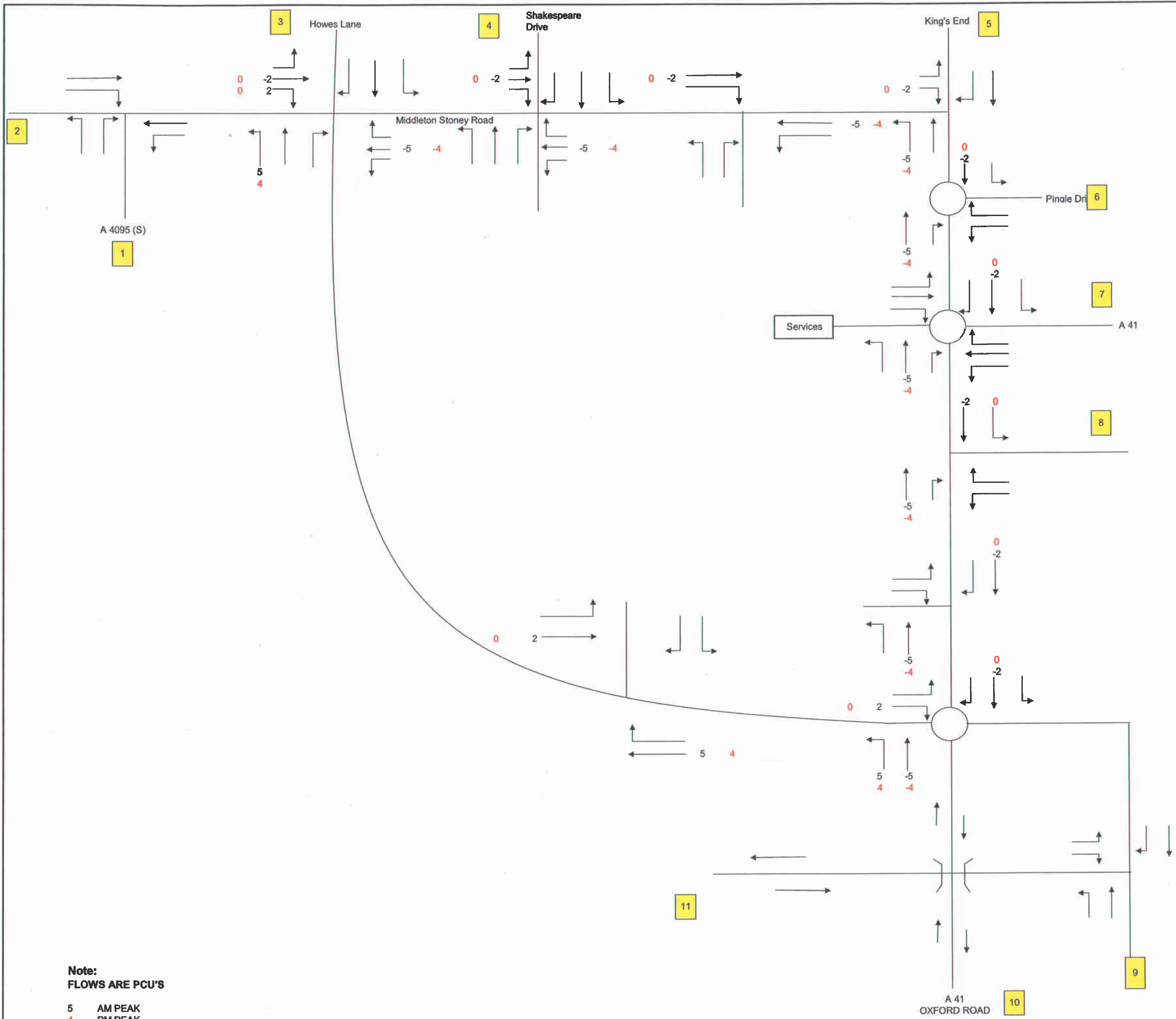
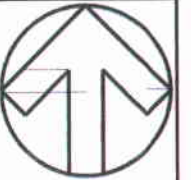


Bicester - O&D Survey, Tuesday 12th July 2005

Produced by The Paul Castle Consultancy

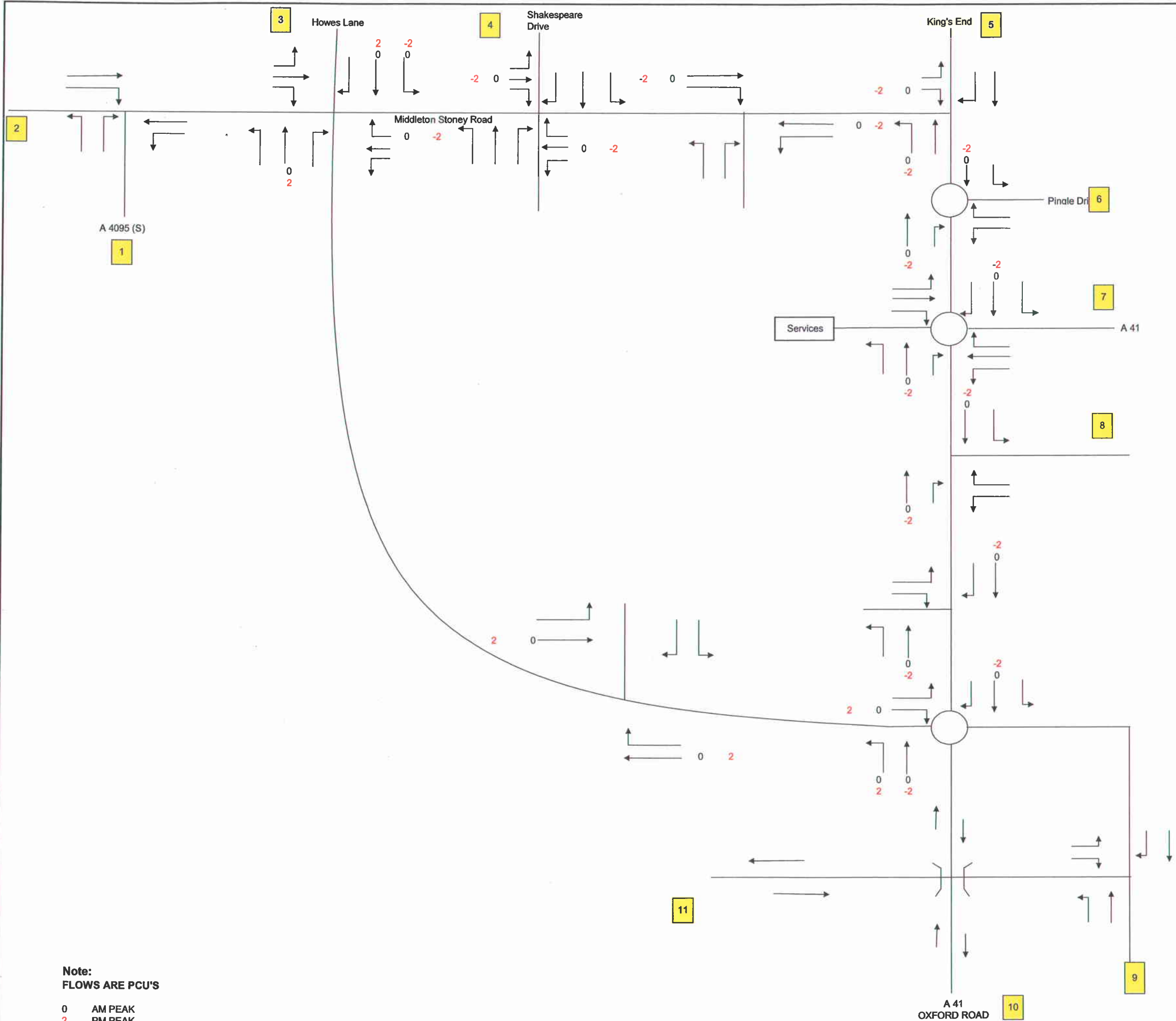
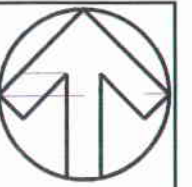
Site-to-Site Average Trip Durations (Minutes)

ORIGIN	DESTINATION							
	1	2	3	4	5	6	7	8
1	-	4.35	9.00	4.10	8.75	2.85	7.58	7.00
2	6.12	-	1.17	5.83	5.83	4.17	5.40	1.35
3	8.67	2.13	-	7.13	7.25	6.56	5.12	2.25
4	4.82	3.61	4.80	-	3.78	6.25	3.70	5.33
5	13.33	7.75	6.80	5.72	-	12.00	5.67	5.43
6	3.56	3.52	4.15	6.79	14.00	-	12.50	6.25
7	9.66	4.25	8.10	4.97	7.50	9.00	-	5.43
8	9.50	1.13	0.20	9.60	2.33	4.40	5.31	-



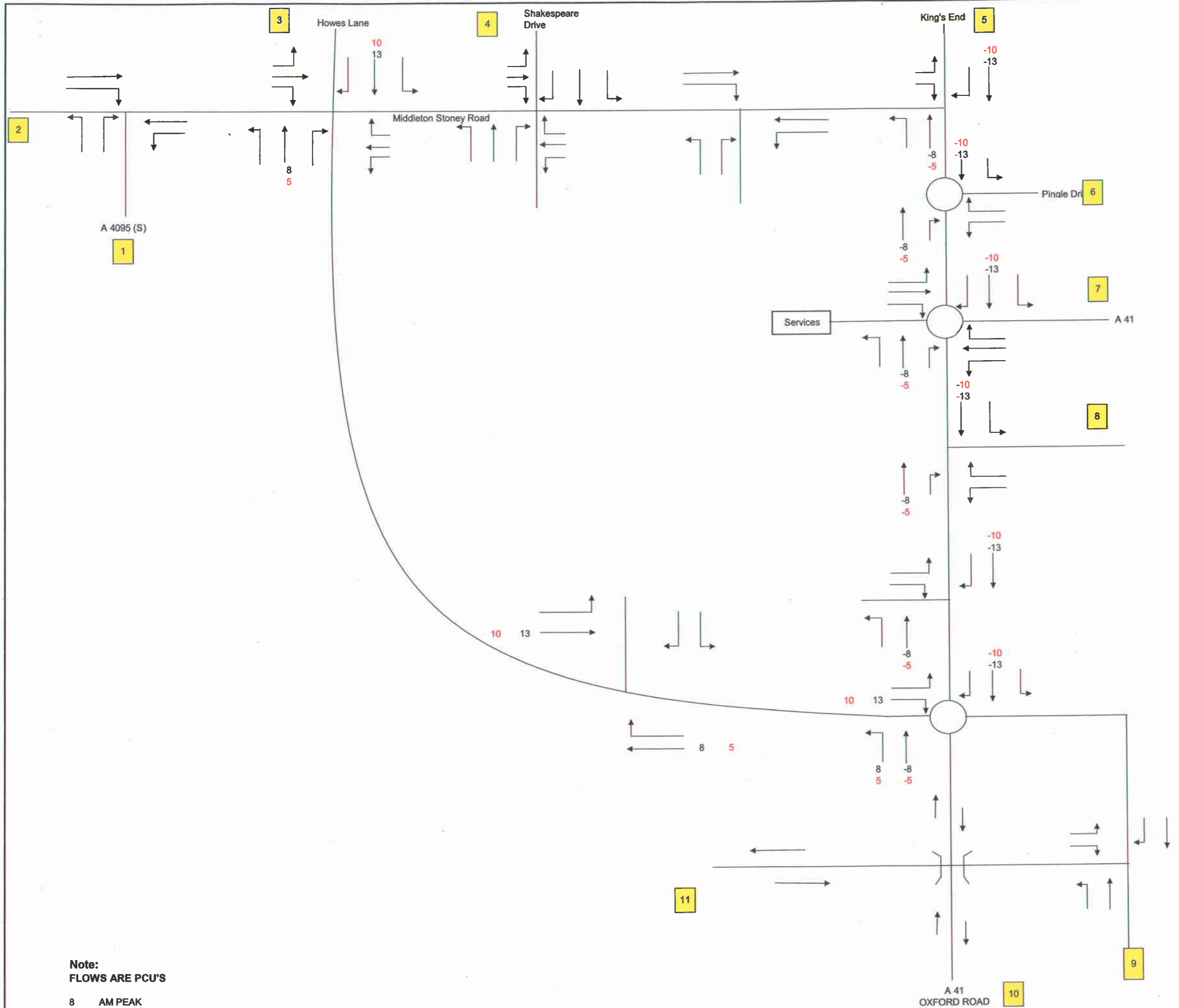
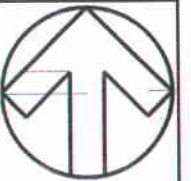
Note:
FLOWS ARE PCU'S
5 AM PEAK
4 PM PEAK

TITLE	CORDON DIVERSION (1,2,3)
FIGURE No:	N1



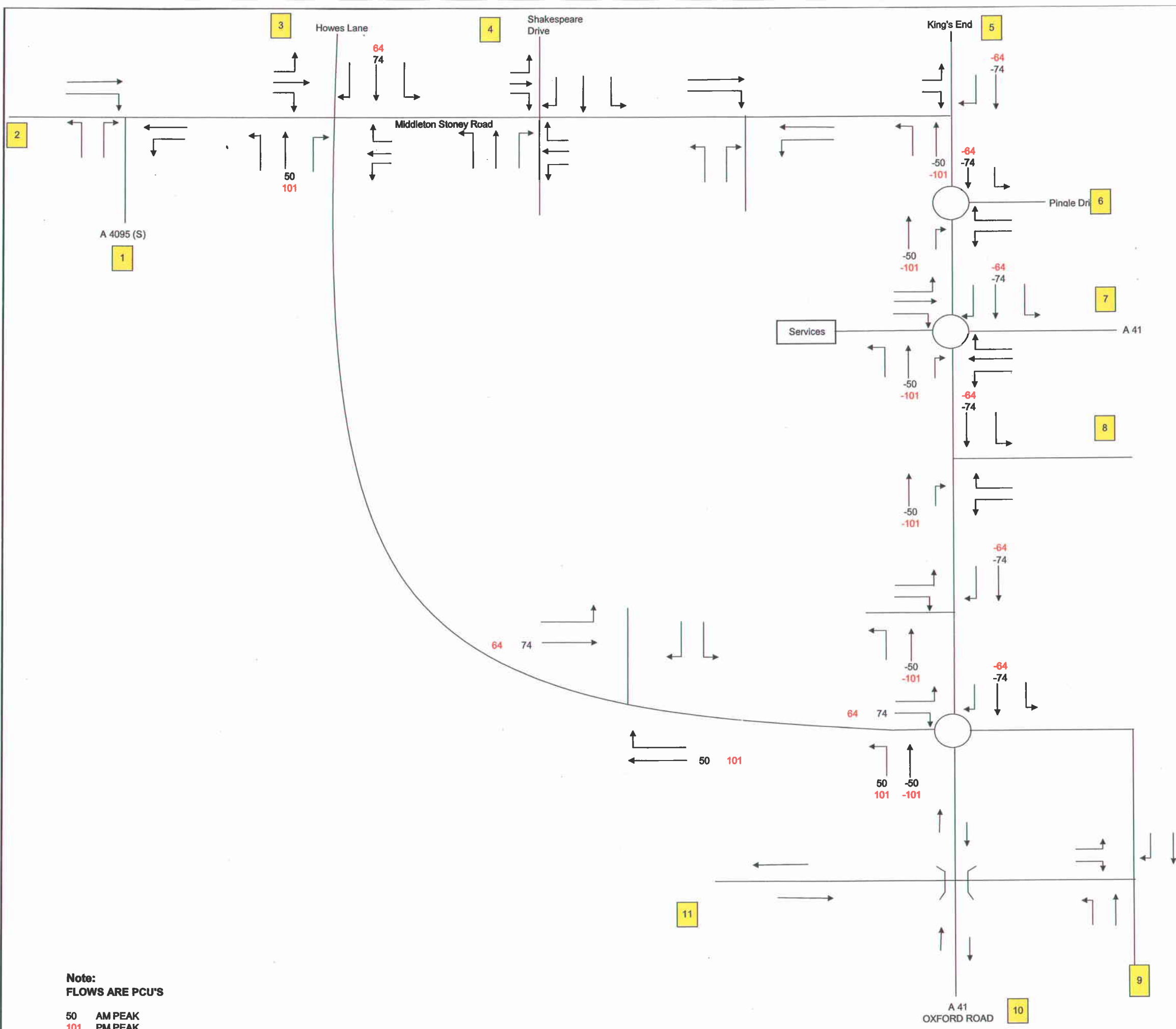
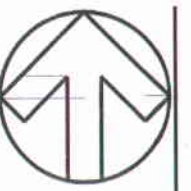
Note:
FLOWS ARE PCU'S
0 AM PEAK
2 PM PEAK

