0.39	4.86	0.080		0.1	0.1	1.2		I
I	A-B	0.34								I
I	A-C	6.34								I
I	A-D	2.10	7.70	0.273		0.3	0.4	5.4		I
I	D-A	2.43	7.90	0.308		0.3	0.4	6.3		I
I	D-BC	1.61	4.32	0.373		0.4	0.6	8.1		I
I	C-D	1.42								I
I	C-A	6.84								I
I	C-B	0.22	8.04	0.028		0.0	0.0	0.4		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I
I										I
I	B-C	0.086	0.010					0.008		I
I	B-AD	0.051	0.016		0.020	0.003		0.005		I
I	C-B	0.089	0.010			0.008				I
I	D-A	0.080	0.009					0.008		I
I	D-BC	0.048	0.018		0.020	0.003		0.005		I
I	A-D	0.089	0.010			0.008				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)	I
I	17.15-17.30									I
I	B-C	0.33	7.44	0.044		0.0	0.0	0.7		I
I	B-AD	0.48	4.09	0.116		0.1	0.1	1.9		I
I	A-B	0.42								I
I	A-C	7.77								I
I	A-D	2.58	7.21	0.358		0.4	0.5	7.8		I
I	D-A	2.98	6.71	0.444		0.4	0.8	10.9		I
I	D-BC	1.97	3.42	0.577		0.6	1.2	16.5		I
I	C-D	1.74								I
I	C-A	8.37								I
I	C-B	0.27	7.55	0.036		0.0	0.0	0.5		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.080	0.012			0.008	I
I	B-AD	0.043	0.020	0.020	0.003	0.004	I
I	C-B	0.083	0.013		0.008		I
I	D-A	0.071	0.011			0.007	I
I	D-BC	0.039	0.021	0.020	0.002	0.004	I
I	A-D	0.084	0.013		0.007		I

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
I	17.30-17.45									I
I	B-C	0.33	7.43	0.044		0.0	0.0	0.7		I
I	B-AD	0.48	4.07	0.117		0.1	0.1	2.0		I
I	A-B	0.42								I
I	A-C	7.77								I
I	A-D	2.58	7.21	0.358		0.5	0.6	8.2		I
I	D-A	2.98	6.64	0.449		0.8	0.8	11.8		I
I	D-BC	1.97	3.41	0.578		1.2	1.3	19.2		I
I	C-D	1.74								I
I	C-A	8.37								I
I	C-B	0.27	7.54	0.036		0.0	0.0	0.6		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			
I	B-C	0.080	0.012				0.008			
I	B-AD	0.043	0.020	0.020	0.003	0.004				
I	C-B	0.083	0.013		0.008					
I	D-A	0.071	0.011			0.007				
I	D-BC	0.039	0.021	0.020	0.002	0.004				
I	A-D	0.084	0.013		0.007					

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
I	17.45-18.00									I
I	B-C	0.27	7.98	0.034		0.0	0.0	0.5		I
I	B-AD	0.39	4.84	0.080		0.1	0.1	1.4		I

I	A-B	0.34									I
I	A-C	6.34									I
I	A-D	2.10	7.70	0.273		0.6	0.4	6.0			I
I	D-A	2.43	7.85	0.310		0.8	0.5	7.2			I
I	D-BC	1.61	4.31	0.374		1.3	0.6	10.1			I
I	C-D	1.42									I
I	C-A	6.84									I
I	C-B	0.22	8.03	0.028		0.0	0.0	0.4			I

I			EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY					I	
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT					I	
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)					I	
I											I	
I	B-C	0.085	0.010			0.008					I	
I	B-AD	0.051	0.017	0.020	0.003	0.005					I	
I	C-B	0.088	0.011		0.008						I	
I	D-A	0.079	0.009			0.008					I	
I	D-BC	0.048	0.018	0.020	0.003	0.005					I	
I	A-D	0.089	0.011		0.008						I	

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
I	18.00-18.15										I
I	B-C	0.22	8.37	0.027		0.0	0.0	0.4			I
I	B-AD	0.32	5.41	0.060		0.1	0.1	1.0			I
I	A-B	0.29									I
I	A-C	5.31									I
I	A-D	1.76	8.06	0.219		0.4	0.3	4.4			I
I	D-A	2.04	8.49	0.240		0.5	0.3	5.0			I
I	D-BC	1.35	4.93	0.274		0.6	0.4	6.1			I
I	C-D	1.19									I
I	C-A	5.72									I
I	C-B	0.19	8.39	0.022		0.0	0.0	0.4			I

I			EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY					I	
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT					I	
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)					I	
I											I	
I	B-C	0.090	0.008			0.009					I	
I	B-AD	0.057	0.014	0.020	0.004	0.006					I	
I	C-B	0.092	0.009		0.009						I	
I	D-A	0.085	0.008			0.009					I	

I	D-BC	0.054	0.015	0.020	0.003	0.005	I
I	A-D	0.093	0.009		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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

**QUEUE FOR STREAM B-AD**

---

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

**QUEUE FOR STREAM A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.3	
17.15	0.4	
17.30	0.5	*
17.45	0.6	*
18.00	0.4	
18.15	0.3	

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE

17.00	0.3	
17.15	0.4	
17.30	0.8	*
17.45	0.8	*
18.00	0.5	
18.15	0.3	

-----  
**QUEUE FOR STREAM D-BC**  
 -----

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.6	*
17.30	1.2	*
17.45	1.3	*
18.00	0.6	*
18.15	0.4	

-----  
**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**  
 -----

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	I	I	I	I	I	I	I	I	I	I	I
I	B-C	I	24.7	I 16.5	I	3.2	I 0.13	I	3.2	I 0.13	I
I	B-AD	I	35.7	I 23.8	I	8.3	I 0.23	I	8.3	I 0.23	I
I	A-B	I	31.5	I 21.0	I		I	I		I	I
I	A-C	I	582.8	I 388.5	I		I	I		I	I
I	A-D	I	193.3	I 128.9	I	35.7	I 0.18	I	35.7	I 0.18	I
I	D-A	I	223.5	I 149.0	I	45.7	I 0.20	I	45.7	I 0.20	I
I	D-BC	I	148.1	I 98.7	I	65.1	I 0.44	I	65.1	I 0.44	I

I	C-D	I	130.3	I	86.8	I		I		I		I		
I	C-A	I	628.0	I	418.7	I		I		I		I		
I	C-B	I	20.6	I	13.7	I	2.7	I	0.13	I	2.7	I	0.13	I
-----														
I	ALL	I	2018.4	I	1345.6	I	160.8	I	0.08	I	160.8	I	0.08	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads August AM 2017 with dev (low).vpi"  
(drive-on-the-left ) at 15:45:51 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

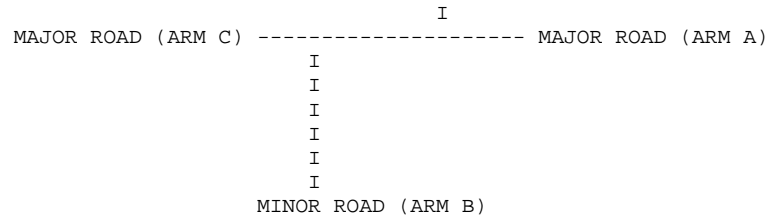
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I



I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
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	9.35	14.03	9.35	
ARM B	15.00	45.00	75.00	0.25	0.38	0.25	
ARM C	15.00	45.00	75.00	7.84	11.76	7.84	
ARM D	15.00	45.00	75.00	1.56	2.34	1.56	

