TRIP RATE for Land Use 07 - LEISURE/C - SPORTS CENTRES

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.00	0	0	0.00	0	0	0.00
01:00 - 02:00	0	0	0.00	0	0	0.00	0	0	0.00
02:00 - 03:00	0	0	0.00	0	0	0.00	0	0	0.00
03:00 - 04:00	0	0	0.00	0	0	0.00	0	0	0.00
04:00 - 05:00	0	0	0.00	0	0	0.00	0	0	0.00
05:00 - 06:00	0	0	0.00	0	0	0.00	0	0	0.00
06:00 - 07:00	1	5600	0.46	1	5600	0.04	1	5600	0.50
07:00 - 08:00	3	5829	0.61	3	5829	0.30	3	5829	0.91
08:00 - 09:00	3	5829	0.73	3	5829	0.63	3	5829	1.36
09:00 - 10:00	3	5829	1.24	3	5829	0.50	3	5829	1.74
10:00 - 11:00	4	5192	0.73	4	5192	0.75	4	5192	1.48
11:00 - 12:00	4	5192	0.65	4	5192	0.84	4	5192	1.49
12:00 - 13:00	5	5353	0.64	5	5353	0.60	5	5353	1.24
13:00 - 14:00	5	5353	0.75	5	5353	0.73	5	5353	1.48
14:00 - 15:00	5	5353	0.87	5	5353	0.72	5	5353	1.59
15:00 - 16:00	5	5353	1.26	5	5353	1.48	5	5353	2.74
16:00 - 17:00	5	5353	1.72	5	5353	1.34	5	5353	3.06
17:00 - 18:00	5	5353	1.49	5	5353	1.71	5	5353	3.20
18:00 - 19:00	5	5353	1.63	5	5353	1.16	5	5353	2.79
19:00 - 20:00	**5**	**5353**	**1.78**	**5**	**5353**	**1.90**	**5**	**5353**	**3.68**
20:00 - 21:00	5	5353	0.81	5	5353	1.30	5	5353	2.11
21:00 - 22:00	5	5353	0.13	5	5353	0.96	5	5353	1.09
22:00 - 23:00	1	5600	0.05	1	5600	0.23	1	5600	0.28
23:00 - 24:00	0	0	0.00	0	0	0.00	0	0	0.00
Daily Trip Rates:			15.54			15.20			30.74

Parameter summary

Trip rate parameter range selected:	3280 - 6000 (units: sqm)
Survey date date range:	01/01/97 - 02/02/06
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	NO
Surveys manually removed from selection:	0

TRIP RATE for Land Use 07 - LEISURE/C - SPORTS CENTRES

MULTI-MODAL PEDESTRIANS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.00	0	0	0.00	0	0	0.00
01:00 - 02:00	0	0	0.00	0	0	0.00	0	0	0.00
02:00 - 03:00	0	0	0.00	0	0	0.00	0	0	0.00
03:00 - 04:00	0	0	0.00	0	0	0.00	0	0	0.00
04:00 - 05:00	0	0	0.00	0	0	0.00	0	0	0.00
05:00 - 06:00	0	0	0.00	0	0	0.00	0	0	0.00
06:00 - 07:00	1	5600	0.04	1	5600	0.00	1	5600	0.04
07:00 - 08:00	3	5829	0.07	3	5829	0.02	3	5829	0.09
08:00 - 09:00	3	5829	0.26	3	5829	0.14	3	5829	0.40
09:00 - 10:00	3	5829	0.19	3	5829	0.14	3	5829	0.33
10:00 - 11:00	4	5192	0.24	4	5192	0.14	4	5192	0.38
11:00 - 12:00	4	5192	0.18	4	5192	0.19	4	5192	0.37
12:00 - 13:00	5	5353	0.15	5	5353	0.12	5	5353	0.27
13:00 - 14:00	**5**	**5353**	**0.41**	5	5353	0.15	5	5353	0.56
14:00 - 15:00	5	5353	0.15	**5**	**5353**	**0.49**	**5**	**5353**	**0.64**
15:00 - 16:00	5	5353	0.29	5	5353	0.22	5	5353	0.51
16:00 - 17:00	5	5353	0.16	5	5353	0.11	5	5353	0.27
17:00 - 18:00	5	5353	0.24	5	5353	0.24	5	5353	0.48
18:00 - 19:00	5	5353	0.24	5	5353	0.12	5	5353	0.36
19:00 - 20:00	5	5353	0.15	5	5353	0.18	5	5353	0.33
20:00 - 21:00	5	5353	0.10	5	5353	0.08	5	5353	0.18
21:00 - 22:00	5	5353	0.01	5	5353	0.05	5	5353	0.06
22:00 - 23:00	1	5600	0.00	1	5600	0.04	1	5600	0.04
23:00 - 24:00	0	0	0.00	0	0	0.00	0	0	0.00
Daily Trip Rates:			2.88			2.44			5.31