TITLE	CORDON DIVERSION (1,2,5)
FIGURE No.	N2



Note:
FLOWS ARE PCU'S
8 AM PEAK
5 PM PEAK

TITLE	CORDON DIVERSION (1,4,5)
FIGURE No.	N3



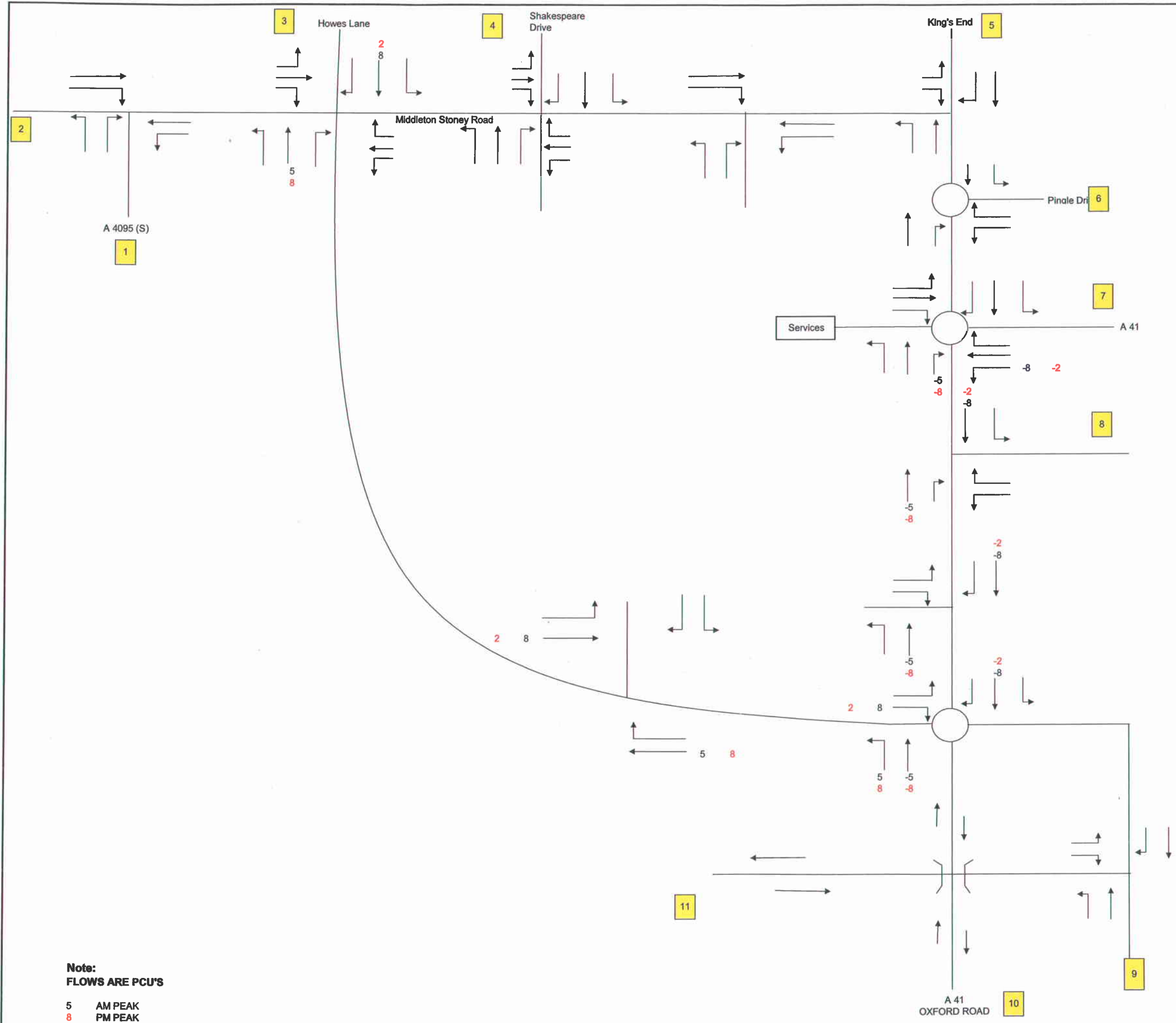
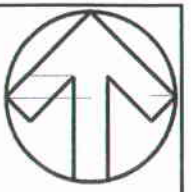
Note:
FLows ARE PCU'S

50 AM PEAK
 101 PM PEAK



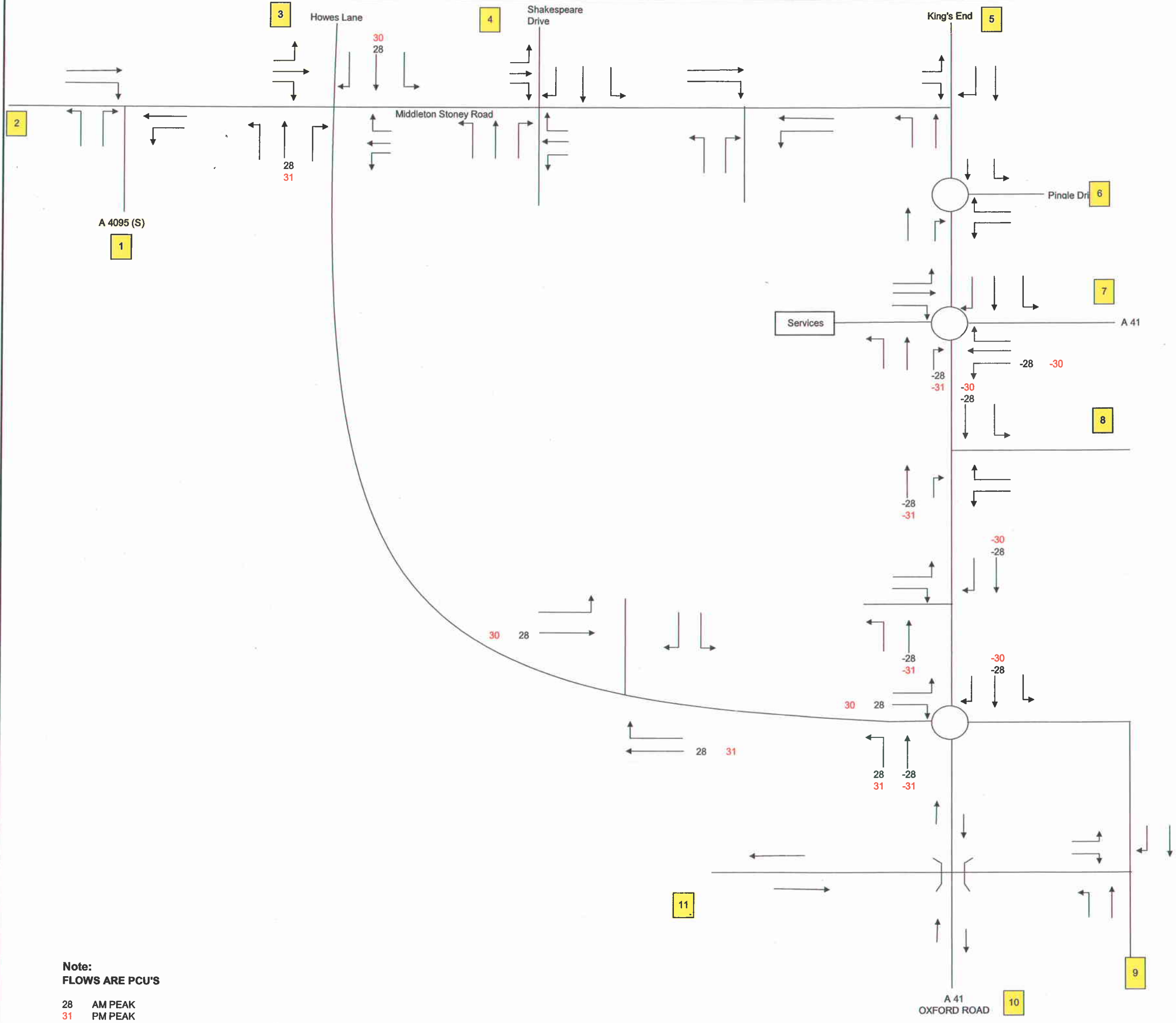
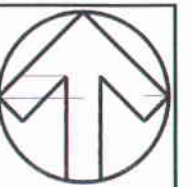
TITLE
**CORDON DIVERSION
 (1,4,7)**

FIGURE No:
 N4




Note:
FLOWS ARE PCU'S
5 AM PEAK
8 PM PEAK

TITLE	CORDON DIVERSION (1,6,5)
FIGURE No:	N5



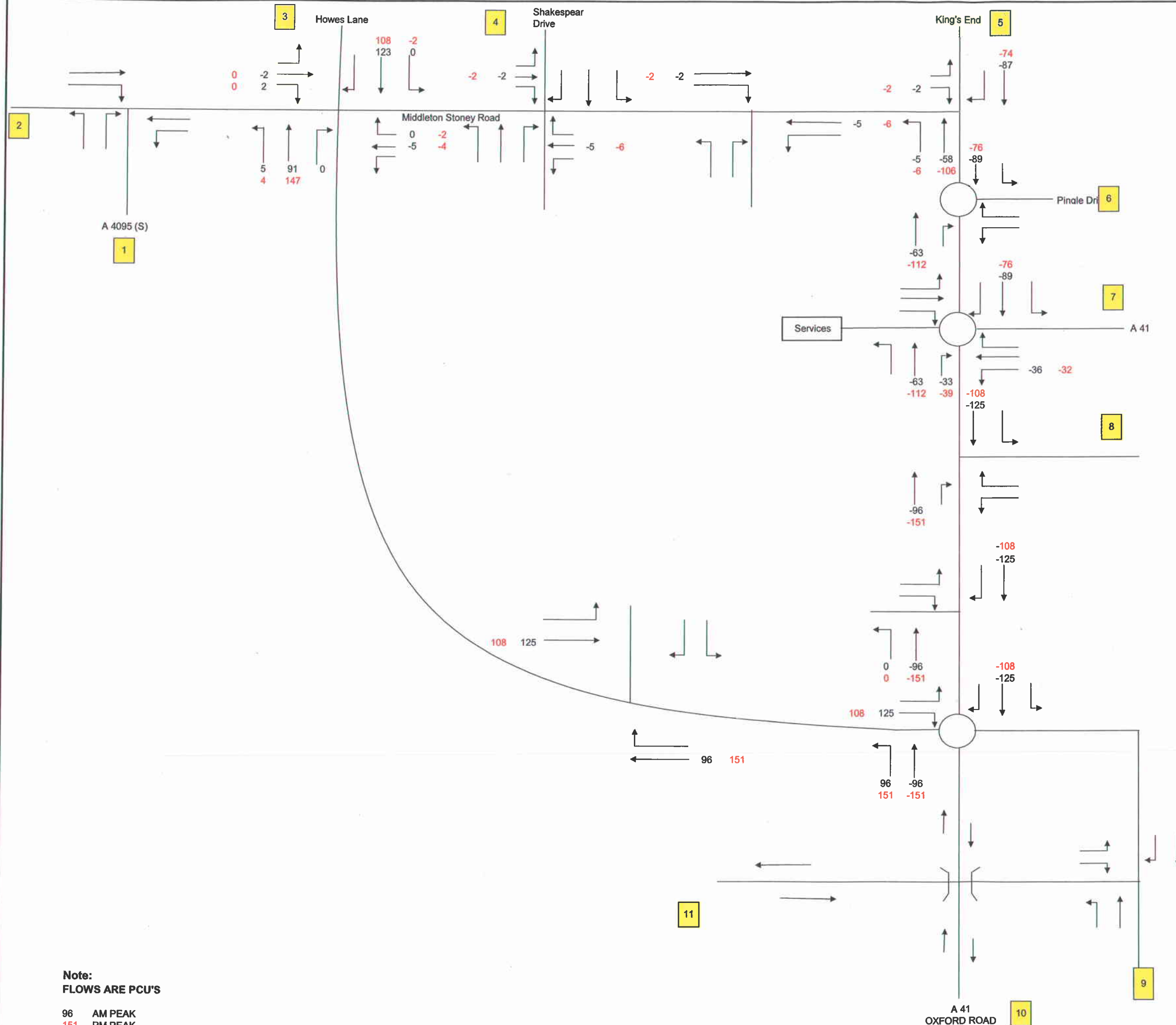
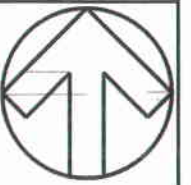
Note:
 FLOWS ARE PCU'S

28 AM PEAK
 31 PM PEAK



TITLE
 CORDON DIVERSION
 (1,6,7)