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.023	0.837	0.140
		0.0	17.0	626.0	105.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)

```

I          I ARM B I 0.600 I 0.000 I 0.400 I 0.000 I
I          I      I 12.0 I 0.0 I 8.0 I 0.0 I
I          I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I          I      I      I      I      I
I          I ARM C I 0.871 I 0.018 I 0.000 I 0.112 I
I          I      I 546.0 I 11.0 I 0.0 I 70.0 I
I          I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I          I      I      I      I      I
I          I ARM D I 0.600 I 0.000 I 0.400 I 0.000 I
I          I      I 75.0 I 0.0 I 50.0 I 0.0 I
I          I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY      GEOMETRIC DELAYI
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
I 07.45-08.00
I B-C          0.10      7.93      0.013
I B-AD         0.15      4.88      0.031
I A-B          0.21
I A-C          7.82
I A-D          1.31      7.90      0.166
I D-A          0.94      8.61      0.109
I D-BC         0.63      4.55      0.137
I C-D          0.88
I C-A          6.82
I C-B          0.14      7.95      0.017
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-C          0.086      0.011
I B-AD         0.052      0.016      0.020      0.003      0.005
I C-B          0.088      0.011      0.008
I D-A          0.086      0.009
I D-BC         0.050      0.017      0.020      0.003      0.005
I A-D          0.092      0.010      0.008
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)	I	
I	08.00-08.15									I	
I	B-C	0.12	7.48	0.016		0.0	0.0	0.2		I	
I	B-AD	0.18	4.21	0.043		0.0	0.0	0.6		I	
I	A-B	0.25								I	
I	A-C	9.34								I	
I	A-D	1.57	7.52	0.209		0.2	0.3	3.8		I	
I	D-A	1.12	8.10	0.138		0.1	0.2	2.3		I	
I	D-BC	0.75	3.87	0.193		0.2	0.2	3.3		I	
I	C-D	1.04								I	
I	C-A	8.15								I	
I	C-B	0.16	7.51	0.022		0.0	0.0	0.3		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I	
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I	
I										I	
I	B-C	0.081	0.013					0.008		I	
I	B-AD	0.045	0.020		0.020	0.003		0.004		I	
I	C-B	0.083	0.013			0.008				I	
I	D-A	0.081	0.011					0.009		I	
I	D-BC	0.043	0.020		0.020	0.003		0.004		I	
I	A-D	0.087	0.011			0.008				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)	I	
I	08.15-08.30									I	
I	B-C	0.15	6.84	0.021		0.0	0.0	0.3		I	
I	B-AD	0.22	3.29	0.067		0.0	0.1	1.0		I	
I	A-B	0.31								I	
I	A-C	11.44								I	
I	A-D	1.92	6.98	0.275		0.3	0.4	5.4		I	
I	D-A	1.37	7.29	0.188		0.2	0.2	3.3		I	
I	D-BC	0.91	2.93	0.312		0.2	0.4	6.0		I	
I	C-D	1.28								I	
I	C-A	9.98								I	
I	C-B	0.20	6.90	0.029		0.0	0.0	0.4		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I	

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.074	0.015			0.007	I
I	B-AD	0.035	0.024	0.020	0.002	0.003	I
I	C-B	0.076	0.016		0.007		I
I	D-A	0.073	0.013			0.008	I
I	D-BC	0.032	0.024	0.020	0.002	0.003	I
I	A-D	0.081	0.014		0.007		I

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
I	08.30-08.45									I
I	B-C	0.15	6.83	0.021		0.0	0.0	0.3		I
I	B-AD	0.22	3.29	0.067		0.1	0.1	1.1		I
I	A-B	0.31								I
I	A-C	11.44								I
I	A-D	1.92	6.98	0.275		0.4	0.4	5.6		I
I	D-A	1.37	7.28	0.188		0.2	0.2	3.4		I
I	D-BC	0.91	2.93	0.312		0.4	0.4	6.6		I
I	C-D	1.28								I
I	C-A	9.98								I
I	C-B	0.20	6.90	0.029		0.0	0.0	0.4		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.074	0.015				0.007			I
I	B-AD	0.035	0.024	0.020	0.002	0.003				I
I	C-B	0.076	0.016		0.007					I
I	D-A	0.073	0.013			0.008				I
I	D-BC	0.032	0.024	0.020	0.002	0.003				I
I	A-D	0.081	0.014		0.007					I

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
I	08.45-09.00									I
I	B-C	0.12	7.47	0.016		0.0	0.0	0.3		I
I	B-AD	0.18	4.21	0.043		0.1	0.0	0.7		I

I	A-B	0.25							I
I	A-C	9.34							I
I	A-D	1.57	7.52	0.209	0.4	0.3	4.1		I
I	D-A	1.12	8.09	0.138	0.2	0.2	2.5		I
I	D-BC	0.75	3.86	0.193	0.4	0.2	3.9		I
I	C-D	1.04							I
I	C-A	8.15							I
I	C-B	0.16	7.51	0.022	0.0	0.0	0.3		I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
		MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY				
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT				
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)				
I	B-C	0.081	0.013				0.008		I
I	B-AD	0.045	0.020	0.020	0.003		0.004		I
I	C-B	0.083	0.013		0.008				I
I	D-A	0.081	0.011				0.009		I
I	D-BC	0.043	0.020	0.020	0.003		0.004		I
I	A-D	0.087	0.011		0.008				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	09.00-09.15								I
I	B-C	0.10	7.93	0.013		0.0	0.0	0.2	I
I	B-AD	0.15	4.88	0.031		0.0	0.0	0.5	I
I	A-B	0.21							I
I	A-C	7.82							I
I	A-D	1.31	7.90	0.166		0.3	0.2	3.1	I
I	D-A	0.94	8.60	0.109		0.2	0.1	1.9	I
I	D-BC	0.63	4.54	0.138		0.2	0.2	2.6	I
I	C-D	0.88							I
I	C-A	6.82							I
I	C-B	0.14	7.95	0.017		0.0	0.0	0.3	I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
		MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY				
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT				
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)				
I	B-C	0.086	0.011				0.008		I
I	B-AD	0.052	0.016	0.020	0.003		0.005		I
I	C-B	0.087	0.011		0.008				I
I	D-A	0.086	0.009				0.009		I

I	D-BC	0.050	0.017	0.020	0.003	0.005	I
I	A-D	0.092	0.010		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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 B-AD**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.0
09.15	0.0

**QUEUE FOR STREAM A-D**

---

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

**QUEUE FOR STREAM D-A**

---

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

-----  
**QUEUE FOR STREAM D-BC**  
 -----

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	0.2
09.15	0.2

-----  
**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**  
 -----

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I	I	I	I	I	* DELAY *	I	* DELAY *	I		
I	I	I	I	I	I	I	I	I		
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	11.0	I	7.3	I	1.5	I	0.14	I
I	B-AD	I	16.5	I	11.0	I	4.3	I	0.26	I
I	A-B	I	23.3	I	15.5	I		I		I
I	A-C	I	858.4	I	572.3	I		I		I
I	A-D	I	144.0	I	96.0	I	24.9	I	0.17	I
I	D-A	I	102.8	I	68.6	I	15.2	I	0.15	I
I	D-BC	I	68.6	I	45.7	I	24.6	I	0.36	I

I	C-D	I	96.0	I	64.0	I		I		I		I		
I	C-A	I	748.7	I	499.1	I		I		I		I		
I	C-B	I	15.1	I	10.1	I	2.1	I	0.14	I	2.1	I	0.14	I
-----														
I	ALL	I	2084.2	I	1389.5	I	72.7	I	0.03	I	72.7	I	0.03	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads PM 2011 with dev (low).vpi"  
(drive-on-the-left ) at 14:55:32 on Thursday, 8 November 2007

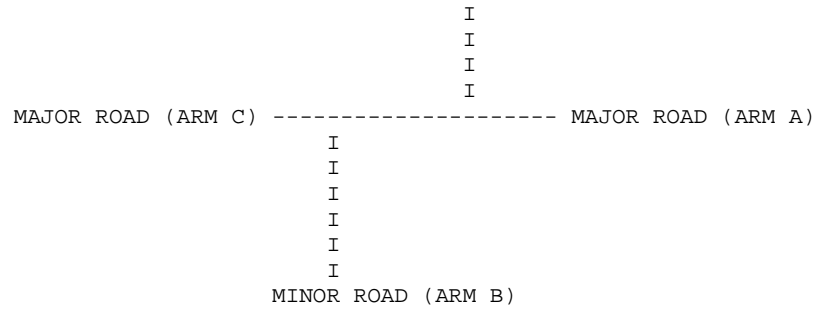
RUN TITLE  
\*\*\*\*\*

South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	( W ) 6.00 M.	I	( W ) 6.00 M.	I
I	CENTRAL RESERVE WIDTH	I	( WCR ) 0.00 M.	I	( WCR ) 0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	( WC-B ) 3.00 M.	I	( WA-D ) 2.50 M.	I
I	- VISIBILITY	I	( VC-B ) 80.0 M.	I	( VA-D ) 100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I

I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I
I	- WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	- WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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 NUMBER OF MINUTES FROM START WHEN			I RATE OF FLOW (VEH/MIN)			I
		I	I	I	I	I	I	
I	ARM	I FLOW STARTS	I TOP OF PEAK	I FLOW STOPS	I BEFORE	I AT TOP	I AFTER	I