Parameter summary

Trip rate parameter range selected:	3280 - 6000 (units: sqm)
Survey date date range:	01/01/97 - 02/02/06
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	NO
Surveys manually removed from selection:	0

TRIP RATE for Land Use 07 - LEISURE/C - SPORTS CENTRES

MULTI-MODAL CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.00	0	0	0.00	0	0	0.00
01:00 - 02:00	0	0	0.00	0	0	0.00	0	0	0.00
02:00 - 03:00	0	0	0.00	0	0	0.00	0	0	0.00
03:00 - 04:00	0	0	0.00	0	0	0.00	0	0	0.00
04:00 - 05:00	0	0	0.00	0	0	0.00	0	0	0.00
05:00 - 06:00	0	0	0.00	0	0	0.00	0	0	0.00
06:00 - 07:00	1	5600	0.00	1	5600	0.00	1	5600	0.00
07:00 - 08:00	3	5829	0.03	3	5829	0.02	3	5829	0.05
08:00 - 09:00	3	5829	0.04	3	5829	0.02	3	5829	0.06
09:00 - 10:00	**3**	**5829**	**0.06**	**3**	**5829**	**0.06**	**3**	**5829**	**0.12**
10:00 - 11:00	4	5192	0.04	4	5192	0.01	4	5192	0.05
11:00 - 12:00	4	5192	0.02	4	5192	0.02	4	5192	0.04
12:00 - 13:00	5	5353	0.01	5	5353	0.01	5	5353	0.02
13:00 - 14:00	5	5353	0.02	5	5353	0.03	5	5353	0.05
14:00 - 15:00	5	5353	0.01	5	5353	0.01	5	5353	0.02
15:00 - 16:00	5	5353	0.01	5	5353	0.04	5	5353	0.05
16:00 - 17:00	5	5353	0.02	5	5353	0.01	5	5353	0.03
17:00 - 18:00	5	5353	0.04	5	5353	0.03	5	5353	0.07
18:00 - 19:00	5	5353	0.03	5	5353	0.04	5	5353	0.07
19:00 - 20:00	5	5353	0.02	5	5353	0.02	5	5353	0.04
20:00 - 21:00	5	5353	0.01	5	5353	0.03	5	5353	0.04
21:00 - 22:00	5	5353	0.00	5	5353	0.01	5	5353	0.01
22:00 - 23:00	1	5600	0.00	1	5600	0.00	1	5600	0.00
23:00 - 24:00	0	0	0.00	0	0	0.00	0	0	0.00
Daily Trip Rates:			0.38			0.37			0.72

Parameter summary

Trip rate parameter range selected:	3280 - 6000 (units: sqm)
Survey date date range:	01/01/97 - 02/02/06
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	NO
Surveys manually removed from selection:	0