FIGURE No:
 N6



Note:
FLOWS ARE PCU'S

96 AM PEAK
151 PM PEAK



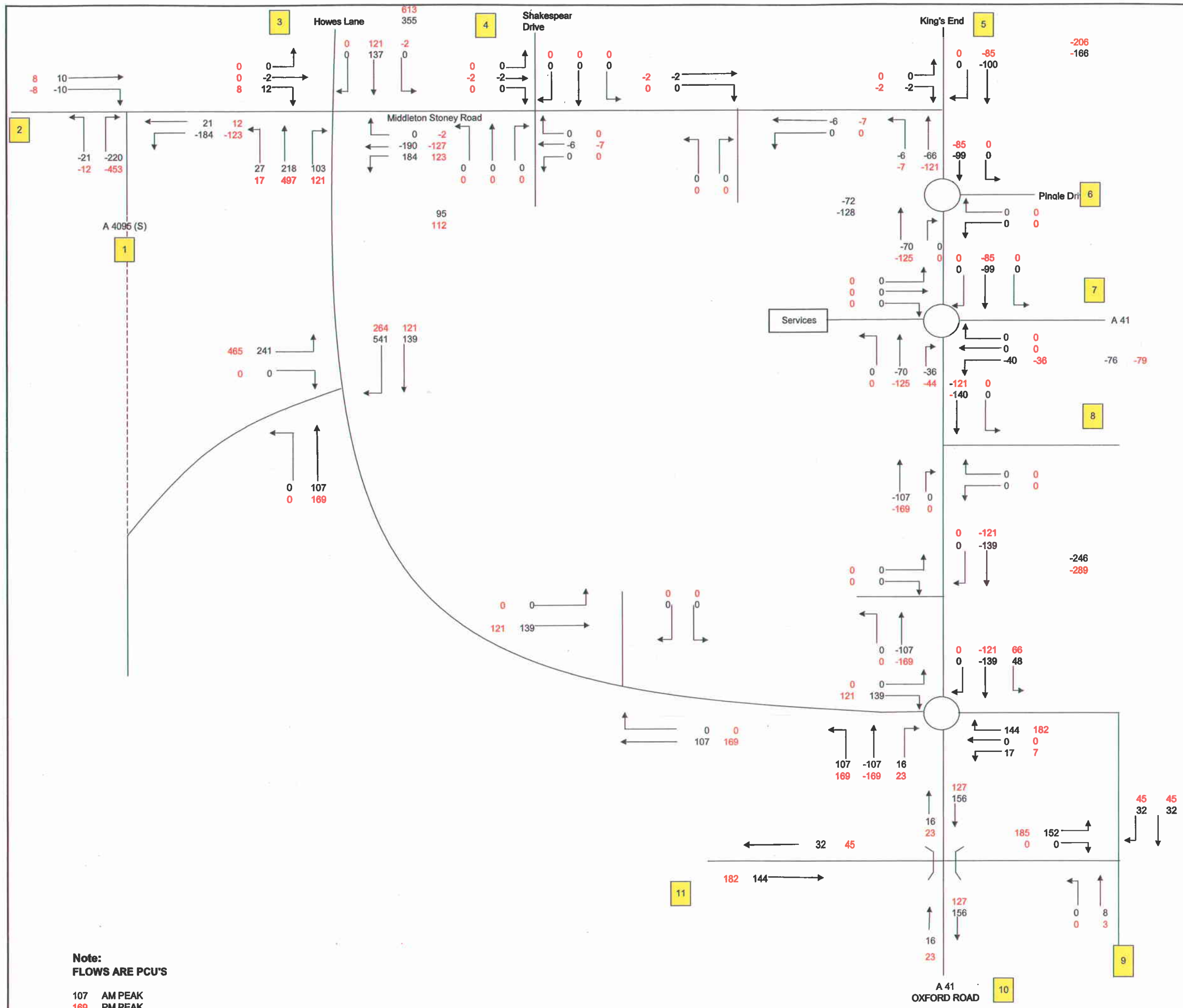
TITLE
COMBINED CORDON DIVERSION

FIGURE No:
N7




APPENDIX O

Combined Effects of Reassignment and Diversion



Note:
Flows are PCU's
 107 AM PEAK
 169 PM PEAK



TITLE
COMBINED DIVERSIONS FLOWS

FIGURE No
 01



APPENDIX P

Capacity Analysis – A41 Roundabout

TRL LIMITED

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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EMAIL: SoftwareBureau@trl.co.uk

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Run with file:-

"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\Bypass Roundabout\
BypassRbout- Total Traffic Exc Browne AM Peak.vai"
(drive-on-the-left) at 08:38:05 on Wednesday, 27 September 2006

ROUNDAABOUT CAPACITY AND DELAY

RUN TITLE

BypassRbout-Total Traffic Excluding Browne AM Peak

INPUT DATA

ARM A - A41 N
ARM B - Services
ARM C - A41 South
ARM D - Site

GEOMETRIC DATA

I ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)
I ARM A	I	7.30	I	11.10	I	6.30	I	20.00	I	70.00	I	46.0	I	0.612	I	41.004
I ARM B	I	3.50	I	10.50	I	14.20	I	20.00	I	70.00	I	45.0	I	0.507	I	29.756
I ARM C	I	7.30	I	11.10	I	30.00	I	18.00	I	70.00	I	40.0	I	0.686	I	48.493
I ARM D	I	3.50	I	6.90	I	17.80	I	20.00	I	70.00	I	46.0	I	0.477	I	26.758

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS							
		TURNING COUNTS							
		(PERCENTAGE OF H.V.S)							
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D				
08.00 - 09.00	ARM A	0.000	0.029	0.971	0.000				
		0.0	4.8	159.7	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM B	0.894	0.000	0.106	0.000				
		14.4	0.0	1.7	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM C	0.978	0.009	0.000	0.013				
		167.1	1.6	0.0	2.2				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM D	0.007	0.000	0.993	0.000				
		0.2	0.0	30.3	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.00-08.15								
ARM A	27.42	37.77	0.726		0.0	2.6	36.5	
ARM B	2.68	13.83	0.194		0.0	0.2	3.5	
ARM C	31.78	46.86	0.678		0.0	2.1	29.9	
ARM D	5.08	10.71	0.474		0.0	0.9	12.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.15-08.30								
ARM A	27.42	37.73	0.727		2.6	2.6	39.2	
ARM B	2.68	13.72	0.195		0.2	0.2	3.6	
ARM C	31.78	46.85	0.678		2.1	2.1	31.3	
ARM D	5.08	10.64	0.478		0.9	0.9	13.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.30-08.45								
ARM A	27.42	37.73	0.727		2.6	2.6	39.5	
ARM B	2.68	13.72	0.195		0.2	0.2	3.6	
ARM C	31.78	46.85	0.678		2.1	2.1	31.5	
ARM D	5.08	10.64	0.478		0.9	0.9	13.6	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.45-09.00								
ARM A	27.42	37.73	0.727		2.6	2.6	39.6	
ARM B	2.68	13.71	0.195		0.2	0.2	3.6	
ARM C	31.78	46.85	0.678		2.1	2.1	31.5	
ARM D	5.08	10.64	0.478		0.9	0.9	13.6	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	2.6	***
08.30	2.6	***
08.45	2.6	***
09.00	2.6	***

 QUEUE AT ARM B

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

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	2.1	**
08.30	2.1	**
08.45	2.1	**
09.00	2.1	**

 QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.9	*
08.30	0.9	*
08.45	0.9	*
09.00	0.9	*

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		I
I		I		I	* DELAY *	I	* DELAY *	I		I
I		I	(VEH)	I	(MIN)	I	(MIN)	I	(MIN/VEH)	I
I	A	I	1645.2	I	154.8	I	154.9	I	0.09	I
I	B	I	160.8	I	14.3	I	14.4	I	0.09	I
I	C	I	1906.8	I	124.2	I	124.2	I	0.07	I
I	D	I	304.8	I	53.1	I	53.1	I	0.17	I
I	ALL	I	4017.6	I	346.4	I	346.6	I	0.09	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

***** ARCADY 5 run completed.

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

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
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Run with file:-

"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\Bypass Roundabout\
BypassRbout- Total Traffic Exc Browne PM Peak.vai"
(drive-on-the-left) at 08:38:10 on Wednesday, 27 September 2006

ROUNDAABOUT CAPACITY AND DELAY

RUN TITLE

BypassRbout-Total Traffic Excluding Browne PM Peak

INPUT DATA

ARM A - A41 N
ARM B - Services
ARM C - A41 South
ARM D - Site

GEOMETRIC DATA

I ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)
I ARM A	I	7.30	I	11.10	I	6.30	I	20.00	I	70.00	I	46.0	I	0.612	I	41.004
I ARM B	I	3.50	I	10.50	I	14.20	I	20.00	I	70.00	I	45.0	I	0.507	I	29.756
I ARM C	I	7.30	I	11.10	I	30.00	I	18.00	I	70.00	I	40.0	I	0.686	I	48.493
I ARM D	I	3.50	I	6.90	I	17.80	I	20.00	I	70.00	I	46.0	I	0.477	I	26.758

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS			
		TURNING COUNTS			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.00 - 18.00	ARM A	0.000	0.045	0.954	0.001
		0.0	6.6	138.9	0.1
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.963	0.000	0.037	0.000
		18.2	0.0	0.7	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.828	0.011	0.000	0.161
		174.3	2.3	0.0	34.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.000	0.000	1.000	0.000
		0.0	0.0	19.9	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.00-17.15								
ARM A	24.27	38.51	0.630		0.0	1.7	24.2	
ARM B	3.15	16.20	0.194		0.0	0.2	3.5	
ARM C	35.10	46.41	0.756		0.0	3.0	42.7	
ARM D	3.72	11.34	0.328		0.0	0.5	6.9	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.15-17.30								
ARM A	24.27	38.49	0.630		1.7	1.7	25.4	
ARM B	3.15	16.13	0.195		0.2	0.2	3.6	
ARM C	35.10	46.40	0.756		3.0	3.1	45.8	
ARM D	3.72	11.26	0.330		0.5	0.5	7.3	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.30-17.45								
ARM A	24.27	38.49	0.631		1.7	1.7	25.5	
ARM B	3.15	16.13	0.195		0.2	0.2	3.6	
ARM C	35.10	46.40	0.756		3.1	3.1	46.1	
ARM D	3.72	11.26	0.330		0.5	0.5	7.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.45-18.00								
ARM A	24.27	38.49	0.631		1.7	1.7	25.5	
ARM B	3.15	16.13	0.195		0.2	0.2	3.6	
ARM C	35.10	46.40	0.756		3.1	3.1	46.3	
ARM D	3.72	11.26	0.330		0.5	0.5	7.4	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.7 **
17.30	1.7 **
17.45	1.7 **
18.00	1.7 **

 QUEUE AT ARM B

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

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	3.0 ***
17.30	3.1 ***
17.45	3.1 ***
18.00	3.1 ***

 QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.5
17.30	0.5
17.45	0.5
18.00	0.5

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
I	I	I	I	I	* DELAY *	I	* DELAY *	I	
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	A	I	1456.2	I	1456.2	I	100.6	I	0.07
I	B	I	189.0	I	189.0	I	14.4	I	0.08
I	C	I	2106.0	I	2106.0	I	181.0	I	0.09
I	D	I	223.2	I	223.2	I	28.9	I	0.13
I	ALL	I	3974.4	I	3974.4	I	324.8	I	0.08

* 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

***** ARCADY 5 run completed.

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

		TURNING PROPORTIONS							
		TURNING COUNTS							
		(PERCENTAGE OF H.V.S)							
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D				
17.00 - 18.00	ARM A	0.000	0.045	0.954	0.001				
		0.0	6.6	138.9	0.1				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM B	0.963	0.000	0.037	0.000				
		18.2	0.0	0.7	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM C	0.828	0.011	0.000	0.161				
		174.3	2.3	0.0	34.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM D	0.000	0.000	1.000	0.000				
		0.0	0.0	19.9	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.00-17.15								
ARM A	24.27	38.51	0.630		0.0	1.7	24.2	
ARM B	3.15	16.20	0.194		0.0	0.2	3.5	
ARM C	35.10	46.41	0.756		0.0	3.0	42.7	
ARM D	3.72	11.34	0.328		0.0	0.5	6.9	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.15-17.30								
ARM A	24.27	38.49	0.630		1.7	1.7	25.4	
ARM B	3.15	16.13	0.195		0.2	0.2	3.6	
ARM C	35.10	46.40	0.756		3.0	3.1	45.8	
ARM D	3.72	11.26	0.330		0.5	0.5	7.3	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.30-17.45								
ARM A	24.27	38.49	0.631		1.7	1.7	25.5	
ARM B	3.15	16.13	0.195		0.2	0.2	3.6	
ARM C	35.10	46.40	0.756		3.1	3.1	46.1	
ARM D	3.72	11.26	0.330		0.5	0.5	7.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.45-18.00								
ARM A	24.27	38.49	0.631		1.7	1.7	25.5	
ARM B	3.15	16.13	0.195		0.2	0.2	3.6	
ARM C	35.10	46.40	0.756		3.1	3.1	46.3	
ARM D	3.72	11.26	0.330		0.5	0.5	7.4	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.7 **
17.30	1.7 **
17.45	1.7 **
18.00	1.7 **

 QUEUE AT ARM B

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

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	3.0 ***
17.30	3.1 ***
17.45	3.1 ***
18.00	3.1 ***

 QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.5
17.30	0.5
17.45	0.5
18.00	0.5

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
I	I	I	I	I	* DELAY *	I	* DELAY *	I	
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	A	I	1456.2	I	1456.2	I	100.6	I	0.07
I	B	I	189.0	I	189.0	I	14.4	I	0.08
I	C	I	2106.0	I	2106.0	I	181.0	I	0.09
I	D	I	223.2	I	223.2	I	28.9	I	0.13
I	ALL	I	3974.4	I	3974.4	I	324.8	I	0.08

* 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

***** ARCADY 5 run completed.

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



APPENDIX Q

Capacity Analysis – A41 Eastern Access

User	WSP - Basingstoke	Project					Page 1
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Phases

Phase Data					
	Phase Name	Phase Type	Assoc Phase	Street Min	Cont Min
A	A41 North Right	Traffic		7	7
B	A41 North Ahead	Traffic		7	7
C	Site Access	Traffic		7	7
D	A41 South	Traffic		7	7
E	Pedestrians across	Pedestrian		5	5
F	Pedestrians across	Pedestrian		5	5
G	Pedestrians across	Pedestrian		6	6
H	Pedestrians across	Pedestrian		5	5
I	Pedestrians across	Pedestrian		5	5
J	Pedestrians across	Pedestrian		5	5

User	WSP - Basingstoke	Project					Page 2
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Phase Intergreens

From Phase	Phase Intergreens To Phase									
	A	B	C	D	E	F	G	H	I	J
A			5	5			5		12	
B			5		8		5			
C	7	7		5	13			9		5
D	5		5			5		9	9	
E		10	10							
F				10						
G	14	14								
H			10	10						
I	6			6						
J			8							

User	WSP - Basingstoke	Project					Page 3
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Prohibited Moves and Interstage Lengths

From Stage	Prohibited Moves To Stage						
	1	2	3	4	5	6	7
1	X	9	5	9	8	0	0
2	10	X	0	12	10	10	10
3	5	0	X	12	5	5	5
4	14	14	14	X	0	6	6
5	7	9	7	0	X	5	5
6	2	9	5	9	5	X	0
7	2	9	5	9	5	0	X

User	WSP - Basingstoke	Project					Page 4
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Stages

Stage Data	
Stage	Phases In Stage
1	BDJ
2	ABH
3	AB
4	CGI
5	C
6	D
7	D

User	WSP - Basingstoke	Project					Page 5
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Links

Link Data							
Ref Num	Link	Type	Full Phase	Arrw Phase	Opposing Arm/Link	R Turn Storage	Max Turn
1/1	A41 North Ahead	U	B				
1/2	A41 North Right	U	A				
2/1	A41 South Ahead Left	U	D				
3/1	Site Access Left Right	U	C				

User	WSP - Basingstoke	Project					Page 6
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Lanes

Lane Data								
Ref Num	Lane	Length (pcu)	Gradient (%)	Width (m)	Propn Turn(%)	Radius (m)	User Satn	RR67 Satn
1/1	A41 North Ahead	Inf	0.00	3.65	0	Inf	1800	1980
1/2	A41 North Ahead	Inf	0.00	3.65	0	Inf	1800	2120
1/3	A41 North Right	10	0.00	3.65	100	25.00	1800	2000
2/1	A41 South Left	10	0.00	3.65	100	15.00	1800	1800
2/2	A41 South Ahead	Inf	0.00	3.65	0	Inf	1800	2120
2/3	A41 South Ahead	Inf	0.00	3.65	0	Inf	1800	2120
3/1	Site Access Left	Inf	0.00	3.25	100	15.00	1800	1764
3/2	Site Access Right	Inf	0.00	3.65	100	25.00	1800	2000

User	WSP - Basingstoke	Project					Page 7
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Traffic Flows

Traffic Flows							
Grp Num	Time Start	Time End	Title	Link Number			
				1/1	1/2	2/1	3/1
1	08:00	09:00	2014 AM With Dev Excl Browne	1476	153	1817	296
2	17:00	18:00	2014 PM With Dev Excl Browne	1301	131	1925	283

User	WSP - Basingstoke	Project					Page 8
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Parameters Selected

Parameters Selected	
Flow Group	2014 AM With Dev Excl Browne
Flow Group Period	08:00 to 09:00
Phase Minimum Type	Street
CycleTime	90
Flow Factor	1.00
Sat Flows Used	RR67