I		I TO RISE	I IS REACHED	I FALLING	I PEAK	I OF PEAK	I PEAK	I
I	ARM A	I 15.00	I 45.00	I 75.00	I 6.04	I 9.06	I 6.04	I
I	ARM B	I 15.00	I 45.00	I 75.00	I 0.55	I 0.83	I 0.55	I
I	ARM C	I 15.00	I 45.00	I 75.00	I 5.75	I 8.63	I 5.75	I
I	ARM D	I 15.00	I 45.00	I 75.00	I 3.39	I 5.08	I 3.39	I

I		I	TURNING PROPORTIONS	I
I		I	TURNING COUNTS (VEH/HR)	I

		(PERCENTAGE OF H.V.S)							
TIME		FROM/TO	ARM A	ARM B	ARM C	ARM D			
16.45 - 18.15	ARM A	0.000	0.048	0.660	0.292				
		0.0	23.0	319.0	141.0				
		( 0.0)	( 10.0)	( 10.0)	( 10.0)				
	ARM B	0.591	0.000	0.409	0.000				
		26.0	0.0	18.0	0.0				
		( 10.0)	( 0.0)	( 10.0)	( 10.0)				
	ARM C	0.761	0.033	0.000	0.207				
		350.0	15.0	0.0	95.0				
		( 10.0)	( 10.0)	( 0.0)	( 10.0)				
	ARM D	0.601	0.000	0.399	0.000				
		163.0	0.0	108.0	0.0				
		( 10.0)	( 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)
16.45-17.00								
B-C	0.22	8.74	0.026		0.0	0.0	0.4	
B-AD	0.32	5.97	0.054		0.0	0.1	0.8	
A-B	0.29							
A-C	3.99							
A-D	1.76	8.40	0.210		0.0	0.3	3.8	
D-A	2.04	8.94	0.228		0.0	0.3	4.2	
D-BC	1.35	5.48	0.246		0.0	0.3	4.5	
C-D	1.19							
C-A	4.38							
C-B	0.19	8.75	0.021		0.0	0.0	0.3	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I							I
I	B-C	0.094	0.007			0.009	I
I	B-AD	0.063	0.011	0.020	0.004	0.006	I
I	C-B	0.096	0.007		0.009		I
I	D-A	0.089	0.007			0.009	I
I	D-BC	0.060	0.012	0.020	0.004	0.006	I
I	A-D	0.097	0.007		0.008		I

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
I	17.00-17.15									I
I	B-C	0.27	8.42	0.032		0.0	0.0	0.5		I
I	B-AD	0.39	5.52	0.070		0.1	0.1	1.1		I
I	A-B	0.34								I
I	A-C	4.76								I
I	A-D	2.10	8.11	0.260		0.3	0.3	5.0		I
I	D-A	2.43	8.46	0.288		0.3	0.4	5.8		I
I	D-BC	1.61	4.96	0.325		0.3	0.5	6.7		I
I	C-D	1.42								I
I	C-A	5.22								I
I	C-B	0.22	8.46	0.026		0.0	0.0	0.4		I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I							I
I	B-C	0.090	0.008			0.009	I
I	B-AD	0.058	0.013	0.020	0.004	0.006	I
I	C-B	0.093	0.008		0.009		I
I	D-A	0.085	0.008			0.009	I
I	D-BC	0.055	0.014	0.020	0.003	0.005	I
I	A-D	0.094	0.009		0.008		I

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

	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I 17.15-17.30						
I B-C	0.33	7.98	0.041	0.0	0.0	0.6
I B-AD	0.48	4.89	0.097	0.1	0.1	1.5
I A-B	0.42					
I A-C	5.83					
I A-D	2.58	7.71	0.334	0.3	0.5	7.1
I D-A	2.98	7.67	0.389	0.4	0.6	8.9
I D-BC	1.97	4.23	0.467	0.5	0.8	11.5
I C-D	1.74					
I C-A	6.40					
I C-B	0.27	8.06	0.034	0.0	0.0	0.5
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)
I B-C		0.086	0.010			0.008
I B-AD		0.052	0.016	0.020	0.003	0.005
I C-B		0.089	0.010		0.008	
I D-A		0.078	0.009			0.008
I D-BC		0.047	0.018	0.020	0.003	0.005
I A-D		0.089	0.010		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)
I 17.30-17.45								
I B-C	0.33	7.98	0.041		0.0	0.0	0.6	
I B-AD	0.48	4.88	0.097		0.1	0.1	1.6	
I A-B	0.42							
I A-C	5.83							
I A-D	2.58	7.71	0.334		0.5	0.5	7.4	
I D-A	2.98	7.64	0.390		0.6	0.6	9.4	
I D-BC	1.97	4.22	0.468		0.8	0.9	12.7	
I C-D	1.74							
I C-A	6.40							
I C-B	0.27	8.05	0.034		0.0	0.0	0.5	
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
			MAJOR RD.	CENT RES	VIS TO LEFT		VISIBILITY	

I	MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)	TO RIGHT (M)	I
I	B-C	0.086	0.010			0.008	I
I	B-AD	0.052	0.016	0.020	0.003	0.005	I
I	C-B	0.089	0.010		0.008		I
I	D-A	0.078	0.009			0.008	I
I	D-BC	0.047	0.018	0.020	0.003	0.005	I
I	A-D	0.089	0.010		0.008		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)	I	
I	17.45-18.00									I	
I	B-C	0.27	8.41	0.032		0.0	0.0	0.5		I	
I	B-AD	0.39	5.51	0.070		0.1	0.1	1.2		I	
I	A-B	0.34								I	
I	A-C	4.76								I	
I	A-D	2.10	8.11	0.260		0.5	0.4	5.5		I	
I	D-A	2.43	8.44	0.288		0.6	0.4	6.4		I	
I	D-BC	1.61	4.95	0.325		0.9	0.5	7.9		I	
I	C-D	1.42								I	
I	C-A	5.22								I	
I	C-B	0.22	8.45	0.027		0.0	0.0	0.4		I	
I										I	
I			EFFECT ON CAPACITY (PCU/MIN) OF MAJOR RD. CENT RES			MARGINAL CHANGES IN:					I
I					WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I	
I	MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(M)	(M)				I	
I	B-C	0.090	0.008				0.009			I	
I	B-AD	0.058	0.013	0.020	0.004	0.006				I	
I	C-B	0.093	0.008		0.009					I	
I	D-A	0.085	0.008			0.009				I	
I	D-BC	0.055	0.015	0.020	0.003	0.005				I	
I	A-D	0.094	0.009		0.008					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)	I
---	------	------------------	--------------------	-----------------------	----------------------------	--------------------	------------------	-------------------------------	---	---

I	18.00-18.15									I
I	B-C	0.22	8.73	0.026		0.0	0.0		0.4	I
I	B-AD	0.32	5.96	0.054		0.1	0.1		0.9	I
I	A-B	0.29								I
I	A-C	3.99								I
I	A-D	1.76	8.40	0.210		0.4	0.3		4.2	I
I	D-A	2.04	8.92	0.228		0.4	0.3		4.6	I
I	D-BC	1.35	5.47	0.247		0.5	0.3		5.3	I
I	C-D	1.19								I
I	C-A	4.38								I
I	C-B	0.19	8.74	0.021		0.0	0.0		0.3	I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:							I	
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY		I		
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT		I		
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)		I		
I								I		
I	B-C	0.094	0.007				0.009	I		
I	B-AD	0.063	0.011	0.020	0.004		0.006	I		
I	C-B	0.096	0.007		0.009			I		
I	D-A	0.089	0.007				0.009	I		
I	D-BC	0.060	0.012	0.020	0.004		0.006	I		
I	A-D	0.097	0.007		0.008			I		

-----

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

**QUEUE FOR STREAM B-C**

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

**QUEUE FOR STREAM B-AD**

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------



17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3
17.15	0.3
17.30	0.5
17.45	0.5
18.00	0.4
18.15	0.3

QUEUE FOR STREAM D-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.3	
17.15	0.4	
17.30	0.6	*
17.45	0.6	*
18.00	0.4	
18.15	0.3	

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.3	
17.15	0.5	
17.30	0.8	*
17.45	0.9	*
18.00	0.5	
18.15	0.3	

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**  
 -----

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I	I	I	I	I	* DELAY *	I	* DELAY *	I		
I	I	I	I	I	I	I	I	I		
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	24.7	I	16.5	I	3.0	I	0.12	I
I	B-AD	I	35.7	I	23.8	I	7.1	I	0.20	I
I	A-B	I	31.5	I	21.0	I		I		I
I	A-C	I	437.4	I	291.6	I		I		I
I	A-D	I	193.3	I	128.9	I	33.0	I	0.17	I
I	D-A	I	223.5	I	149.0	I	39.3	I	0.18	I
I	D-BC	I	148.1	I	98.7	I	48.6	I	0.33	I
I	C-D	I	130.3	I	86.8	I		I		I
I	C-A	I	479.9	I	319.9	I		I		I
I	C-B	I	20.6	I	13.7	I	2.5	I	0.12	I
I	ALL	I	1725.0	I	1150.0	I	133.7	I	0.08	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads AM 2011 with dev (low).vpi"  
(drive-on-the-left ) at 14:47:46 on Thursday, 8 November 2007

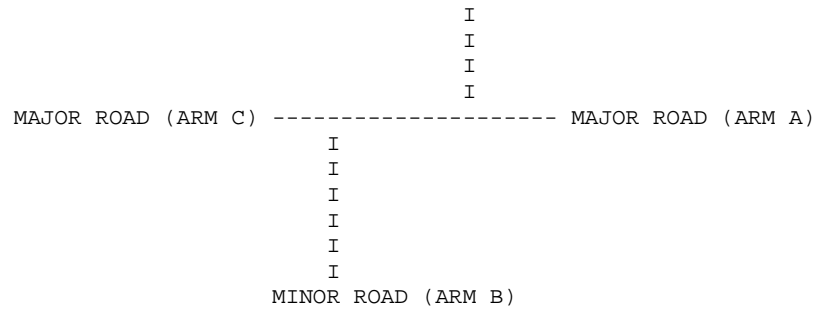
RUN TITLE  
\*\*\*\*\*

South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I

I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I
I	- WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	- WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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 NUMBER OF MINUTES FROM START WHEN			I RATE OF FLOW (VEH/MIN)			I
		I	I	I	I	I	I	
I	I	I	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
I	ARM A	I 15.00	I 45.00	I 75.00	I 7.16	I 10.74	I 7.16	I
I	ARM B	I 15.00	I 45.00	I 75.00	I 0.25	I 0.38	I 0.25	I