TRIP RATE for Land Use 07 - LEISURE/C - SPORTS CENTRES

MULTI-MODAL BUS/TRAM PASSENGERS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.00	0	0	0.00	0	0	0.00
01:00 - 02:00	0	0	0.00	0	0	0.00	0	0	0.00
02:00 - 03:00	0	0	0.00	0	0	0.00	0	0	0.00
03:00 - 04:00	0	0	0.00	0	0	0.00	0	0	0.00
04:00 - 05:00	0	0	0.00	0	0	0.00	0	0	0.00
05:00 - 06:00	0	0	0.00	0	0	0.00	0	0	0.00
06:00 - 07:00	0	0	0.00	0	0	0.00	0	0	0.00
07:00 - 08:00	1	5886	0.02	1	5886	0.02	1	5886	0.04
08:00 - 09:00	1	5886	0.02	1	5886	0.02	1	5886	0.04
09:00 - 10:00	1	5886	0.07	1	5886	0.02	1	5886	0.09
10:00 - 11:00	**2**	**4583**	**0.56**	2	4583	0.03	2	4583	0.59
11:00 - 12:00	2	4583	0.04	**2**	**4583**	**0.56**	**2**	**4583**	**0.60**
12:00 - 13:00	2	4583	0.01	2	4583	0.08	2	4583	0.09
13:00 - 14:00	2	4583	0.04	2	4583	0.04	2	4583	0.08
14:00 - 15:00	2	4583	0.00	2	4583	0.00	2	4583	0.00
15:00 - 16:00	2	4583	0.11	2	4583	0.04	2	4583	0.15
16:00 - 17:00	2	4583	0.15	2	4583	0.05	2	4583	0.20
17:00 - 18:00	2	4583	0.09	2	4583	0.09	2	4583	0.18
18:00 - 19:00	2	4583	0.07	2	4583	0.04	2	4583	0.11
19:00 - 20:00	2	4583	0.01	2	4583	0.07	2	4583	0.08
20:00 - 21:00	2	4583	0.00	2	4583	0.10	2	4583	0.10
21:00 - 22:00	2	4583	0.00	2	4583	0.00	2	4583	0.00
22:00 - 23:00	0	0	0.00	0	0	0.00	0	0	0.00
23:00 - 24:00	0	0	0.00	0	0	0.00	0	0	0.00
Daily Trip Rates:			1.18			1.15			2.35

Parameter summary

Trip rate parameter range selected:	3280 - 6000 (units: sqm)
Survey date date range:	01/01/97 - 02/02/06
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	NO
Surveys manually removed from selection:	0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
Category : C - SPORTS CENTRES

MULTI-MODAL TRAIN PASSENGERS

Selected regions and areas:

03	**SOUTH WEST**		
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	1 days
	WO	WORCESTERSHIRE	2 days

Main parameter selection:

Parameter: Gross floor area
Range: 3280 to 6000 (units: sqm)

Date Range: 01/01/97 to 02/02/06

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	1 days
Friday	2 days

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

Optional parameter selection:

Use Class:

D2	5 days

Location:	*Location Sub Category:*	
Suburban Area (PPS6 Out of Centre)		2 days
Edge of Town		2 days
Edge of Town Centre		1 days

Population within 1 mile:

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
75,001 to 100,000	2 days
250,001 to 500,000	1 days