Stage Results

Stage Timings						
Stage Sequence	1	2	3	4	5	6
Stage Duration	40	5	5	5	3	4
Stage Change Point	0	42	56	61	78	81

User	WSP - Basingstoke	Project					Page 9
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Link Results

Link Results												
Link Ref	Link Name	Link Type	Full Phs	Arw Phs	Tot Grn (s)	Dem Flow pcu	Max Satn pcu/h	Cap pcu	Deg Sat %	Tot Del s/pcu	TDel pcuh	Que' pcu
1/1	A41 North Ahead	U	B		59	1476	4100	2733	54.0	9.0	3.7	12.7
1/2	A41 North Right	U	A		14	153	2000	333	45.9	39.1	1.7	3.3
2/1	A41 South Ahead Left	U	D		46	1817	6040	2614	69.5	18.2	9.2	22.2
3/1	Site Access Left Right	U	C		15	296	3764	669	44.2	35.9	2.9	6.2
Cycle Time 90 s				PRC 29.5 %				Total Delay 17.5 PCUH				

User	WSP - Basingstoke	Project					Page 10
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Parameters Selected

Parameters Selected	
Flow Group	2014 PM With Dev Excl Browne
Flow Group Period	17:00 to 18:00
Phase Minimum Type	Street
CycleTime	90
Flow Factor	1.00
Sat Flows Used	RR67

Stage Results

Stage Timings						
Stage Sequence	1	2	3	4	5	6
Stage Duration	40	5	5	5	3	4
Stage Change Point	0	42	56	61	78	81

User	WSP - Basingstoke	Project					Page 11
Location		File	Eastern Site Access 260906.LSG	SCN		Chkd	
Title				Controller	Generic	Appvd	

Link Results

Link Results												
Link Ref	Link Name	Link Type	Full Phs	Arw Phs	Tot Grn (s)	Dem Flow pcu	Max Satn pcu/h	Cap pcu	Deg Sat %	Tot Del s/pcu	TDel pcuh	Que' pcu
1/1	A41 North Ahead	U	B		59	1301	4100	2733	47.6	8.4	3.0	11.2
1/2	A41 North Right	U	A		14	131	2000	333	39.3	37.7	1.4	2.8
2/1	A41 South Ahead Left	U	D		46	1925	6040	2614	73.6	19.2	10.2	23.5
3/1	Site Access Left Right	U	C		15	283	3764	669	42.3	35.6	2.8	5.9
Cycle Time 90 s				PRC 22.2 %				Total Delay 17.4 PCUh				



APPENDIX R

Capacity Analysis – North Eastern Access

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAY 2001)

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EMAIL: SoftwareBureau@trl.co.uk

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Run with file:-

"n:\South West Bicester\ANALYSIS\PICADY\September 2006\North Eastern Site Access\
NE site access-TotTraffic Exc Browne-AM Peak.vpi"
(drive-on-the-left) at 09:11:18 on Wednesday, 27 September 2006

RUN TITLE

North Eastern Site Access - 2014 Total traffic Excl Browne AM Peak

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

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

ARM A IS Middleton Stoney Road (E)
ARM B IS North Eastern Site Access
ARM C IS Middleton Stoney Road (W)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I (W)	7.80 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.90 M.	I
I	- VISIBILITY	I (VC-B)	110.0 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	90.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	90.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	2.75 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	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-AC	0.12	6.47	0.019		0.0	0.0	0.3		I
I	C-AB	0.00	9.87	0.000		0.0	0.0	0.0		I
I	C-A	12.30								I
I	A-B	0.02								I
I	A-C	6.40								I

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

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	* DELAY *	I
I	I	I	I	I	I	I	I	I	I	I
I	I	I	(VEH)	I	(MIN)	I	(MIN)	I	(MIN/VEH)	I
I	I	I	(VEH/H)	I	(MIN/VEH)	I	(MIN)	I	(MIN/VEH)	I
I	B-AC	I	7.2	I	1.1	I	0.16	I	1.1	I
I	C-AB	I	0.0	I	0.0	I	0.00	I	0.0	I
I	C-A	I	738.0	I		I		I		I
I	A-B	I	1.0	I		I		I		I
I	A-C	I	384.2	I		I		I		I
I	ALL	I	1130.4	I	1.1	I	0.00	I	1.1	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 =====

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

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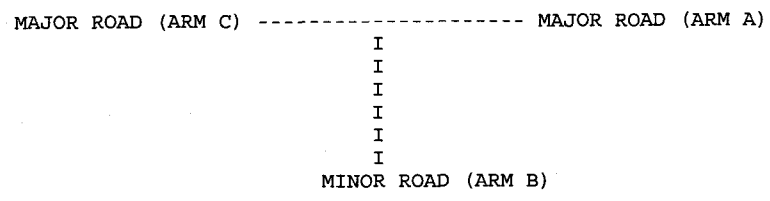
Run with file:-
"n:\South West Bicester\ANALYSIS\PICADY\September 2006\North Eastern Site Access\
NE site access-TotTraffic Exc Browne-PM Peak.vpi"
(drive-on-the-left) at 09:11:23 on Wednesday, 27 September 2006

RUN TITLE

North Eastern Site Access - 2014 Total Traffic Excl Browne PM Peak

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Middleton Stoney Road (E)
ARM B IS North Eastern Site Access
ARM C IS Middleton Stoney Road (W)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I (W)	7.80 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.90 M.	I
I	- VISIBILITY	I (VC-B)	110.0 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	90.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	90.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	2.75 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TIME	TURNING PROPORTIONS			TURNING COUNTS		
	FROM/TO	ARM A	ARM B	ARM C	(PERCENTAGE OF H.V.S)	
17.00 - 18.00	ARM A	0.000	0.006	0.994	0.0	788.0
		(0.0)	(0.0)	(0.0)		
	ARM B	0.667	0.000	0.333	2.0	1.0
		(0.1)	(0.0)	(0.1)		
	ARM C	0.996	0.004	0.000	468.0	2.0
		(0.0)	(0.0)	(0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.00-17.15								
B-AC	0.05	5.55	0.009		0.0	0.0	0.1	
C-AB	0.07	14.20	0.005		0.0	0.0	0.1	
C-A	7.76							
A-B	0.08							
A-C	13.14							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.15-17.30								
B-AC	0.05	5.55	0.009		0.0	0.0	0.1	
C-AB	0.07	14.20	0.005		0.0	0.0	0.1	
C-A	7.76							
A-B	0.08							
A-C	13.14							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.30-17.45								
B-AC	0.05	5.55	0.009		0.0	0.0	0.1	
C-AB	0.07	14.20	0.005		0.0	0.0	0.1	
C-A	7.76							
A-B	0.08							
A-C	13.14							

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-AC	0.05	5.55	0.009		0.0	0.0	0.1		I
I	C-AB	0.07	14.20	0.005		0.0	0.0	0.1		I
I	C-A	7.76								I
I	A-B	0.08								I
I	A-C	13.14								I

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

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.0
17.30	0.0
17.45	0.0
18.00	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)	I	(MIN)
I	I	(MIN/VEH)	I	I	I	I	I	(MIN/VEH)
I	B-AC	I 3.0	I 3.0	I	0.5	0.18	I	0.5
I	C-AB	I 4.0	I 4.0	I	0.3	0.07	I	0.3
I	C-A	I 465.8	I 465.8	I	I	I	I	I
I	A-B	I 5.0	I 5.0	I	I	I	I	I
I	A-C	I 788.2	I 788.2	I	I	I	I	I
I	ALL	I 1266.0	I 1266.0	I	0.8	0.00	I	0.8

* 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 =====



APPENDIX S

Capacity Analysis – Northern Access

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

PICADY 4.1 ANALYSIS PROGRAM
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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
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Run with file:-

"n:\South West Bicester\ANALYSIS\PICADY\September 2006\Northern Site Access\
B4030 jc with100units-TotTraffExc Browne-AM Peak.vpi"
(drive-on-the-left) at 09:11:32 on Wednesday, 27 September 2006

RUN TITLE

B4030 jctwith100units- 2014 TotTraf ExcBrowne-AM Peak

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)

I
I
I
I
I
I
I

MINOR ROAD (ARM B)

ARM A IS B4030(E)
ARM B IS Site Access
ARM C IS B4030(W)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I (W)	7.30 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	2.20 M.	I
I	- VISIBILITY	I (VC-B)	160.0 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	160.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	160.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.65 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TIME	TURNING PROPORTIONS			TURNING COUNTS		
	FROM/TO	ARM A	ARM B	ARM C	(PERCENTAGE OF H.V.S)	
08.00 - 09.00	ARM A	0.000	0.018	0.982	0.0	7.0
		(0.0)	(0.0)	(0.0)		
	ARM B	0.906	0.000	0.094	29.0	0.0
		(0.1)	(0.0)	(0.1)		
	ARM C	0.999	0.001	0.000	710.0	1.0
		(0.0)	(0.0)	(0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.53	7.21	0.074		0.0	0.1	1.1	
C-AB	0.04	16.80	0.002		0.0	0.0	0.0	
C-A	11.81							
A-B	0.12							
A-C	6.31							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
B-AC	0.53	7.21	0.074		0.1	0.1	1.2	
C-AB	0.04	16.80	0.002		0.0	0.0	0.0	
C-A	11.81							
A-B	0.12							
A-C	6.31							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45								
B-AC	0.53	7.21	0.074		0.1	0.1	1.2	
C-AB	0.04	16.80	0.002		0.0	0.0	0.0	
C-A	11.81							
A-B	0.12							
A-C	6.31							

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-AC	0.53	7.21	0.074		0.1	0.1	1.2		I
I	C-AB	0.04	16.80	0.002		0.0	0.0	0.0		I
I	C-A	11.81								I
I	A-B	0.12								I
I	A-C	6.31								I

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

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	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)	I	(MIN)
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)
I	B-AC	I 31.8	I 31.8	I	4.7	0.15	I	4.7
I	C-AB	I 2.5	I 2.5	I	0.1	0.06	I	0.1
I	C-A	I 708.5	I 708.5	I			I	
I	A-B	I 7.0	I 7.0	I			I	
I	A-C	I 378.8	I 378.8	I			I	
I	ALL	I 1128.6	I 1128.6	I	4.8	0.00	I	4.8

* 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 =====

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAY 2001)

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Run with file:-

"n:\South West Bicester\ANALYSIS\PICADY\September 2006\Northern Site Access\
B4030 jc with100units-TotTraffExc Browne-PM Peak.vpi"
(drive-on-the-left) at 09:11:36 on Wednesday, 27 September 2006

RUN TITLE

B4030 jctwith100units-2014 TotTraf ExcBrowne-PM Peak

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

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

ARM A IS B4030(E)
ARM B IS Site Access
ARM C IS B4030(W)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I (W)	7.30 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	2.20 M.	I
I	- VISIBILITY	I (VC-B)	160.0 M.	I
I	- BLOCKS TRAFFIC	I	YES	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	160.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	160.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.65 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TIME	TURNING PROPORTIONS			TURNING COUNTS		
	FROM/TO	ARM A	ARM B	ARM C	(PERCENTAGE OF H.V.S)	
17.00 - 18.00	ARM A	0.000	0.038	0.962	0.0	759.0
		(0.0)	(0.0)	(0.0)		
	ARM B	0.929	0.000	0.071	13.0	1.0
		(0.1)	(0.0)	(0.1)		
	ARM C	0.993	0.007	0.000	456.0	3.0
		(0.0)	(0.0)	(0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15								
B-AC	0.23	6.02	0.038		0.0	0.0	0.6	
C-AB	0.10	13.23	0.008		0.0	0.0	0.1	
C-A	7.55							
A-B	0.50							
A-C	12.65							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30								
B-AC	0.23	6.02	0.038		0.0	0.0	0.6	
C-AB	0.11	13.23	0.008		0.0	0.0	0.1	
C-A	7.54							
A-B	0.50							
A-C	12.65							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45								
B-AC	0.23	6.02	0.038		0.0	0.0	0.6	
C-AB	0.11	13.23	0.008		0.0	0.0	0.1	
C-A	7.54							
A-B	0.50							
A-C	12.65							

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-AC	0.23	6.02	0.038		0.0	0.0	0.6		I
I	C-AB	0.11	13.23	0.008		0.0	0.0	0.1		I
I	C-A	7.54								I
I	A-B	0.50								I
I	A-C	12.65								I

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

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.0
17.30	0.0
17.45	0.0
18.00	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-AC	I 13.8	I 13.8	I	2.3	I 0.17	I 2.3	I 0.17
I	C-AB	I 6.3	I 6.3	I	0.5	I 0.08	I 0.5	I 0.08
I	C-A	I 452.7	I 452.7	I		I	I	I
I	A-B	I 30.0	I 30.0	I		I	I	I
I	A-C	I 759.0	I 759.0	I		I	I	I
I	ALL	I 1261.8	I 1261.8	I	2.9	I 0.00	I 2.9	I 0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

***** PICADY 4 run completed.

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



APPENDIX T

Capacity Analysis – North Western Access

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\Shakespeare Drive\
Shakespeare Drive Total Traffic Exc Browne AM.vai"
(drive-on-the-left) at 08:38:37 on Wednesday, 27 September 2006

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

Shakespeare Drive 2014 Total traffic Excluding Browne AM Peak

INPUT DATA

ARM A - Shakespeare Drive
ARM B - Middleton Stanley Road (E)
ARM C - Site Access
ARM D - Middleton Stanley Road (W)

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)
I	ARM A	I	3.80	I	7.10	I	6.90	I	20.00	I	50.00	I	44.0	I	0.551	I	24.524
I	ARM B	I	3.70	I	7.10	I	14.40	I	20.00	I	50.00	I	41.0	I	0.587	I	27.379
I	ARM C	I	3.50	I	7.40	I	30.00	I	20.00	I	50.00	I	39.0	I	0.625	I	30.598
I	ARM D	I	3.50	I	8.00	I	4.00	I	10.00	I	50.00	I	57.0	I	0.466	I	19.391

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS				TURNING COUNTS				(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D	ARM A	ARM B	ARM C	ARM D	ARM A	ARM B	ARM C	ARM D
08.00 - 09.00	ARM A	0.000	0.662	0.043	0.294	0.0	306.0	20.0	136.0	(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.154	0.000	0.118	0.728	59.0	0.0	45.0	278.0	(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.173	0.423	0.000	0.404	18.0	44.0	0.0	42.0	(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.047	0.837	0.116	0.000	21.0	374.0	52.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.00-08.15								
ARM A	7.70	20.30	0.379		0.0	0.6	8.8	
ARM B	6.37	25.36	0.251		0.0	0.3	4.9	
ARM C	1.73	25.69	0.067		0.0	0.1	1.1	
ARM D	7.32	18.45	0.397		0.0	0.7	9.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.15-08.30								
ARM A	7.70	20.27	0.380		0.6	0.6	9.1	
ARM B	6.37	25.35	0.251		0.3	0.3	5.0	
ARM C	1.73	25.67	0.067		0.1	0.1	1.1	
ARM D	7.32	18.45	0.397		0.7	0.7	9.8	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.30-08.45								
ARM A	7.70	20.27	0.380		0.6	0.6	9.2	
ARM B	6.37	25.35	0.251		0.3	0.3	5.0	
ARM C	1.73	25.67	0.067		0.1	0.1	1.1	
ARM D	7.32	18.45	0.397		0.7	0.7	9.8	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.45-09.00								
ARM A	7.70	20.27	0.380		0.6	0.6	9.2	
ARM B	6.37	25.35	0.251		0.3	0.3	5.0	
ARM C	1.73	25.67	0.067		0.1	0.1	1.1	
ARM D	7.32	18.45	0.397		0.7	0.7	9.8	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.6 *
08.30	0.6 *
08.45	0.6 *
09.00	0.6 *