I	ARM C	I 15.00	I 45.00	I 75.00	I 5.85	I 8.77	I 5.85	I
I	ARM D	I 15.00	I 45.00	I 75.00	I 1.56	I 2.34	I 1.56	I

I	I	I	I
I		TURNING PROPORTIONS	I
I		TURNING COUNTS (VEH/HR)	I

		(PERCENTAGE OF H.V.S)							
TIME		FROM/TO	ARM A	ARM B	ARM C	ARM D			
07.45 - 09.15	ARM A	0.000	0.030	0.787	0.183	0.0	17.0	451.0	105.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)				
	ARM B	0.600	0.000	0.400	0.000	12.0	0.0	8.0	0.0
		( 10.0)	( 0.0)	( 10.0)	( 10.0)				
	ARM C	0.827	0.024	0.000	0.150	387.0	11.0	0.0	70.0
		( 10.0)	( 10.0)	( 0.0)	( 10.0)				
	ARM D	0.600	0.000	0.400	0.000	75.0	0.0	50.0	0.0
		( 10.0)	( 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-C	0.10	8.51	0.012		0.0	0.0	0.2	
B-AD	0.15	5.75	0.026		0.0	0.0	0.4	
A-B	0.21							
A-C	5.64							
A-D	1.31	8.40	0.156		0.0	0.2	2.6	
D-A	0.94	9.20	0.102		0.0	0.1	1.6	
D-BC	0.63	5.37	0.116		0.0	0.1	1.8	
C-D	0.88							
C-A	4.84							
C-B	0.14	8.53	0.016		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I							I
I	B-C	0.092	0.008			0.009	I
I	B-AD	0.061	0.012	0.020	0.004	0.006	I
I	C-B	0.094	0.008		0.009		I
I	D-A	0.092	0.007			0.010	I
I	D-BC	0.059	0.013	0.020	0.004	0.006	I
I	A-D	0.097	0.007		0.008		I

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
I	08.00-08.15									I
I	B-C	0.12	8.17	0.015		0.0	0.0	0.2		I
I	B-AD	0.18	5.25	0.034		0.0	0.0	0.5		I
I	A-B	0.25								I
I	A-C	6.73								I
I	A-D	1.57	8.12	0.193		0.2	0.2	3.5		I
I	D-A	1.12	8.83	0.127		0.1	0.1	2.1		I
I	D-BC	0.75	4.85	0.154		0.1	0.2	2.6		I
I	C-D	1.04								I
I	C-A	5.78								I
I	C-B	0.16	8.19	0.020		0.0	0.0	0.3		I

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	I		
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I		
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I		
I							I		
I	B-C	0.088	0.009			0.009	I		
I	B-AD	0.056	0.015	0.020	0.004	0.005	I		
I	C-B	0.090	0.010		0.008		I		
I	D-A	0.088	0.008			0.009	I		
I	D-BC	0.053	0.015	0.020	0.003	0.005	I		
I	A-D	0.094	0.009		0.008		I		

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



	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
I 08.15-08.30						
I B-C	0.15	7.70	0.019	0.0	0.0	0.3
I B-AD	0.22	4.56	0.048	0.0	0.0	0.7
I A-B	0.31					
I A-C	8.24					
I A-D	1.92	7.72	0.249	0.2	0.3	4.7
I D-A	1.37	8.28	0.165	0.1	0.2	2.9
I D-BC	0.91	4.13	0.221	0.2	0.3	4.0
I C-D	1.28					
I C-A	7.07					
I C-B	0.20	7.74	0.026	0.0	0.0	0.4
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)
I B-C		0.083	0.011			0.008
I B-AD		0.048	0.018	0.020	0.003	0.005
I C-B		0.085	0.012		0.008	
I D-A		0.083	0.010			0.009
I D-BC		0.045	0.019	0.020	0.003	0.004
I A-D		0.089	0.010		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)
I 08.30-08.45								
I B-C	0.15	7.70	0.019		0.0	0.0	0.3	
I B-AD	0.22	4.56	0.048		0.0	0.1	0.7	
I A-B	0.31							
I A-C	8.24							
I A-D	1.92	7.72	0.249		0.3	0.3	4.9	
I D-A	1.37	8.28	0.166		0.2	0.2	3.0	
I D-BC	0.91	4.13	0.221		0.3	0.3	4.2	
I C-D	1.28							
I C-A	7.07							
I C-B	0.20	7.74	0.026		0.0	0.0	0.4	
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) (M)	TO RIGHT (M)	
I	B-C	0.083	0.011			0.008	I
I	B-AD	0.048	0.018	0.020	0.003	0.005	I
I	C-B	0.085	0.012		0.008		I
I	D-A	0.083	0.010			0.009	I
I	D-BC	0.045	0.019	0.020	0.003	0.004	I
I	A-D	0.089	0.010		0.008		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)	I
I	08.45-09.00									I
I	B-C	0.12	8.17	0.015		0.0	0.0	0.2		I
I	B-AD	0.18	5.25	0.034		0.1	0.0	0.6		I
I	A-B	0.25								I
I	A-C	6.73								I
I	A-D	1.57	8.12	0.193		0.3	0.2	3.7		I
I	D-A	1.12	8.82	0.127		0.2	0.1	2.3		I
I	D-BC	0.75	4.84	0.154		0.3	0.2	2.9		I
I	C-D	1.04								I
I	C-A	5.78								I
I	C-B	0.16	8.19	0.020		0.0	0.0	0.3		I
I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M)	TO RIGHT (M)				I
I	B-C	0.088	0.009					0.009		I
I	B-AD	0.055	0.015	0.020	0.004			0.005		I
I	C-B	0.090	0.010		0.008					I
I	D-A	0.088	0.008					0.009		I
I	D-BC	0.053	0.015	0.020	0.003			0.005		I
I	A-D	0.094	0.009		0.008					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)	I
---	------	------------------	--------------------	-----------------------	----------------------------	--------------------	------------------	-------------------------------	---	---

I	09.00-09.15									I
I	B-C	0.10	8.51	0.012		0.0	0.0		0.2	I
I	B-AD	0.15	5.75	0.026		0.0	0.0		0.4	I
I	A-B	0.21								I
I	A-C	5.64								I
I	A-D	1.31	8.40	0.156		0.2	0.2		2.9	I
I	D-A	0.94	9.20	0.102		0.1	0.1		1.8	I
I	D-BC	0.63	5.36	0.117		0.2	0.1		2.1	I
I	C-D	0.88								I
I	C-A	4.84								I
I	C-B	0.14	8.52	0.016		0.0	0.0		0.3	I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:							I	
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY		I		
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT		I		
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)		I		
I								I		
I	B-C	0.092	0.008				0.009	I		
I	B-AD	0.061	0.012	0.020	0.004		0.006	I		
I	C-B	0.094	0.008		0.009			I		
I	D-A	0.092	0.007				0.010	I		
I	D-BC	0.059	0.013	0.020	0.004		0.006	I		
I	A-D	0.097	0.007		0.008			I		

-----

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

**QUEUE FOR STREAM B-C**

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 B-AD**

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.1
09.00	0.0
09.15	0.0

QUEUE FOR STREAM A-D

-----

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

QUEUE FOR STREAM D-A

-----

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 D-BC

-----

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.1

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**  
 -----

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		I
I	I	I	I	I	* DELAY *	I	* DELAY *	I		I
I	I	I	I	I	I	I	I	I	I	I
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	B-C	I	11.0	I 7.3	I 1.4	I 0.12	I 1.4	I 0.12	I	I
I	B-AD	I	16.5	I 11.0	I 3.3	I 0.20	I 3.3	I 0.20	I	I
I	A-B	I	23.3	I 15.5	I	I	I	I	I	I
I	A-C	I	618.4	I 412.3	I	I	I	I	I	I
I	A-D	I	144.0	I 96.0	I 22.4	I 0.16	I 22.4	I 0.16	I	I
I	D-A	I	102.8	I 68.6	I 13.6	I 0.13	I 13.6	I 0.13	I	I
I	D-BC	I	68.6	I 45.7	I 17.6	I 0.26	I 17.6	I 0.26	I	I
I	C-D	I	96.0	I 64.0	I	I	I	I	I	I
I	C-A	I	530.7	I 353.8	I	I	I	I	I	I
I	C-B	I	15.1	I 10.1	I 1.9	I 0.13	I 1.9	I 0.13	I	I
I	ALL	I	1626.3	I 1084.2	I 60.1	I 0.04	I 60.1	I 0.04	I	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads August PM 2011 with dev (low).vpi"  
(drive-on-the-left ) at 15:13:42 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

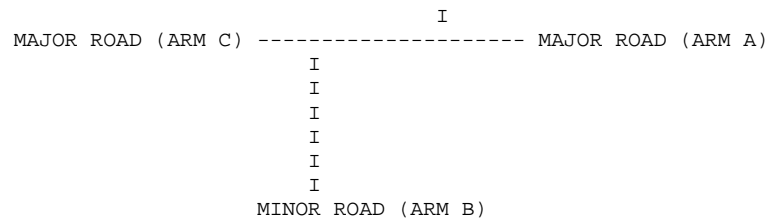
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I



I	- WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	- WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	- LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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	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	I 15.00	I 45.00	I 75.00	I 7.00	I 10.50	I 7.00
I	ARM B	I 15.00	I 45.00	I 75.00	I 0.55	I 0.83	I 0.55
I	ARM C	I 15.00	I 45.00	I 75.00	I 6.74	I 10.11	I 6.74
I	ARM D	I 15.00	I 45.00	I 75.00	I 3.39	I 5.08	I 3.39

I	I	TURNING PROPORTIONS					
		I	I	I	I		
I		TURNING COUNTS (VEH/HR)					
I		(PERCENTAGE OF H.V.S)					
I	TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D	
I	16.45 - 18.15	I	I	I	I	I	
I		I	ARM A	I 0.000	I 0.041	I 0.707	I 0.252
I		I	I	I 0.0	I 23.0	I 396.0	I 141.0
I		I	I	I ( 0.0)	I ( 10.0)	I ( 10.0)	I ( 10.0)
I		I	I	I	I	I	