 QUEUE AT ARM B

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

 QUEUE AT ARM C

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

 QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.7 *
08.30	0.7 *
08.45	0.7 *
09.00	0.7 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	462.0	I	36.2	I	0.08	I
I	B	I	382.2	I	20.0	I	0.05	I
I	C	I	103.8	I	4.3	I	0.04	I
I	D	I	439.2	I	38.9	I	0.09	I
I	ALL	I	1387.2	I	99.4	I	0.07	I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

***** ARCADY 5 run completed.

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

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-

"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\Shakespeare Drive\
Shakespeare Drive Total Traffic Exc Browne PM.vai"
(drive-on-the-left) at 08:38:42 on Wednesday, 27 September 2006

ROUNDAABOUT CAPACITY AND DELAY

RUN TITLE

Shakespeare Drive 2014 Total traffic Excluding Browne PM Peak

INPUT DATA

ARM A - Shakespeare Drive
ARM B - Middleton Stanley Road (E)
ARM C - Site Access
ARM D - Middleton Stanley Road (W)

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)
I	ARM A	I	3.80	I	7.10	I	6.90	I	20.00	I	50.00	I	44.0	I	0.551	I	24.524
I	ARM B	I	3.70	I	7.10	I	14.40	I	20.00	I	50.00	I	41.0	I	0.587	I	27.379
I	ARM C	I	3.50	I	7.40	I	30.00	I	20.00	I	50.00	I	39.0	I	0.625	I	30.598
I	ARM D	I	3.50	I	8.00	I	4.00	I	10.00	I	50.00	I	57.0	I	0.466	I	19.391

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS				TURNING COUNTS				(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D	ARM A	ARM B	ARM C	ARM D	ARM A	ARM B	ARM C	ARM D
17.00 - 18.00	ARM A	0.000	0.644	0.099	0.257	0.0	123.0	19.0	49.0	(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.451	0.000	0.060	0.489	343.0	0.0	46.0	372.0	(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.165	0.369	0.000	0.466	17.0	38.0	0.0	48.0	(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.265	0.641	0.095	0.000	123.0	298.0	44.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.00-17.15								
ARM A	3.18	21.06	0.151		0.0	0.2	2.6	
ARM B	12.68	26.29	0.482		0.0	0.9	13.4	
ARM C	1.72	22.68	0.076		0.0	0.1	1.2	
ARM D	7.75	16.31	0.475		0.0	0.9	12.8	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.15-17.30								
ARM A	3.18	21.03	0.151		0.2	0.2	2.7	
ARM B	12.68	26.28	0.482		0.9	0.9	13.9	
ARM C	1.72	22.64	0.076		0.1	0.1	1.2	
ARM D	7.75	16.30	0.475		0.9	0.9	13.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.30-17.45								
ARM A	3.18	21.03	0.151		0.2	0.2	2.7	
ARM B	12.68	26.28	0.482		0.9	0.9	13.9	
ARM C	1.72	22.64	0.076		0.1	0.1	1.2	
ARM D	7.75	16.30	0.475		0.9	0.9	13.5	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.45-18.00								
ARM A	3.18	21.03	0.151		0.2	0.2	2.7	
ARM B	12.68	26.28	0.482		0.9	0.9	13.9	
ARM C	1.72	22.64	0.076		0.1	0.1	1.2	
ARM D	7.75	16.30	0.475		0.9	0.9	13.5	

 QUEUE AT ARM A

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

 QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.9 *
17.30	0.9 *
17.45	0.9 *
18.00	0.9 *

 QUEUE AT ARM C

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

 QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.9 *
17.30	0.9 *
17.45	0.9 *
18.00	0.9 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	190.8	I	10.6	I	10.6	I
I	B	I	760.8	I	55.1	I	55.2	I
I	C	I	103.2	I	4.9	I	4.9	I
I	D	I	465.0	I	53.3	I	53.3	I
I	ALL	I	1519.8	I	123.9	I	124.0	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

***** ARCADY 5 run completed.

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



APPENDIX U

Capacity Analysis – Southern Access Junction

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAY 2001)

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Run with file:-

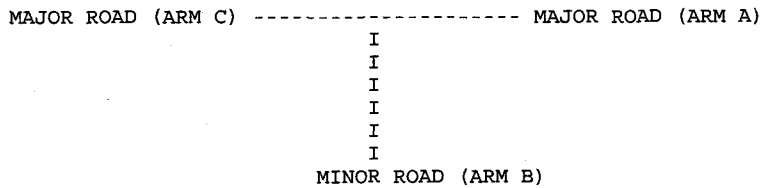
"n:\South West Bicester\ANALYSIS\PICADY\September 2006\Southern Site Access\
Bypass-S SiteAcc-TotTraffExc Browne-AM Peak.vpi"
(drive-on-the-left) at 09:11:44 on Wednesday, 27 September 2006

RUN TITLE

Bypass-S Site Acc-2014 TotTraf ExcBrowne-AM Peak

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



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

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I (W)	7.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	160.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	160.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	160.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.00 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

I	I	TURNING PROPORTIONS			I
		TURNING COUNTS			
I (PERCENTAGE OF H.V.S)					
I					
I	TIME	I FROM/TO	I ARM A	I ARM B	I ARM C
I	08.00 - 09.00	I	I	I	I
I		I ARM A	I 0.000	I 0.041	I 0.959
I		I	I 0.0	I 6.0	I 141.0
I		I	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I
I		I ARM B	I 0.047	I 0.000	I 0.953
I		I	I 8.0	I 0.0	I 164.0
I		I	I (0.1)	I (0.0)	I (0.1)
I		I	I	I	I
I		I ARM C	I 0.486	I 0.514	I 0.000
I		I	I 107.0	I 113.0	I 0.0
I		I	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I	08.00-08.15								
I	B-AC	2.87	11.25	0.255		0.0	0.3	4.9	
I	C-A	1.78							
I	C-B	1.89	11.99	0.157		0.0	0.2	2.7	
I	A-B	0.10							
I	A-C	2.35							
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-AC	0.122	0.005	0.016	0.005	0.007			
I	C-B	0.114	0.003		0.010				

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I	08.15-08.30								
I	B-AC	2.87	11.25	0.255		0.3	0.3	5.1	
I	C-A	1.78							
I	C-B	1.89	11.99	0.157		0.2	0.2	2.8	
I	A-B	0.10							
I	A-C	2.35							
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-AC	0.122	0.005	0.016	0.005	0.007			
I	C-B	0.114	0.003		0.010				

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-AC	2.87	11.25	0.255		0.3	0.3	5.1		I
I	C-A	1.78								I
I	C-B	1.89	11.99	0.157		0.2	0.2	2.8		I
I	A-B	0.10								I
I	A-C	2.35								I
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		
	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		
	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)		(M)		
I	B-AC	0.122	0.005	0.016	0.005	0.007				I
I	C-B	0.114	0.003	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	08.45-09.00									I
I	B-AC	2.87	11.25	0.255		0.3	0.3	5.1		I
I	C-A	1.78								I
I	C-B	1.89	11.99	0.157		0.2	0.2	2.8		I
I	A-B	0.10								I
I	A-C	2.35								I
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		
	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)		TO RIGHT		
	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)		(M)		
I	B-AC	0.122	0.005	0.016	0.005	0.007				I
I	C-B	0.114	0.003	0.010						I

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-B

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

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND		* QUEUEING *		* INCLUSIVE QUEUEING *	
			I	I	I	I	I	I
			(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
I	B-AC	I	172.2	172.2	20.2	0.12	20.2	0.12
I	C-A	I	107.1	107.1				
I	C-B	I	113.1	113.1	11.1	0.10	11.1	0.10
I	A-B	I	6.0	6.0				
I	A-C	I	141.0	141.0				
I	ALL	I	539.4	539.4	31.3	0.06	31.3	0.06

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

***** PICADY 4 run completed.

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

[Printed at 12:37:36 on 27/09/2006]

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAY 2001)

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Run with file:-

"n:\South West Bicester\ANALYSIS\PICADY\September 2006\Southern Site Access\
Bypass-S SiteAcc-TotTraffExc Browne-PM Peak.vpi"
(drive-on-the-left) at 09:11:49 on Wednesday, 27 September 2006

RUN TITLE

Bypass-S Site Acc-2014 TotTraf ExcBrowne-PM Peak.vpi

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

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

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

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I (W)	7.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	160.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	160.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	160.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.00 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TIME	TURNING PROPORTIONS			
	FROM/TO	ARM A	ARM B	ARM C
17.00 - 18.00	ARM A	0.000	0.069	0.931
		0.0	9.0	121.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.046	0.000	0.954
		5.0	0.0	103.0
		(0.1)	(0.0)	(0.1)
	ARM C	0.497	0.503	0.000
		170.0	172.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.00-17.15								
B-AC	1.80	11.29	0.160		0.0	0.2	2.7	
C-A	2.83							
C-B	2.87	12.07	0.237		0.0	0.3	4.5	
A-B	0.15							
A-C	2.02							

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:						
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)	
B-AC	0.116	0.007	0.016	0.005	0.007	
C-B	0.115	0.003		0.010		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.15-17.30								
B-AC	1.80	11.28	0.160		0.2	0.2	2.8	
C-A	2.83							
C-B	2.87	12.07	0.237		0.3	0.3	4.6	
A-B	0.15							
A-C	2.02							

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:						
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)	
B-AC	0.115	0.007	0.016	0.005	0.007	
C-B	0.115	0.003		0.010		

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	17.30-17.45									I
I	B-AC	1.80	11.28	0.160		0.2	0.2	2.8		I
I	C-A	2.83								I
I	C-B	2.87	12.07	0.237		0.3	0.3	4.7		I
I	A-B	0.15								I
I	A-C	2.02								I
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
		MARGINAL	LANE WIDTH	MAJOR RD. WIDTH	CENT RES WIDTH	VIS TO LEFT (AHEAD FOR MAJOR)	VISIBILITY TO RIGHT			
		CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)			
I	B-AC		0.115	0.007	0.016	0.005	0.007			I
I	C-B		0.115	0.003		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	17.45-18.00									I
I	B-AC	1.80	11.28	0.160		0.2	0.2	2.8		I
I	C-A	2.83								I
I	C-B	2.87	12.07	0.237		0.3	0.3	4.7		I
I	A-B	0.15								I
I	A-C	2.02								I
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
		MARGINAL	LANE WIDTH	MAJOR RD. WIDTH	CENT RES WIDTH	VIS TO LEFT (AHEAD FOR MAJOR)	VISIBILITY TO RIGHT			
		CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)			
I	B-AC		0.115	0.007	0.016	0.005	0.007			I
I	C-B		0.115	0.003		0.010				I

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.3
17.30	0.3
17.45	0.3
18.00	0.3

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN)
B-AC	108.0	11.2	11.2
C-A	170.0		
C-B	172.0	18.4	18.4
A-B	9.0		
A-C	121.2		
ALL	580.2	29.7	29.7

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

***** PICADY 4 run completed.

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

[Printed at 12:39:03 on 27/09/2006]



APPENDIX V

Capacity Analysis – Chesterton Link Road / Perimeter Road Junction

TRL LIMITED

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAY 2001)

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Run with file:-

"n:\South West Bicester\ANALYSIS\PICADY\September 2006\Chesterton Priority\
Bypass-Chesterton-TotTraffExc Browne-AM Peak.vpi"
(drive-on-the-left) at 09:11:05 on Wednesday, 27 September 2006