```

I           I ARM B I 0.591 I 0.000 I 0.409 I 0.000 I
I           I      I 26.0 I 0.0 I 18.0 I 0.0 I
I           I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM C I 0.796 I 0.028 I 0.000 I 0.176 I
I           I      I 429.0 I 15.0 I 0.0 I 95.0 I
I           I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM D I 0.601 I 0.000 I 0.399 I 0.000 I
I           I      I 163.0 I 0.0 I 108.0 I 0.0 I
I           I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY      GEOMETRIC DELAYI
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
I 16.45-17.00
I B-C          0.22      8.48      0.027          0.0  0.0      0.4
I B-AD         0.32      5.57      0.058          0.0  0.1      0.9
I A-B          0.29
I A-C          4.95
I A-D          1.76      8.15      0.216          0.0  0.3      3.9
I D-A          2.04      8.63      0.236          0.0  0.3      4.4
I D-BC         1.35      5.09      0.265          0.0  0.4      4.9
I C-D          1.19
I C-A          5.36
I C-B          0.19      8.50      0.022          0.0  0.0      0.3
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-C          0.091      0.008
I B-AD         0.059      0.013      0.020      0.004      0.006
I C-B          0.094      0.008
I D-A          0.086      0.008
I D-BC         0.056      0.014      0.020      0.004      0.005
I A-D          0.094      0.008
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)	I
I	17.00-17.15									I
I	B-C	0.27	8.11	0.033		0.0	0.0	0.5		I
I	B-AD	0.39	5.04	0.077		0.1	0.1	1.2		I
I	A-B	0.34								I
I	A-C	5.91								I
I	A-D	2.10	7.81	0.269		0.3	0.4	5.3		I
I	D-A	2.43	8.06	0.302		0.3	0.4	6.2		I
I	D-BC	1.61	4.49	0.359		0.4	0.5	7.7		I
I	C-D	1.42								I
I	C-A	6.40								I
I	C-B	0.22	8.16	0.027		0.0	0.0	0.4		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I
I										I
I	B-C	0.087	0.009					0.008		I
I	B-AD	0.053	0.016		0.020	0.004		0.005		I
I	C-B	0.090	0.010			0.008				I
I	D-A	0.081	0.009					0.009		I
I	D-BC	0.050	0.017		0.020	0.003		0.005		I
I	A-D	0.090	0.010			0.008				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)	I
I	17.15-17.30									I
I	B-C	0.33	7.59	0.043		0.0	0.0	0.7		I
I	B-AD	0.48	4.30	0.110		0.1	0.1	1.8		I
I	A-B	0.42								I
I	A-C	7.24								I
I	A-D	2.58	7.34	0.351		0.4	0.5	7.6		I
I	D-A	2.98	7.00	0.425		0.4	0.7	10.2		I
I	D-BC	1.97	3.64	0.542		0.5	1.1	14.8		I
I	C-D	1.74								I
I	C-A	7.84								I
I	C-B	0.27	7.69	0.036		0.0	0.0	0.5		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.081	0.012			0.008	I
I	B-AD	0.046	0.019	0.020	0.003	0.005	I
I	C-B	0.085	0.012		0.008		I
I	D-A	0.073	0.010			0.008	I
I	D-BC	0.041	0.020	0.020	0.003	0.004	I
I	A-D	0.085	0.012		0.007		I