RUN TITLE

Bypass-Chesterton-2014 TotTraff ExcBrowne-AM Peak

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

```

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

ARM A IS Bypass South
ARM B IS Chesterton
ARM C IS Bypass North

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I (W)	7.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	160.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	160.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	160.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.65 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

I	I	TURNING PROPORTIONS			I	
		TURNING COUNTS				
		(PERCENTAGE OF H.V.S)			I	
I	TIME	I FROM/TO	I ARM A	I ARM B	I ARM C	I
I	08.00 - 09.00	I	I	I	I	I
I		I ARM A	I 0.000	I 0.000	I 1.000	I
I		I	I 0.0	I 0.0	I 115.0	I
I		I	I (0.0)	I (0.0)	I (0.0)	I
I		I	I	I	I	I
I		I ARM B	I 0.000	I 0.000	I 1.000	I
I		I	I 0.0	I 0.0	I 241.0	I
I		I	I (0.1)	I (0.0)	I (0.1)	I
I		I	I	I	I	I
I		I ARM C	I 0.214	I 0.786	I 0.000	I
I		I	I 147.0	I 541.0	I 0.0	I
I		I	I (0.0)	I (0.0)	I (0.0)	I
I		I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

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-AC	4.02	12.30	0.327		0.0	0.5	6.9		I
I	C-A	2.45								I
I	C-B	9.02	12.14	0.743		0.0	2.7	35.2		I
I	A-B	0.00								I
I	A-C	1.92								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-AC		0.088	0.014	0.016	0.004		0.005		I
I	C-B		0.116	0.002		0.011				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-AC	4.02	12.30	0.327		0.5	0.5	7.2		I
I	C-A	2.45								I
I	C-B	9.02	12.14	0.743		2.7	2.8	41.1		I
I	A-B	0.00								I
I	A-C	1.92								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-AC		0.087	0.014	0.016	0.004		0.005		I
I	C-B		0.116	0.002		0.011				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-AC	4.02	12.30	0.327		0.5	0.5	7.2		I
I	C-A	2.45								I
I	C-B	9.02	12.14	0.743		2.8	2.8	42.0		I
I	A-B	0.00								I
I	A-C	1.92								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-AC	0.087	0.014	0.016	0.004	0.005				
I	C-B	0.116	0.002		0.011					

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-AC	4.02	12.30	0.327		0.5	0.5	7.3		I
I	C-A	2.45								I
I	C-B	9.02	12.14	0.743		2.8	2.8	42.3		I
I	A-B	0.00								I
I	A-C	1.92								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-AC	0.087	0.014	0.016	0.004	0.005				
I	C-B	0.116	0.002		0.011					

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.5
08.30	0.5
08.45	0.5
09.00	0.5

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	2.7	***
08.30	2.8	***
08.45	2.8	***
09.00	2.8	***

 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-AC	I 241.2	I 241.2	I	28.6	I 0.12	I	28.6	I 0.12	I	
I	C-A	I 147.0	I 147.0	I	I	I	I	I	I	I	
I	C-B	I 541.2	I 541.2	I	160.6	I 0.30	I	161.0	I 0.30	I	
I	A-B	I 0.0	I 0.0	I	I	I	I	I	I	I	
I	A-C	I 115.2	I 115.2	I	I	I	I	I	I	I	
I	ALL	I 1044.6	I 1044.6	I	189.3	I 0.18	I	189.6	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 =====

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 3.0 (MAY 2001)

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Run with file:-

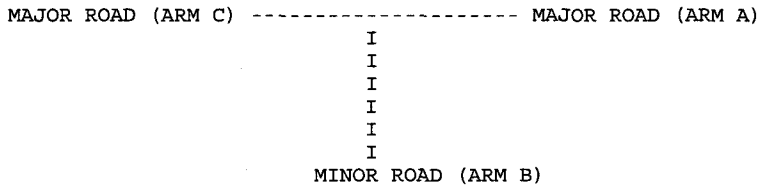
"n:\South West Bicester\ANALYSIS\PICADY\September 2006\Chesterton Priority\
Bypass-Chesterton-TotTraffExc Browne-PM Peak.vpi"
(drive-on-the-left) at 09:11:10 on Wednesday, 27 September 2006

RUN TITLE

Bypass-Chesterton-2014 TotTraf ExcBrowne-PM Peak

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Bypass South
ARM B IS Chesterton
ARM C IS Bypass North

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I (W)	7.00 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR)	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	160.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	160.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	160.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.65 M.	I
I	- LANE 2 WIDTH	I (WB-A)	0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

TIME	TURNING PROPORTIONS			
	FROM/TO	ARM A	ARM B	ARM C
17.00 - 18.00	ARM A	0.000	0.000	1.000
		0.0	0.0	175.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	465.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.328	0.672	0.000
		129.0	264.0	0.0
		(0.1)	(0.1)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15								
B-AC	7.75	12.03	0.644		0.0	1.7	23.7	
C-A	2.15							
C-B	4.40	11.85	0.371		0.0	0.6	8.3	
A-B	0.00							
A-C	2.92							

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:						
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)	
B-AC	0.112	0.009	0.016	0.005	0.007	
C-B	0.113	0.004		0.010		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30								
B-AC	7.75	12.03	0.644		1.7	1.8	26.4	
C-A	2.15							
C-B	4.40	11.85	0.371		0.6	0.6	8.8	
A-B	0.00							
A-C	2.92							

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:						
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)	
B-AC	0.112	0.009	0.016	0.005	0.007	
C-B	0.113	0.004		0.010		

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	17.30-17.45									I
I	B-AC	7.75	12.03	0.644		1.8	1.8	26.7		I
I	C-A	2.15								I
I	C-B	4.40	11.85	0.371		0.6	0.6	8.8		I
I	A-B	0.00								I
I	A-C	2.92								I
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		
	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			
	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			
	B-AC	0.112	0.009	0.016	0.005	0.007				
	C-B	0.113	0.004		0.010					

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-AC	7.75	12.03	0.644		1.8	1.8	26.8		I
I	C-A	2.15								I
I	C-B	4.40	11.85	0.371		0.6	0.6	8.8		I
I	A-B	0.00								I
I	A-C	2.92								I
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:										
			MAJOR RD.		CENT RES	VIS TO LEFT		VISIBILITY		
	MARGINAL	LANE WIDTH	WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT			
	CHANGE:	(.1M)	(.1M)	(.1M)	(.1M)	(M)	(M)			
	B-AC	0.112	0.009	0.016	0.005	0.007				
	C-B	0.113	0.004		0.010					

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	1.7	**
17.30	1.8	**
17.45	1.8	**
18.00	1.8	**

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.6	*
17.30	0.6	*
17.45	0.6	*
18.00	0.6	*

 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	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	(MIN/VEH)
I	B-AC	I 465.0	I 465.0	I 103.7	I 0.22	I 103.8	I 0.22	I		I
I	C-A	I 129.0	I 129.0	I	I	I	I	I		I
I	C-B	I 264.0	I 264.0	I 34.8	I 0.13	I 34.8	I 0.13	I		I
I	A-B	I 0.0	I 0.0	I	I	I	I	I		I
I	A-C	I 175.2	I 175.2	I	I	I	I	I		I
I	ALL	I 1033.2	I 1033.2	I 138.4	I 0.13	I 138.6	I 0.13	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 =====

[Printed at 12:26:21 on 27/09/2006]



APPENDIX W

Capacity Analysis – Howes Lane / Middleton Stoney Road Junction

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-

"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\Howes Lane Roundabout\Howes excl. Browne AM.vai"
(drive-on-the-left) at 08:38:21 on Wednesday, 27 September 2006

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

Howes Lane Rbout - 2014 Total traffic excl Browne AM Peak

INPUT DATA

ARM A - Howes Lane
ARM B - Middleton Storey Road (E)
ARM C - Perimeter Road
ARM D - Middleton Storey Road (W)

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)
I	ARM A	I	2.90	I	7.10	I	21.60	I	20.00	I	54.00	I	55.0	I	0.532	I	25.315
I	ARM B	I	3.50	I	6.90	I	7.50	I	20.00	I	54.00	I	48.0	I	0.515	I	23.140
I	ARM C	I	3.50	I	7.10	I	11.30	I	25.00	I	54.00	I	31.0	I	0.575	I	26.846
I	ARM D	I	3.50	I	7.10	I	13.70	I	20.00	I	54.00	I	41.0	I	0.559	I	26.499

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS			
		TURNING COUNTS			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.00	ARM A	0.000	0.163	0.713	0.124
		0.0	111.0	484.0	84.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.164	0.000	0.404	0.432
		75.0	0.0	184.0	197.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.612	0.289	0.000	0.098
		218.0	103.0	0.0	35.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.212	0.723	0.064	0.000
		66.0	225.0	20.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.00-08.15								
ARM A	11.32	22.24	0.509		0.0	1.0	14.7	
ARM B	7.60	18.12	0.419		0.0	0.7	10.3	
ARM C	5.93	23.46	0.253		0.0	0.3	4.9	
ARM D	5.18	22.83	0.227		0.0	0.3	4.3	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.15-08.30								
ARM A	11.32	22.23	0.509		1.0	1.0	15.4	
ARM B	7.60	18.09	0.420		0.7	0.7	10.8	
ARM C	5.93	23.43	0.253		0.3	0.3	5.1	
ARM D	5.18	22.81	0.227		0.3	0.3	4.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.30-08.45								
ARM A	11.32	22.23	0.509		1.0	1.0	15.5	
ARM B	7.60	18.09	0.420		0.7	0.7	10.8	
ARM C	5.93	23.43	0.253		0.3	0.3	5.1	
ARM D	5.18	22.81	0.227		0.3	0.3	4.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
08.45-09.00								
ARM A	11.32	22.23	0.509		1.0	1.0	15.5	
ARM B	7.60	18.09	0.420		0.7	0.7	10.8	
ARM C	5.93	23.43	0.253		0.3	0.3	5.1	
ARM D	5.18	22.81	0.227		0.3	0.3	4.4	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	1.0 *
08.30	1.0 *
08.45	1.0 *
09.00	1.0 *

 QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.7 *
08.30	0.7 *
08.45	0.7 *
09.00	0.7 *

 QUEUE AT ARM C

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

 QUEUE AT ARM D

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

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	679.2	I	61.2	I	0.09	I
I	B	I	456.0	I	42.7	I	0.09	I
I	C	I	355.8	I	20.1	I	0.06	I
I	D	I	310.8	I	17.5	I	0.06	I
I	ALL	I	1801.8	I	141.5	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

***** ARCADY 5 run completed.

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

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-

"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\Howes Lane Roundabout\Howes excl. Browne PM.vai"
(drive-on-the-left) at 08:38:26 on Wednesday, 27 September 2006

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

Howes Lane Rbout - 2014 Total traffic excl Browne PM Peak

INPUT DATA

ARM A - Howes Lane
ARM B - Middleton Storey Road (E)
ARM C - Perimeter Road
ARM D - Middleton Storey Road (W)

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)
I	ARM A	I	2.90	I	7.10	I	21.60	I	20.00	I	54.00	I	55.0	I	0.532	I	25.315
I	ARM B	I	3.50	I	6.90	I	7.50	I	20.00	I	54.00	I	48.0	I	0.515	I	23.140
I	ARM C	I	3.50	I	7.10	I	11.30	I	25.00	I	54.00	I	31.0	I	0.575	I	26.846
I	ARM D	I	3.50	I	7.10	I	13.70	I	20.00	I	54.00	I	41.0	I	0.559	I	26.499

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS							
		TURNING COUNTS							
		(PERCENTAGE OF H.V.S)							
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D				
17.00 - 18.00									
	ARM A	0.000	0.184	0.623	0.194				
		0.0	75.0	254.0	79.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM B	0.209	0.000	0.262	0.529				
		98.0	0.0	123.0	248.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM C	0.775	0.189	0.000	0.036				
		497.0	121.0	0.0	23.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM D	0.173	0.777	0.049	0.000				
		60.0	269.0	17.0	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.00-17.15								
ARM A	6.80	21.72	0.313		0.0	0.5	6.6	
ARM B	7.82	20.15	0.388		0.0	0.6	9.1	
ARM C	10.68	22.79	0.469		0.0	0.9	12.6	
ARM D	5.77	19.87	0.290		0.0	0.4	5.9	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.15-17.30								
ARM A	6.80	21.70	0.313		0.5	0.5	6.8	
ARM B	7.82	20.14	0.388		0.6	0.6	9.5	
ARM C	10.68	22.77	0.469		0.9	0.9	13.1	
ARM D	5.77	19.83	0.291		0.4	0.4	6.1	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.30-17.45								
ARM A	6.80	21.70	0.313		0.5	0.5	6.8	
ARM B	7.82	20.14	0.388		0.6	0.6	9.5	
ARM C	10.68	22.77	0.469		0.9	0.9	13.2	
ARM D	5.77	19.83	0.291		0.4	0.4	6.1	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.45-18.00								
ARM A	6.80	21.70	0.313		0.5	0.5	6.8	
ARM B	7.82	20.14	0.388		0.6	0.6	9.5	
ARM C	10.68	22.77	0.469		0.9	0.9	13.2	
ARM D	5.77	19.83	0.291		0.4	0.4	6.1	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.5
17.30	0.5
17.45	0.5
18.00	0.5

 QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.6 *
17.30	0.6 *
17.45	0.6 *
18.00	0.6 *

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.9 *
17.30	0.9 *
17.45	0.9 *
18.00	0.9 *

 QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.4
17.30	0.4
17.45	0.4
18.00	0.4

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	408.0	I	408.0	I	27.1	I
I	B	I	469.2	I	469.2	I	37.6	I
I	C	I	640.8	I	640.8	I	52.2	I
I	D	I	346.2	I	346.2	I	24.3	I
I	ALL	I	1864.2	I	1864.2	I	141.2	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.

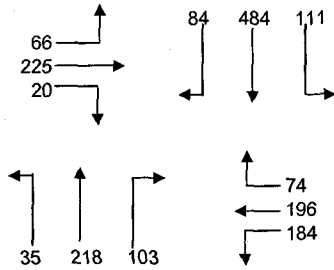
END OF JOB

***** ARCADY 5 run completed.

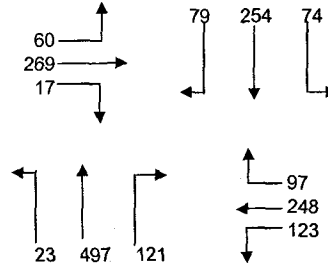
===== end of file =====

Howes Lane Roundabout

AM PEAK

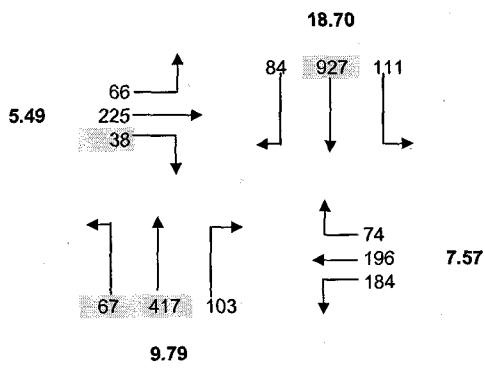


PM PEAK

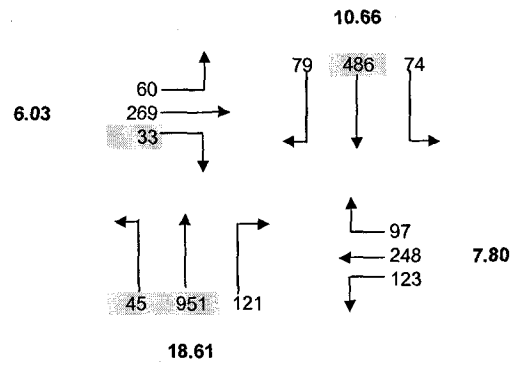


Increase
91.5 %

AM PEAK



PM PEAK



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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
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Run with file:-

"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\Howes Lane Roundabout\
Howes excl. Browne AM-Sensitivity Test.vai"
(drive-on-the-left) at 12:56:00 on Monday, 2 October 2006

ROUNDAABOUT CAPACITY AND DELAY

RUN TITLE

Howes Lane Rbout-excluding Browne AM Peak_Sensitivity Test