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	
I	17.30-17.45									I	
I	B-C	0.33	7.58	0.043		0.0	0.0	0.7		I	
I	B-AD	0.48	4.29	0.111		0.1	0.1	1.8		I	
I	A-B	0.42								I	
I	A-C	7.24								I	
I	A-D	2.58	7.34	0.351		0.5	0.5	8.0		I	
I	D-A	2.98	6.95	0.429		0.7	0.7	11.0		I	
I	D-BC	1.97	3.63	0.543		1.1	1.1	16.8		I	
I	C-D	1.74								I	
I	C-A	7.84								I	
I	C-B	0.27	7.68	0.036		0.0	0.0	0.6		I	
I										I	
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I		MAJOR RD. CENT RES VIS TO LEFT VISIBILITY									I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I	
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I	
I	B-C	0.081	0.012				0.008			I	
I	B-AD	0.045	0.019	0.020	0.003	0.004				I	
I	C-B	0.085	0.012		0.008					I	
I	D-A	0.073	0.010			0.008				I	
I	D-BC	0.041	0.020	0.020	0.003	0.004				I	
I	A-D	0.085	0.012		0.007					I	

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
I	17.45-18.00									I
I	B-C	0.27	8.10	0.033		0.0	0.0	0.5		I
I	B-AD	0.39	5.03	0.077		0.1	0.1	1.3		I

I	A-B	0.34									I
I	A-C	5.91									I
I	A-D	2.10	7.81	0.270		0.5	0.4	5.8			I
I	D-A	2.43	8.02	0.303		0.7	0.4	6.9			I
I	D-BC	1.61	4.48	0.359		1.1	0.6	9.4			I
I	C-D	1.42									I
I	C-A	6.40									I
I	C-B	0.22	8.14	0.027		0.0	0.0	0.4			I

I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										I
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY					I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT					I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)					I
I											I
I	B-C	0.087	0.010				0.008				I
I	B-AD	0.053	0.016	0.020	0.004	0.005					I
I	C-B	0.090	0.010		0.008						I
I	D-A	0.081	0.009			0.008					I
I	D-BC	0.050	0.017	0.020	0.003	0.005					I
I	A-D	0.090	0.010		0.008						I

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
I	18.00-18.15									I
I	B-C	0.22	8.47	0.027		0.0	0.0	0.4		I
I	B-AD	0.32	5.56	0.058		0.1	0.1	1.0		I
I	A-B	0.29								I
I	A-C	4.95								I
I	A-D	1.76	8.15	0.216		0.4	0.3	4.3		I
I	D-A	2.04	8.60	0.237		0.4	0.3	4.9		I
I	D-BC	1.35	5.08	0.266		0.6	0.4	5.9		I
I	C-D	1.19								I
I	C-A	5.36								I
I	C-B	0.19	8.49	0.022		0.0	0.0	0.3		I

I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										I
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY					I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT					I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)					I
I											I
I	B-C	0.091	0.008				0.009				I
I	B-AD	0.059	0.013	0.020	0.004	0.006					I
I	C-B	0.093	0.008		0.009						I
I	D-A	0.086	0.008			0.009					I

I	D-BC	0.056	0.014	0.020	0.004	0.005	I
I	A-D	0.094	0.008		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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

**QUEUE FOR STREAM B-AD**

---

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

**QUEUE FOR STREAM A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3
17.15	0.4
17.30	0.5
17.45	0.5
18.00	0.4
18.15	0.3

\*  
\*

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

17.00	0.3	
17.15	0.4	
17.30	0.7	*
17.45	0.7	*
18.00	0.4	
18.15	0.3	

-----  
**QUEUE FOR STREAM D-BC**  
 -----

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	*
17.30	1.1	*
17.45	1.1	*
18.00	0.6	*
18.15	0.4	

-----  
**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**  
 -----

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	I	I	I	I	I	I	I	I	I	I	I
I	B-C	I	24.7	I 16.5	I	3.2	I 0.13	I	3.2	I 0.13	I
I	B-AD	I	35.7	I 23.8	I	8.0	I 0.22	I	8.0	I 0.22	I
I	A-B	I	31.5	I 21.0	I		I	I		I	I
I	A-C	I	543.0	I 362.0	I		I	I		I	I
I	A-D	I	193.3	I 128.9	I	35.0	I 0.18	I	35.0	I 0.18	I
I	D-A	I	223.5	I 149.0	I	43.6	I 0.19	I	43.6	I 0.19	I
I	D-BC	I	148.1	I 98.7	I	59.5	I 0.40	I	59.5	I 0.40	I

I	C-D	I	130.3	I	86.8	I		I		I		I		
I	C-A	I	588.2	I	392.2	I		I		I		I		
I	C-B	I	20.6	I	13.7	I	2.6	I	0.13	I	2.6	I	0.13	I
-----														
I	ALL	I	1938.9	I	1292.6	I	151.8	I	0.08	I	151.8	I	0.08	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads August AM 2011 with dev (low).vpi"  
(drive-on-the-left ) at 15:15:58 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

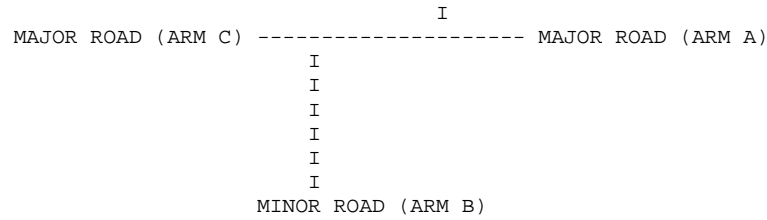
South Quay cross-roads

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

INPUT DATA  
-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



ARM A IS Carnsew Road east  
 ARM B IS south side access road  
 ARM C IS Carnsew Road west  
 ARM D IS north side access road

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	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	6.00 M.	I ( W )	6.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I (WCR )	0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.00 M.	I (WA-D)	2.50 M.	I
I	- VISIBILITY	I (VC-B)	80.0 M.	I (VA-D)	100.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	60.0 M.	I (VD-A)	75.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	60.0 M.	I (VD-C)	55.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	-	I (WD-A)	-	I
I	- LANE 2 WIDTH	I (WB-A)	-	I (WD-C)	-	I
I	- WIDTH AT 0 M FROM JUNC.	I	8.00 M.	I	9.00 M.	I

I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK	
ARM A	15.00	45.00	75.00	8.79	13.18	8.79	
ARM B	15.00	45.00	75.00	0.25	0.38	0.25	
ARM C	15.00	45.00	75.00	7.34	11.01	7.34	
ARM D	15.00	45.00	75.00	1.56	2.34	1.56	

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.024	0.826	0.149
		0.0	17.0	581.0	105.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)

```

I           I ARM B I 0.600 I 0.000 I 0.400 I 0.000 I
I           I      I 12.0 I 0.0 I 8.0 I 0.0 I
I           I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM C I 0.862 I 0.019 I 0.000 I 0.119 I
I           I      I 506.0 I 11.0 I 0.0 I 70.0 I
I           I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I           I      I      I      I      I
I           I ARM D I 0.600 I 0.000 I 0.400 I 0.000 I
I           I      I 75.0 I 0.0 I 50.0 I 0.0 I
I           I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY      GEOMETRIC DELAYI
I          (VEH/MIN) (VEH/MIN) CAPACITY  FLOW        QUEUE  QUEUE    (VEH.MIN/  (VEH.MIN/  I
I          (RFC)      (RFC)      (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 07.45-08.00
I B-C           0.10      8.08      0.012
I B-AD          0.15      5.10      0.029
I A-B           0.21
I A-C           7.26
I A-D           1.31      8.03      0.163
I D-A           0.94      8.76      0.107
I D-BC          0.63      4.75      0.131
I C-D           0.88
I C-A           6.32
I C-B           0.14      8.10      0.017
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-C           0.087      0.010
I B-AD          0.054      0.015      0.020      0.004      0.005
I C-B           0.089      0.010
I D-A           0.088      0.009
I D-BC          0.052      0.016      0.020      0.003      0.005
I A-D           0.093      0.009
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)	I
I	08.00-08.15									I
I	B-C	0.12	7.66	0.016		0.0	0.0	0.2		I
I	B-AD	0.18	4.48	0.040		0.0	0.0	0.6		I
I	A-B	0.25								I
I	A-C	8.67								I
I	A-D	1.57	7.67	0.204		0.2	0.3	3.7		I
I	D-A	1.12	8.29	0.135		0.1	0.2	2.3		I
I	D-BC	0.75	4.11	0.181		0.1	0.2	3.1		I
I	C-D	1.04								I
I	C-A	7.55								I
I	C-B	0.16	7.69	0.021		0.0	0.0	0.3		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)		(M)		I
I										I
I	B-C	0.083	0.012					0.008		I
I	B-AD	0.047	0.018		0.020	0.003		0.005		I
I	C-B	0.085	0.012			0.008				I
I	D-A	0.083	0.010					0.009		I
I	D-BC	0.045	0.019		0.020	0.003		0.004		I
I	A-D	0.089	0.011			0.008				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)	I
I	08.15-08.30									I
I	B-C	0.15	7.06	0.021		0.0	0.0	0.3		I
I	B-AD	0.22	3.62	0.061		0.0	0.1	0.9		I
I	A-B	0.31								I
I	A-C	10.62								I
I	A-D	1.92	7.17	0.268		0.3	0.4	5.2		I
I	D-A	1.37	7.56	0.181		0.2	0.2	3.2		I
I	D-BC	0.91	3.23	0.283		0.2	0.4	5.3		I
I	C-D	1.28								I
I	C-A	9.25								I
I	C-B	0.20	7.12	0.028		0.0	0.0	0.4		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.076	0.014			0.007	I
I	B-AD	0.038	0.022	0.020	0.003	0.004	I
I	C-B	0.078	0.015		0.007		I
I	D-A	0.076	0.012			0.008	I
I	D-BC	0.036	0.023	0.020	0.002	0.003	I
I	A-D	0.083	0.013		0.007		I

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
I	08.30-08.45									I
I	B-C	0.15	7.06	0.021		0.0	0.0	0.3		I
I	B-AD	0.22	3.61	0.061		0.1	0.1	1.0		I
I	A-B	0.31								I
I	A-C	10.62								I
I	A-D	1.92	7.17	0.268		0.4	0.4	5.4		I
I	D-A	1.37	7.55	0.182		0.2	0.2	3.3		I
I	D-BC	0.91	3.23	0.283		0.4	0.4	5.8		I
I	C-D	1.28								I
I	C-A	9.25								I
I	C-B	0.20	7.12	0.028		0.0	0.0	0.4		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	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.076	0.014				0.007			I
I	B-AD	0.038	0.022	0.020	0.003	0.004				I
I	C-B	0.078	0.015		0.007					I
I	D-A	0.076	0.012			0.008				I
I	D-BC	0.036	0.023	0.020	0.002	0.003				I
I	A-D	0.083	0.013		0.007					I

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
I	08.45-09.00									I
I	B-C	0.12	7.65	0.016		0.0	0.0	0.2		I
I	B-AD	0.18	4.47	0.040		0.1	0.0	0.7		I



I	D-BC	0.052	0.016	0.020	0.003	0.005	I
I	A-D	0.093	0.009		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

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 B-AD**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.0
09.15	0.0

**QUEUE FOR STREAM A-D**

---

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

**QUEUE FOR STREAM D-A**

---

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

-----  
**QUEUE FOR STREAM D-BC**  
 -----

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	0.2

-----  
**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**  
 -----

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	I	I	I	I	I	I	I	I	I	I	I
I	B-C	I	11.0	I 7.3	I	1.5	I 0.13	I	1.5	I 0.13	I
I	B-AD	I	16.5	I 11.0	I	4.0	I 0.24	I	4.0	I 0.24	I
I	A-B	I	23.3	I 15.5	I		I	I		I	I
I	A-C	I	796.7	I 531.1	I		I	I		I	I
I	A-D	I	144.0	I 96.0	I	24.2	I 0.17	I	24.2	I 0.17	I
I	D-A	I	102.8	I 68.6	I	14.8	I 0.14	I	14.8	I 0.14	I
I	D-BC	I	68.6	I 45.7	I	22.3	I 0.33	I	22.3	I 0.33	I

I	C-D	I	96.0	I	64.0	I		I		I		I		
I	C-A	I	693.8	I	462.6	I		I		I		I		
I	C-B	I	15.1	I	10.1	I	2.0	I	0.13	I	2.0	I	0.13	I
-----														
I	ALL	I	1967.7	I	1311.8	I	68.8	I	0.03	I	68.8	I	0.03	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 (MAY 2001)

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

-----  
FOR SALES AND DISTRIBUTION INFORMATION,  
PROGRAM ADVICE AND MAINTENANCE CONTACT:  
TRL SOFTWARE BUREAU  
TEL: CROWTHORNE (01344) 770758, FAX: 770864  
EMAIL: SoftwareBureau@trl.co.uk  
-----

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:-

"o:\022961 Hayle Harbour - OPA\F08 - Civils (name)\Transportation\Assessments\PICADY\  
20071108 rs South Quay cross-roads June PM 2017 with dev (ROBUST).vpi"  
(drive-on-the-left ) at 15:42:46 on Thursday, 8 November 2007

RUN TITLE  
\*\*\*\*\*

South Quay cross-roads

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

INPUT DATA

-----

MINOR ROAD (ARM D)

I  
I  
I  
I  
I



I	-	WIDTH AT 5 M FROM JUNC.	I	3.25 M.	I	5.00 M.	I
I	-	WIDTH AT 10 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 15 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	WIDTH AT 20 M FROM JUNC.	I	3.00 M.	I	3.50 M.	I
I	-	LENGTH OF FLARED SECTION	I	1 VEHS	I	2 VEHS	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

		NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
ARM	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK	
ARM A	15.00	45.00	75.00	7.09	10.63	7.09	
ARM B	15.00	45.00	75.00	0.71	1.07	0.71	
ARM C	15.00	45.00	75.00	6.56	9.84	6.56	
ARM D	15.00	45.00	75.00	4.36	6.54	4.36	

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.000	0.051	0.633	0.316
		0.0	29.0	359.0	179.0
		( 0.0)	( 10.0)	( 10.0)	( 10.0)