INPUT DATA

ARM A - Howes Lane
ARM B - Middleton Storey Road (E)
ARM C - Perimeter Road
ARM D - Middleton Storey Road (W)

GEOMETRIC DATA

I ARM	I V (M)	I E (M)	I L (M)	I R (M)	I D (M)	I PHI (DEG)	I SLOPE	I INTERCEPT (PCU/MIN)
I ARM A	I 2.90	I 7.10	I 21.60	I 20.00	I 54.00	I 55.0	I 0.532	I 25.315
I ARM B	I 3.50	I 6.90	I 7.50	I 20.00	I 54.00	I 48.0	I 0.515	I 23.140
I ARM C	I 3.50	I 7.10	I 11.30	I 25.00	I 54.00	I 31.0	I 0.575	I 26.846
I ARM D	I 3.50	I 7.10	I 13.70	I 20.00	I 54.00	I 41.0	I 0.559	I 26.499

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

I	I	TURNING PROPORTIONS				I
		TURNING COUNTS				
		(PERCENTAGE OF H.V.S)				
I	I	I	I	I	I	I
I	TIME	I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D
I	08.00 - 09.00	I	I	I	I	I
I		I ARM A	I 0.000	I 0.099	I 0.826	I 0.075
I		I	I 0.0	I 111.0	I 927.0	I 84.0
I		I	I (0.0)	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I	I
I		I ARM B	I 0.163	I 0.000	I 0.405	I 0.432
I		I	I 74.0	I 0.0	I 184.0	I 196.0
I		I	I (0.0)	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I	I
I		I ARM C	I 0.710	I 0.175	I 0.000	I 0.114
I		I	I 417.0	I 103.0	I 0.0	I 67.0
I		I	I (0.0)	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I	I
I		I ARM D	I 0.201	I 0.684	I 0.116	I 0.000
I		I	I 66.0	I 225.0	I 38.0	I 0.0
I		I	I (0.0)	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I	08.00-08.15								
I	ARM A	18.70	22.08	0.847		0.0	5.0	63.4	
I	ARM B	7.57	14.29	0.530		0.0	1.1	15.6	
I	ARM C	9.79	23.49	0.417		0.0	0.7	10.3	
I	ARM D	5.49	20.99	0.261		0.0	0.4	5.2	

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I	08.15-08.30								
I	ARM A	18.70	22.07	0.847		5.0	5.2	76.8	
I	ARM B	7.57	14.14	0.535		1.1	1.1	16.9	
I	ARM C	9.79	23.45	0.417		0.7	0.7	10.7	
I	ARM D	5.49	20.96	0.262		0.4	0.4	5.3	

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I	08.30-08.45								
I	ARM A	18.70	22.07	0.847		5.2	5.3	79.3	
I	ARM B	7.57	14.14	0.535		1.1	1.1	17.1	
I	ARM C	9.79	23.45	0.417		0.7	0.7	10.7	
I	ARM D	5.49	20.96	0.262		0.4	0.4	5.3	

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
I	08.45-09.00								
I	ARM A	18.70	22.07	0.847		5.3	5.4	80.4	
I	ARM B	7.57	14.14	0.535		1.1	1.1	17.2	
I	ARM C	9.79	23.45	0.417		0.7	0.7	10.7	
I	ARM D	5.49	20.96	0.262		0.4	0.4	5.3	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	5.0	*****
08.30	5.2	*****
08.45	5.3	*****
09.00	5.4	*****

 QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.1	*
08.30	1.1	*
08.45	1.1	*
09.00	1.1	*

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.7	*
08.30	0.7	*
08.45	0.7	*
09.00	0.7	*

 QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.4	
08.30	0.4	
08.45	0.4	
09.00	0.4	

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	1122.0	I	299.9	I	300.5	I
I	B	I	454.2	I	66.7	I	66.8	I
I	C	I	587.4	I	42.4	I	42.4	I
I	D	I	329.4	I	21.1	I	21.1	I
I	ALL	I	2493.0	I	430.1	I	430.8	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

***** ARCADY 5 run completed.

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

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

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Run with file:-

"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\Howes Lane Roundabout\
Howes excl. Browne PM-Sensitivity Test.vai"
(drive-on-the-left) at 12:57:07 on Monday, 2 October 2006

ROUNDAABOUT CAPACITY AND DELAY

RUN TITLE

Howes Lane Rbout-excluding Browne PM Peak_Sensitivity Test

INPUT DATA

ARM A - Howes Lane
ARM B - Middleton Storey Road (E)
ARM C - Perimeter Road
ARM D - Middleton Storey Road (W)

GEOMETRIC DATA

I ARM	I V (M)	I E (M)	I L (M)	I R (M)	I D (M)	I PHI (DEG)	I SLOPE	I INTERCEPT (PCU/MIN)
I ARM A	I 2.90	I 7.10	I 21.60	I 20.00	I 54.00	I 55.0	I 0.532	I 25.315
I ARM B	I 3.50	I 6.90	I 7.50	I 20.00	I 54.00	I 48.0	I 0.515	I 23.140
I ARM C	I 3.50	I 7.10	I 11.30	I 25.00	I 54.00	I 31.0	I 0.575	I 26.846
I ARM D	I 3.50	I 7.10	I 13.70	I 20.00	I 54.00	I 41.0	I 0.559	I 26.499

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

I	I	TURNING PROPORTIONS				I
		TURNING COUNTS				
I		(PERCENTAGE OF H.V.S)				I
I	TIME	I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D
I	17.00 - 18.00	I	I	I	I	I
I		I ARM A	I 0.000	I 0.116	I 0.761	I 0.124
I		I	I 0.0	I 74.0	I 486.0	I 79.0
I		I	I (0.0)	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I	I
I		I ARM B	I 0.207	I 0.000	I 0.263	I 0.530
I		I	I 97.0	I 0.0	I 123.0	I 248.0
I		I	I (0.0)	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I	I
I		I ARM C	I 0.851	I 0.108	I 0.000	I 0.040
I		I	I 951.0	I 121.0	I 0.0	I 45.0
I		I	I (0.0)	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I	I
I		I ARM D	I 0.166	I 0.743	I 0.091	I 0.000
I		I	I 60.0	I 269.0	I 33.0	I 0.0
I		I	I (0.0)	I (0.0)	I (0.0)	I (0.0)
I		I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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	17.00-17.15								
I	ARM A	10.66	21.60	0.494		0.0	1.0	13.9	
I	ARM B	7.80	18.03	0.433		0.0	0.8	10.9	
I	ARM C	18.61	22.81	0.816		0.0	4.1	54.0	
I	ARM D	6.03	15.77	0.382		0.0	0.6	8.8	

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	17.15-17.30								
I	ARM A	10.66	21.57	0.494		1.0	1.0	14.5	
I	ARM B	7.80	18.00	0.433		0.8	0.8	11.4	
I	ARM C	18.61	22.78	0.817		4.1	4.3	63.1	
I	ARM D	6.03	15.62	0.386		0.6	0.6	9.3	

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	17.30-17.45								
I	ARM A	10.66	21.57	0.494		1.0	1.0	14.6	
I	ARM B	7.80	18.00	0.433		0.8	0.8	11.4	
I	ARM C	18.61	22.78	0.817		4.3	4.3	64.6	
I	ARM D	6.03	15.62	0.386		0.6	0.6	9.4	

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	17.45-18.00								
I	ARM A	10.66	21.57	0.494		1.0	1.0	14.6	
I	ARM B	7.80	18.00	0.433		0.8	0.8	11.4	
I	ARM C	18.61	22.78	0.817		4.3	4.4	65.3	
I	ARM D	6.03	15.62	0.386		0.6	0.6	9.4	



APPENDIX X

Capacity Analysis – A41 Esso Roundabout

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\A41 Roundabout\
A41 Roundabout- Total Traffic Exc Browne AM Peak.vai"
(drive-on-the-left) at 08:37:48 on Wednesday, 27 September 2006

ROUNDAABOUT CAPACITY AND DELAY

RUN TITLE

A41 Roundabout-2014 Total Traffic Excl Browne AM Peak

INPUT DATA

ARM A - B4030 Oxford Road
ARM B - A41 East
ARM C - A41 South
ARM D - Services

GEOMETRIC DATA

I ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)
I ARM A	I	7.30	I	11.20	I	30.00	I	18.00	I	64.00	I	40.0	I	0.729	I	48.736
I ARM B	I	3.00	I	6.00	I	7.60	I	59.00	I	64.00	I	41.0	I	0.468	I	21.716
I ARM C	I	8.00	I	12.00	I	30.00	I	41.00	I	64.00	I	44.0	I	0.778	I	53.275
I ARM D	I	7.70	I	9.10	I	1.70	I	14.00	I	64.00	I	40.0	I	0.623	I	38.557

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.00
LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS							
		TURNING COUNTS							
		(PERCENTAGE OF H.V.S)							
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D				
08.00 - 09.00	ARM A	0.000	0.348	0.623	0.029				
		0.0	342.0	613.0	29.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM B	0.878	0.000	0.000	0.122				
		318.0	0.0	0.0	44.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM C	0.421	0.543	0.000	0.035				
		741.0	956.0	0.0	62.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM D	0.314	0.307	0.379	0.000				
		48.0	47.0	58.0	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
ARM A	16.40	35.90	0.457		0.0	0.8	12.2	
ARM B	6.03	16.28	0.370		0.0	0.6	8.4	
ARM C	29.32	48.24	0.608		0.0	1.5	22.3	
ARM D	2.55	17.71	0.144		0.0	0.2	2.5	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
ARM A	16.40	35.85	0.457		0.8	0.8	12.6	
ARM B	6.03	16.26	0.371		0.6	0.6	8.8	
ARM C	29.32	48.21	0.608		1.5	1.5	23.1	
ARM D	2.55	17.63	0.145		0.2	0.2	2.5	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45								
ARM A	16.40	35.85	0.457		0.8	0.8	12.6	
ARM B	6.03	16.26	0.371		0.6	0.6	8.8	
ARM C	29.32	48.21	0.608		1.5	1.5	23.2	
ARM D	2.55	17.63	0.145		0.2	0.2	2.5	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00								
ARM A	16.40	35.85	0.457		0.8	0.8	12.6	
ARM B	6.03	16.26	0.371		0.6	0.6	8.8	
ARM C	29.32	48.21	0.608		1.5	1.5	23.2	
ARM D	2.55	17.63	0.145		0.2	0.2	2.5	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.8	*
08.30	0.8	*
08.45	0.8	*
09.00	0.8	*

 QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.6	*
08.30	0.6	*
08.45	0.6	*
09.00	0.6	*

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.5	**
08.30	1.5	**
08.45	1.5	**
09.00	1.5	**

 QUEUE AT ARM D

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

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	984.0	I	50.0	I	50.1	I
I	B	I	361.8	I	34.8	I	34.8	I
I	C	I	1759.2	I	91.9	I	91.9	I
I	D	I	153.0	I	10.0	I	10.0	I
I	ALL	I	3258.0	I	186.8	I	186.8	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

***** ARCADY 5 run completed.

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

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-

"n:\South West Bicester\ANALYSIS\ARCADY\September 2006\A41 Roundabout\
A41 Roundabout- Total Traffic Exc Browne PM Peak.vai"
(drive-on-the-left) at 08:37:53 on Wednesday, 27 September 2006

ROUNDAABOUT CAPACITY AND DELAY

RUN TITLE

A41 Roundabout-2014 Total Traffic Excluding Browne PM Peak

INPUT DATA

ARM A - B4030 Oxford Road
ARM B - A41 East
ARM C - A41 South
ARM D - Services

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)
I	ARM A	I	7.30	I	11.20	I	30.00	I	18.00	I	64.00	I	40.0	I	0.729	I	48.736
I	ARM B	I	3.00	I	6.00	I	7.60	I	59.00	I	64.00	I	41.0	I	0.468	I	21.716
I	ARM C	I	8.00	I	12.00	I	30.00	I	41.00	I	64.00	I	44.0	I	0.778	I	53.275
I	ARM D	I	7.70	I	9.10	I	1.70	I	14.00	I	64.00	I	40.0	I	0.623	I	38.557

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

		TURNING PROPORTIONS							
		TURNING COUNTS							
		(PERCENTAGE OF H.V.S)							
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D				
17.00 - 18.00	ARM A	0.000	0.386	0.580	0.033				
		0.0	42.9	64.4	3.7				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM B	0.941	0.000	0.000	0.059				
		45.9	0.0	0.0	2.9				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM C	0.547	0.422	0.000	0.030				
		102.7	79.2	0.0	5.7				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM D	0.288	0.256	0.456	0.000				
		3.6	3.2	5.7	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.00-17.15								
ARM A	18.50	38.08	0.486		0.0	0.9	13.7	
ARM B	8.13	15.99	0.509		0.0	1.0	14.5	
ARM C	31.27	46.52	0.672		0.0	2.0	29.1	
ARM D	2.08	15.02	0.138		0.0	0.2	2.3	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.15-17.30								
ARM A	18.50	38.04	0.486		0.9	0.9	14.1	
ARM B	8.13	15.97	0.509		1.0	1.0	15.4	
ARM C	31.27	46.47	0.673		2.0	2.0	30.5	
ARM D	2.08	14.90	0.140		0.2	0.2	2.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.30-17.45								
ARM A	18.50	38.04	0.486		0.9	0.9	14.2	
ARM B	8.13	15.97	0.509		1.0	1.0	15.4	
ARM C	31.27	46.47	0.673		2.0	2.0	30.7	
ARM D	2.08	14.90	0.140		0.2	0.2	2.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)
17.45-18.00								
ARM A	18.50	38.04	0.486		0.9	0.9	14.2	
ARM B	8.13	15.97	0.509		1.0	1.0	15.5	
ARM C	31.27	46.47	0.673		2.0	2.1	30.7	
ARM D	2.08	14.90	0.140		0.2	0.2	2.4	

 QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.9	*
17.30	0.9	*
17.45	0.9	*
18.00	0.9	*

 QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	1.0	*
17.30	1.0	*
17.45	1.0	*
18.00	1.0	*

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	2.0	**
17.30	2.0	**
17.45	2.0	**
18.00	2.1	**

 QUEUE AT ARM D

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

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	1110.0	I	56.2	I	0.05	I
I	B	I	487.8	I	60.8	I	0.12	I
I	C	I	1876.2	I	121.1	I	0.06	I
I	D	I	124.8	I	9.6	I	0.08	I
I	ALL	I	3598.8	I	247.6	I	0.07	I

- * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
- * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
- * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

***** ARCADY 5 run completed.

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



APPENDIX Y

Neighbouring Employment Land – Trip Generation

1 Employment Site - Trip Generation

1.1 GROSS PERSON TRIP GENERATION

1.1.1 The forecast vehicular trip generation of the employment development to the east of the A41 has been taken from English business park sites contained in the TRICS database. It is considered that this will provide a fair assessment of the likely vehicular trip generation of the proposed employment land, particularly given that it would be located adjacent to the existing high quality and frequent bus services along the A41 corridor.

1.1.2 The resultant vehicular trips are shown in Table 1.1 while full details of the TRICS outputs are attached within this Appendix.

Table 1.1: Employment Vehicular Trip Rates and Trips – Gross Generation

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Trip Rate – Vehs/100sqm	1.42	0.12	1.54	0.12	1.09	1.21
Total Trips (Vehs)	852	72	924	72	654	726

Source: TRICS database

1.1.3 Based on the above, the 60,000 sqm employment development would generate a total of 924 vehicle trips during the morning peak hour. The corresponding number of vehicle trips during the evening peak hour is predicted to be 726.

1.1.4 In order to establish the total person trip generation of the employment development, 2001 Census data for employment journeys that have a destination within Bicester has been used to establish the number of trips that would be generated by other modes of travel. As can be seen from Table 1.2, car drivers account for 68% of all employment person trips.

Table 1.2: Mode Share of Employment Trips

Mode of Travel	Percentage Share
Non-Car	24%
Car Driver	68%
Car Passenger	8%
Total	100%

Source: 2001 Census

1.1.5 Table 1.3 summarises the number of person trips that would be generated by the proposed employment development, derived by factoring-up the vehicle trips to represent person trips by all modes of travel. It is important to note that the number of car drivers does not reduce as a result of this adjustment.

Table 1.3: Total Employment Person Trips – Gross Generation

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	301	25	326	25	231	256
Car Driver	852	72	924	72	654	726
Car Passenger	100	8	109	8	77	85
Total	1,253	106	1,359	106	962	1,068

1.2 ALLOWANCE FOR REDUCED CAR PARKING PROVISION

1.2.1 It is important to note that the resultant person trips shown in Table 1.3 are derived using vehicular trip rates associated with existing employment developments that have been operational for some time and do not therefore reflect the benefits of local and national policies aimed at reducing car use. The effect of these policies is difficult to quantify. However, one area which can be examined is the relationship between the provision of on-site car parking spaces and the vehicular mode share.

1.2.2 The sites within the TRICS database used to derive the vehicular trip rate reflect a parking provision of one space per 27 sqm whereas, in accordance with current local and national policy, parking at the proposed development is likely to be at a rate no greater than one space per 30 sqm. Indeed, given that the employment development is likely to incorporate a range of employment uses other than B1 (which will result in a lower number of spaces per GFA), the overall parking provision is likely to be between 1 space per 30 sqm and 1 space per 50 sqm. Therefore, for the purposes of this assessment, an overall provision of 1 space per 35 sqm has been applied.

1.2.3 It is considered that the reduced parking provision at the development, supported by a Mobility Management Plan, will induce a proportionate mode shift away from car use when compared to sites within the TRICS database that exhibit higher parking provisions.

1.2.4 Therefore, a mode shift of 30% $[(35-27) / 27]$ away from car drivers has been applied in order to reflect the reduced parking provision that will be provided. These trips have been apportioned onto the other modes of travel, including car passengers, based on the existing proportions (Table 1.4 refers).

Table 1.4: Total Employment Person Trips Allowing for Reduced Car Parking

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	+189	+16	+205	+16	+145	+161
Car Driver	-252	-21	-274	-21	-194	-215
Car Passenger	+63	+5	+68	+5	+48	+54
Total	0	0	0	0	0	0

1.2.5 Table 1.5 shows the resultant mode share of the total person trips which would be generated by the employment components of the site, derived by applying the allowance for reduced parking provision (Table 1.4) to the total trips (Table 1.3).

Table 1.5: Total Employment Person Trips Allowing for Reduced Car Parking

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	490	41	531	41	376	418
Car Driver	600	51	650	51	460	511
Car Passenger	163	14	177	14	125	139
Total	1,253	106	1,359	106	962	1,068

1.3 ALLOWANCE FOR EMPLOYMENT MODE SHIFT

1.3.1 Because of the juxtaposition of the South West Bicester residential development and the proposed employment development on land to the east of the A41 it is anticipated that a proportion of the employment opportunities provided on proposed employment site will be satisfied by future residents of the proposed South West Bicester development. The trip generation of the South West Bicester development site (presented in Appendix J of this Transport Assessment report) identifies the likely mode shift in commuting trips that is likely to occur because of the immediate proximity of the two developments.

1.3.2 For ease of reference, the resultant mode shift of commuting trips generated by the South West Bicester development site (which, when inverted, also represents the mode shift of trips that needs to be applied to the total trip generation of the employment use) has been reproduced in Table 1.6 below.

Table 1.6: Allowance for Employment Mode Shift

	AM Peak Hour 0800-0900 hrs			PM Peak Hour 1700-1800 hrs		
	In	Out	Total	In	Out	Total
Non-Car	+41	+10	+51	+19	+43	+61
Car Driver	-28	-7	-35	-13	-30	-43
Car Passenger	-13	-3	-16	-6	-13	-18
Total	0	0	0	0	0	0

1.4 EXTERNAL EMPLOYMENT TRIPS

1.4.1 Table 1.7 shows the total number of external trips that would be generated by the proposed employment site on neighbouring land. The figures have been derived by applying the reductions due to the mode shift of employment trips (Table 1.6) to the total employment trips (Table 1.5).

Table 1.7: External Employment Person Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	531	51	583	60	419	479
Car Driver	571	44	615	38	430	468
Car Passenger	150	11	161	8	113	121
Total	1,253	106	1,359	106	962	1,068

1.4.2 The resultant car driver trip rates correspond to 1.03 and 0.78 vehs / 100sqm GFA during the morning and evening peak hours respectively.

1.5 TRIP DISTRIBUTION & ASSIGNMENT

1.5.1 The forecast vehicular trips have been assigned onto the local highway network in accordance with zonal distributions derived from the 2001 Census. Data relating to commuting trips associated with the existing employment uses within Bicester has been used to derive the vehicular distribution for the employment development. The resultant zonal distribution is summarised in Table 1.8 while the depiction of the areas covered by each of the zones is included within this Appendix.

Table 1.8: Employment Site Vehicular Trip Distribution

Area	Percentage Distribution
Bicester	40.8%
North	8.3%
East	11.4%
South (M40)	2.9%
South (A34)	32.5%
West	4.1%
Total	100%

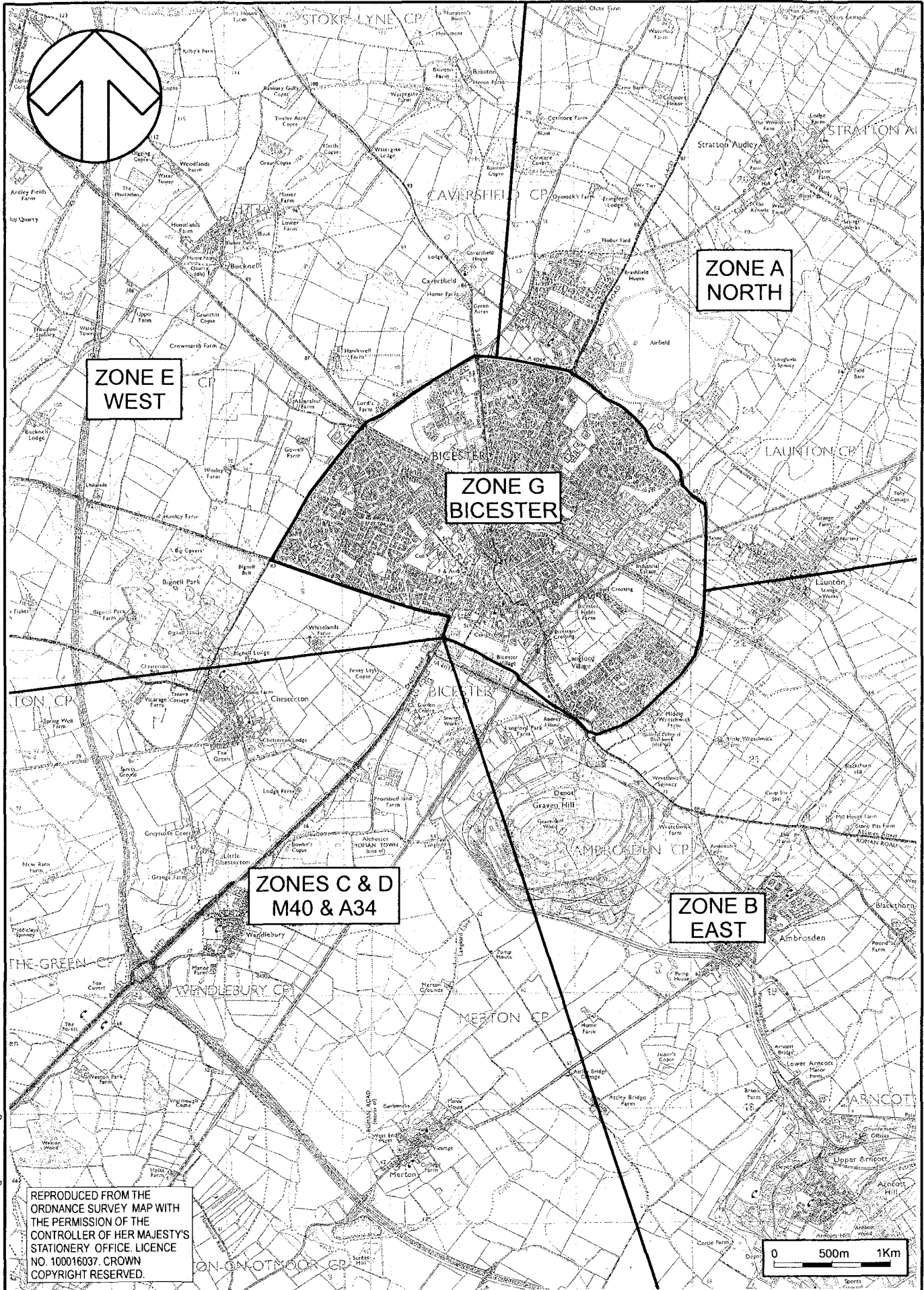
Source: 2001 Census

1.5.2 The peak hour vehicular trips shown in Table 1.7 have then been assigned to the local highway network based on the distribution in Table 1.8. For the purposes of this assessment it has been assumed that only one point of the access to the neighbouring employment development will be provided; off the A41 to the south of the existing A41 ESSO roundabout. The resultant assignments of trips to each of the zones are summarised in Table 1.9 below.

Table 1.9 : Employment Site Vehicular Assignment

Zone	Access Junction	%	Routing
Bicester	A41 Access	25%	A41 (n) to Middleton Stoney Road to Howes Lane
		25%	A41 (n) to A41 Eastern Perimeter Road
		50%	A41 (n) to King's End Road
North	A41 Access	100%	A41 (n) to A41 Eastern Perimeter Road
East	A41 Access	100%	A41 (n) to A41 Eastern Perimeter Road
South (M40)	A41 Access	100%	A41 (s) to M40 Junction 9
South (A34)	A41 Access	100%	A41 (s) to M40 Junction 9
West	A41 Access	100%	A41 (s) to Proposed Perimeter Road to B4030

1.5.3 The resultant assignment of peak hour vehicular trips is illustrated on Figures 24 and 25 of the Transport Assessment report. It is important to note that the development trips have been factored by 2.5% in order to convert the flows to PCUs.



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TITLE
DISTRIBUTION ZONES

FIGURE No:
1

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : B - BUSINESS PARK

Selected regions and areas:

02 SOUTH EAST		
BU	BUCKINGHAMSHIRE	1 days
OX	OXFORDSHIRE	1 days
04 EAST ANGLIA		
CA	CAMBRIDGESHIRE	1 days
06 WEST MIDLANDS		
ST	STAFFORDSHIRE	1 days
08 NORTH WEST		
GM	GREATER MANCHESTER	1 days
LC	LANCASHIRE	1 days

Main parameter selection:

Parameter: Gross floor area
 Range: 2120 to 118448 (units: sqm)

Date Range: 01/01/96 to 08/07/04

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	3 days
Friday	1 days

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

Optional parameter selection:Use Class:

B1	6 days
----	--------

Location:

Suburban Area	1 days
Edge of Town	1 days
Commercial Zone	2 days
Industrial Zone	1 days
Development Zone	1 days

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	2 days
25,001 to 50,000	2 days

Optional parameter selection (Cont.):Population within 5 miles:

50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	3 days
500,001 or More	1 days

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	3 days

Buses/Trains per day (both directions):

<u>Frequency</u>	<u>Per Hour</u>	<u>Per Day</u>	<u>Surveys</u>
Not Known			0 days
0	0	0	0 days
<20 per day	1	20	0 days
20-39 per day	2	40	0 days
40-59 per day	3	60	1 days
60-79 per day	4	80	0 days
80+ per day	> 4	> 80	5 days

LIST OF SITES relevant to selection parameters

<p>1 BU-02-B-01 BUSINESS PARK, HIGH WYCOMBE LONDON ROAD</p> <p>HIGH WYCOMBE Total Gross floor area: 13300 sqm Survey date: THURSDAY 08/07/04</p>	<p>BUCKINGHAMSHIRE</p> <p>13300 sqm 591 Parking Spaces 22.5 per sqm</p> <p>Survey Type: MANUAL</p>
<p>2 CA-02-B-01 CAMBRIDGE SCIENCE PARK MILTON ROAD</p> <p>CAMBRIDGE Total Gross floor area: 118448 sqm Survey date: MONDAY 27/11/00</p>	<p>CAMBRIDGESHIRE</p> <p>118448 sqm 3685 Parking Spaces 32.1 per sqm</p> <p>Survey Type: MANUAL</p>
<p>3 GM-02-B-03 BUSINESS PARK, SALE CROSS STREET</p> <p>SALE Total Gross floor area: 3985 sqm Survey date: FRIDAY 28/05/04</p>	<p>GREATER MANCHESTER</p> <p>3985 sqm 165 Parking Spaces 24.2 per sqm</p> <p>Survey Type: MANUAL</p>
<p>4 LC-02-B-02 NAVIGATION BUSINESS VILLAGE NAVIGATION WAY PRESTON DOCKLANDS DEVELOPMENT PRESTON</p> <p>Total Gross floor area: 3450 sqm Survey date: THURSDAY 14/03/96</p>	<p>LANCASHIRE</p> <p>3450 sqm 126 Parking Spaces 27.4 per sqm</p> <p>Survey Type: MANUAL</p>
<p>5 OX-02-B-01 BUSINESS PARK, OXFORD GARSINGTON ROAD COWLEY OXFORD</p> <p>Total Gross floor area: 33105 sqm Survey date: TUESDAY 21/10/03</p>	<p>OXFORDSHIRE</p> <p>33105 sqm 1750 Parking Spaces 18.9 per sqm</p> <p>Survey Type: MANUAL</p>
<p>6 ST-02-B-03 BUSINESS PARK, STAFFORD FRANK FOLEY WAY GREYFRIARS STAFFORD</p> <p>Total Gross floor area: 4064 sqm Survey date: THURSDAY 06/07/00</p>	<p>STAFFORDSHIRE</p> <p>4064 sqm 111 Parking Spaces 36.6 per sqm</p> <p>Survey Type: MANUAL</p>

Average

$$= \frac{(22.5 + 32.1 + 24.2 + 27.4 + 18.9 + 36.6)}{6}$$

$$= \frac{161.7}{6}$$

$$= 26.95$$

Average = 27 spaces per sqm.

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30	0	0	0.00	0	0	0.00	0	0	0.00
00:30 - 01:00	0	0	0.00	0	0	0.00	0	0	0.00
01:00 - 01:30	0	0	0.00	0	0	0.00	0	0	0.00
01:30 - 02:00	0	0	0.00	0	0	0.00	0	0	0.00
02:00 - 02:30	0	0	0.00	0	0	0.00	0	0	0.00
02:30 - 03:00	0	0	0.00	0	0	0.00	0	0	0.00
03:00 - 03:30	0	0	0.00	0	0	0.00	0	0	0.00
03:30 - 04:00	0	0	0.00	0	0	0.00	0	0	0.00
04:00 - 04:30	0	0	0.00	0	0	0.00	0	0	0.00
04:30 - 05:00	0	0	0.00	0	0	0.00	0	0	0.00
05:00 - 05:30	0	0	0.00	0	0	0.00	0	0	0.00
05:30 - 06:00	0	0	0.00	0	0	0.00	0	0	0.00
06:00 - 06:30	0	0	0.00	0	0	0.00	0	0	0.00
06:30 - 07:00	0	0	0.00	0	0	0.00	0	0	0.00
07:00 - 07:30	6	29392	0.13	6	29392	0.03	6	29392	0.16
07:30 - 08:00	6	29392	0.41	6	29392	0.04	6	29392	0.45
08:00 - 08:30	6	29392	0.67	6	29392	0.05	6	29392	0.72
08:30 - 09:00	6	29392	0.75	6	29392	0.07	6	29392	0.82
09:00 - 09:30	6	29392	0.58	6	29392	0.08	6	29392	0.66
09:30 - 10:00	6	29392	0.37	6	29392	0.09	6	29392	0.46
10:00 - 10:30	6	29392	0.16	6	29392	0.07	6	29392	0.23
10:30 - 11:00	6	29392	0.13	6	29392	0.08	6	29392	0.21
11:00 - 11:30	6	29392	0.13	6	29392	0.08	6	29392	0.21
11:30 - 12:00	6	29392	0.10	6	29392	0.13	6	29392	0.23
12:00 - 12:30	6	29392	0.13	6	29392	0.31	6	29392	0.44
12:30 - 13:00	6	29392	0.23	6	29392	0.27	6	29392	0.50
13:00 - 13:30	6	29392	0.25	6	29392	0.25	6	29392	0.50
13:30 - 14:00	6	29392	0.28	6	29392	0.14	6	29392	0.42
14:00 - 14:30	6	29392	0.16	6	29392	0.16	6	29392	0.32
14:30 - 15:00	6	29392	0.12	6	29392	0.15	6	29392	0.27
15:00 - 15:30	6	29392	0.09	6	29392	0.15	6	29392	0.24
15:30 - 16:00	6	29392	0.07	6	29392	0.22	6	29392	0.29
16:00 - 16:30	6	29392	0.07	6	29392	0.32	6	29392	0.39
16:30 - 17:00	6	29392	0.06	6	29392	0.49	6	29392	0.55
17:00 - 17:30	6	29392	0.06	6	29392	0.57	6	29392	0.63
17:30 - 18:00	6	29392	0.06	6	29392	0.52	6	29392	0.58
18:00 - 18:30	6	29392	0.04	6	29392	0.35	6	29392	0.39
18:30 - 19:00	6	29392	0.03	6	29392	0.20	6	29392	0.23
19:00 - 19:30	0	0	0.00	0	0	0.00	0	0	0.00
19:30 - 20:00	0	0	0.00	0	0	0.00	0	0	0.00
20:00 - 20:30	0	0	0.00	0	0	0.00	0	0	0.00
20:30 - 21:00	0	0	0.00	0	0	0.00	0	0	0.00
21:00 - 21:30	0	0	0.00	0	0	0.00	0	0	0.00
21:30 - 22:00	0	0	0.00	0	0	0.00	0	0	0.00
22:00 - 22:30	0	0	0.00	0	0	0.00	0	0	0.00
22:30 - 23:00	0	0	0.00	0	0	0.00	0	0	0.00
23:00 - 23:30	0	0	0.00	0	0	0.00	0	0	0.00
23:30 - 24:00	0	0	0.00	0	0	0.00	0	0	0.00
Daily Trip Rates:			5.07			4.81			9.90

AM
06:00-09:00

IN 1.42
OUT 0.12

Total 1.54

PM
09:00-06:00

IN 1.02
OUT 1.09

Total 1.21

Parameter summary

Trip rate parameter range selected:	2120 - 118448 (units: sqm)
Survey date date range:	01/01/96 - 08/07/04
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	NO
Surveys manually removed from selection:	0