```

I          I ARM B I 0.596 I 0.000 I 0.404 I 0.000 I
I          I      I 34.0 I 0.0 I 23.0 I 0.0 I
I          I      I ( 10.0)I ( 0.0)I ( 10.0)I ( 10.0)I
I          I      I      I      I      I
I          I ARM C I 0.735 I 0.036 I 0.000 I 0.229 I
I          I      I 386.0 I 19.0 I 0.0 I 120.0 I
I          I      I ( 10.0)I ( 10.0)I ( 0.0)I ( 10.0)I
I          I      I      I      I      I
I          I ARM D I 0.602 I 0.000 I 0.398 I 0.000 I
I          I      I 210.0 I 0.0 I 139.0 I 0.0 I
I          I      I ( 10.0)I ( 10.0)I ( 10.0)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 TIME          DEMAND  CAPACITY  DEMAND/  PEDESTRIAN  START  END      DELAY  GEOMETRIC DELAYI
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
I 16.45-17.00
I B-C           0.29     8.42     0.034          0.0  0.0     0.5
I B-AD          0.43     5.61     0.076          0.0  0.1     1.2
I A-B           0.36
I A-C           4.49
I A-D           2.24     8.18     0.274          0.0  0.4     5.3
I D-A           2.63     8.51     0.309          0.0  0.4     6.3
I D-BC          1.74     5.03     0.345          0.0  0.5     7.1
I C-D           1.50
I C-A           4.82
I C-B           0.24     8.50     0.028          0.0  0.0     0.4
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-C           0.091     0.008
I B-AD          0.059     0.013     0.020     0.004     0.006
I C-B           0.094     0.008
I D-A           0.085     0.007
I D-BC          0.056     0.014     0.020     0.004     0.005
I A-D           0.095     0.008
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)	I
I	17.00-17.15									I
I	B-C	0.34	8.04	0.043		0.0	0.0	0.6		I
I	B-AD	0.51	5.07	0.100		0.1	0.1	1.6		I
I	A-B	0.43								I
I	A-C	5.36								I
I	A-D	2.67	7.85	0.340		0.4	0.5	7.3		I
I	D-A	3.13	7.81	0.402		0.4	0.7	9.4		I
I	D-BC	2.07	4.39	0.472		0.5	0.9	11.9		I
I	C-D	1.79								I
I	C-A	5.76								I
I	C-B	0.28	8.15	0.035		0.0	0.0	0.5		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH		WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		I
I	CHANGE:	(.1M)	(.1M)		(.1M)	(M)		(M)		I
I										I
I	B-C	0.087	0.009					0.008		I
I	B-AD	0.054	0.015		0.020	0.004		0.005		I
I	C-B	0.090	0.010			0.008				I
I	D-A	0.080	0.008					0.008		I
I	D-BC	0.049	0.017		0.020	0.003		0.005		I
I	A-D	0.091	0.010			0.008				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)	I
I	17.15-17.30									I
I	B-C	0.42	7.50	0.056		0.0	0.1	0.9		I
I	B-AD	0.62	4.34	0.143		0.1	0.2	2.4		I
I	A-B	0.53								I
I	A-C	6.56								I
I	A-D	3.27	7.39	0.443		0.5	0.8	11.0		I
I	D-A	3.84	6.06	0.634		0.7	1.6	21.6		I
I	D-BC	2.54	3.39	0.751		0.9	2.4	29.6		I
I	C-D	2.19								I
I	C-A	7.06								I
I	C-B	0.35	7.68	0.045		0.0	0.0	0.7		I
I										I
I		EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								I
I			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		I

I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-C	0.081	0.011			0.008	I
I	B-AD	0.046	0.019	0.020	0.003	0.005	I
I	C-B	0.085	0.012		0.008		I
I	D-A	0.071	0.009			0.007	I
I	D-BC	0.041	0.021	0.020	0.003	0.004	I
I	A-D	0.086	0.012		0.007		I

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
I	17.30-17.45									I
I	B-C	0.42	7.47	0.056		0.1	0.1	0.9		I
I	B-AD	0.62	4.32	0.144		0.2	0.2	2.5		I
I	A-B	0.53								I
I	A-C	6.56								I
I	A-D	3.27	7.39	0.443		0.8	0.8	11.7		I
I	D-A	3.84	5.77	0.665		1.6	1.9	26.6		I
I	D-BC	2.54	3.34	0.760		2.4	2.7	38.9		I
I	C-D	2.19								I
I	C-A	7.06								I
I	C-B	0.35	7.66	0.045		0.0	0.0	0.7		I
I										I
I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									
I			MAJOR RD.		CENT RES	VIS TO LEFT	VISIBILITY			I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			I
I	B-C	0.081	0.011				0.008			I
I	B-AD	0.046	0.019	0.020	0.003	0.005				I
I	C-B	0.084	0.012		0.008					I
I	D-A	0.070	0.009			0.007				I
I	D-BC	0.041	0.021	0.020	0.003	0.004				I
I	A-D	0.086	0.012		0.007					I

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
I	17.45-18.00									I
I	B-C	0.34	7.99	0.043		0.1	0.0	0.7		I
I	B-AD	0.51	5.04	0.101		0.2	0.1	1.8		I



I	A-B	0.43								I
I	A-C	5.36								I
I	A-D	2.67	7.85	0.341		0.8	0.5	8.2		I
I	D-A	3.13	7.66	0.409		1.9	0.7	11.5		I
I	D-BC	2.07	4.36	0.476		2.7	1.0	16.7		I
I	C-D	1.79								I
I	C-A	5.76								I
I	C-B	0.28	8.11	0.035		0.0	0.0	0.6		I

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)		
I	B-C	0.086	0.010		0.008	I	
I	B-AD	0.053	0.016	0.020	0.004	0.005	I
I	C-B	0.089	0.010		0.008		I
I	D-A	0.079	0.008			0.008	I
I	D-BC	0.049	0.017	0.020	0.003	0.005	I
I	A-D	0.091	0.010		0.008		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	18.00-18.15							I
I	B-C	0.29	8.40	0.034	0.0	0.0	0.5	I
I	B-AD	0.43	5.59	0.076	0.1	0.1	1.3	I
I	A-B	0.36						I
I	A-C	4.49						I
I	A-D	2.24	8.18	0.274	0.5	0.4	5.9	I
I	D-A	2.63	8.46	0.310	0.7	0.5	7.1	I
I	D-BC	1.74	5.02	0.346	1.0	0.5	8.7	I
I	C-D	1.50						I
I	C-A	4.82						I
I	C-B	0.24	8.48	0.028	0.0	0.0	0.4	I

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)		
I	B-C	0.090	0.008		0.009	I	
I	B-AD	0.059	0.013	0.020	0.004	0.006	I
I	C-B	0.093	0.008		0.009		I
I	D-A	0.085	0.007			0.009	I

I	D-BC	0.056	0.014	0.020	0.003	0.005	I
I	A-D	0.095	0.008		0.008		I

---

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

**QUEUE FOR STREAM B-C**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

**QUEUE FOR STREAM B-AD**

---

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 A-D**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	*
17.30	0.8	*
17.45	0.8	*
18.00	0.5	*
18.15	0.4	

**QUEUE FOR STREAM D-A**

---

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

17.00	0.4	
17.15	0.7	*
17.30	1.6	**
17.45	1.9	**
18.00	0.7	*
18.15	0.5	

**QUEUE FOR STREAM D-BC**

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
17.00	0.5	*
17.15	0.9	*
17.30	2.4	**
17.45	2.7	**
18.00	1.0	*
18.15	0.5	*

**QUEUE FOR STREAM C-B**

TIME SEGMENT	NO. OF
ENDING	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**

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I						
I	I	I	I	I	* DELAY *	I	* DELAY *	I						
I	I	I	I	I	(MIN)	I	(MIN)	I						
I	I	I	(VEH)	I	(VEH/H)	I	(MIN/VEH)	I						
I	B-C	I	31.5	I	21.0	I	4.2	I	0.13	I	4.2	I	0.13	I
I	B-AD	I	46.6	I	31.1	I	10.6	I	0.23	I	10.6	I	0.23	I
I	A-B	I	39.8	I	26.5	I		I		I		I		I
I	A-C	I	492.3	I	328.2	I		I		I		I		I
I	A-D	I	245.4	I	163.6	I	49.5	I	0.20	I	49.5	I	0.20	I
I	D-A	I	288.0	I	192.0	I	82.5	I	0.29	I	82.6	I	0.29	I
I	D-BC	I	190.6	I	127.1	I	112.9	I	0.59	I	112.9	I	0.59	I

I	C-D	I	164.5	I	109.7	I		I		I		I		
I	C-A	I	529.3	I	352.9	I		I		I		I		
I	C-B	I	26.1	I	17.4	I	3.3	I	0.13	I	3.3	I	0.13	I
-----														
I	ALL	I	2054.1	I	1369.4	I	263.1	I	0.13	I	263.2	I	0.13	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 =====