TRIP RATE for Land Use 07 - LEISURE/C - SPORTS CENTRES

MULTI-MODAL TRAIN PASSENGERS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	**0**	**0**	**0.00**	**0**	**0**	**0.00**	**0**	**0**	**0.00**
01:00 - 02:00	0	0	0.00	0	0	0.00	0	0	0.00
02:00 - 03:00	0	0	0.00	0	0	0.00	0	0	0.00
03:00 - 04:00	0	0	0.00	0	0	0.00	0	0	0.00
04:00 - 05:00	0	0	0.00	0	0	0.00	0	0	0.00
05:00 - 06:00	0	0	0.00	0	0	0.00	0	0	0.00
06:00 - 07:00	0	0	0.00	0	0	0.00	0	0	0.00
07:00 - 08:00	0	0	0.00	0	0	0.00	0	0	0.00
08:00 - 09:00	0	0	0.00	0	0	0.00	0	0	0.00
09:00 - 10:00	0	0	0.00	0	0	0.00	0	0	0.00
10:00 - 11:00	0	0	0.00	0	0	0.00	0	0	0.00
11:00 - 12:00	0	0	0.00	0	0	0.00	0	0	0.00
12:00 - 13:00	0	0	0.00	0	0	0.00	0	0	0.00
13:00 - 14:00	0	0	0.00	0	0	0.00	0	0	0.00
14:00 - 15:00	0	0	0.00	0	0	0.00	0	0	0.00
15:00 - 16:00	0	0	0.00	0	0	0.00	0	0	0.00
16:00 - 17:00	0	0	0.00	0	0	0.00	0	0	0.00
17:00 - 18:00	0	0	0.00	0	0	0.00	0	0	0.00
18:00 - 19:00	0	0	0.00	0	0	0.00	0	0	0.00
19:00 - 20:00	0	0	0.00	0	0	0.00	0	0	0.00
20:00 - 21:00	0	0	0.00	0	0	0.00	0	0	0.00
21:00 - 22:00	0	0	0.00	0	0	0.00	0	0	0.00
22:00 - 23:00	0	0	0.00	0	0	0.00	0	0	0.00
23:00 - 24:00	0	0	0.00	0	0	0.00	0	0	0.00
Daily Trip Rates:			0.00			0.00			0.00

Parameter summary

Trip rate parameter range selected:	3280 - 6000 (units: sqm)
Survey date date range:	01/01/97 - 02/02/06
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	NO
Surveys manually removed from selection:	0

APPENDIX K

Mode Share Data

BICESTER AS ORIGIN DISTRIBUTION

ACTUAL TRIP SPLIT	ROUTE												
CODE	A	B	C	D	E	F	G	TOTAL	%	Mode	%	Mode
DESCRIPTION	A4421/A421	A41(E/W)	M40(S) VIA A41	A34(S)	M40 (N) VIA B4030		Internal (All Bicester)					
TRAIN	0	18	222	63	9	0	21	333	2%	TRAIN	33%	Public Transport
BUS	30	12	33	559	9	0	78	721	5%	BUS		
CAR D	526	832	1379	5081	327	0	2834	10979	71%	CAR D		
CAR P	30	39	51	538	9	0	482	1149	7%	CAR P		
MCYCLE	3	3	21	93	9	0	39	168	1%	MCYCLE		
BICYCLE	3	9	9	168	0	0	633	822	5%	BICYCLE	25%	BICYCLE
WALKING	0	3	15	83	0	0	1262	1363	9%	WALKING	42%	WALKING
ALL MODES	592	916	1730	6585	363	0	5349	15535	100%			

national statistics

Department for Transport

Personal Travel Factsheets

Table 4: Percentage of trips to school and average length by main mode and area type: 1999/2001

Percentage/miles

	London	English Metropolitan	Large Urban	Medium Urban	Small Urban	Rural	All areas 1999/2001	All areas 1989/1991
5-10 year olds								
Walk	62	64	56	53	51	41	54	62
Car	31	32	38	41	42	42	39	27
Bus	5	3	4	5	6	14	6	9
Other (mostly taxi)	3	1	1	1	1	3	1	2
All modes	100	100	100	100	100	100	100	100
Average trip length	1.1	1.1	1.0	1.3	1.6	2.2	1.4	1.3
11-16 year olds								
Walk	38	42	42	52	44	25	43	48
Bicycle	1	1	2	3	3	1	2	5
Car	13	20	18	20	19	20	18	14
Bus	36	35	33	23	33	49	32	30
Other (mostly rail)	13	2	5	3	1	5	4	3
All modes	100	100	100	100	100	100	100	100
Average trip length	3.2	2.1	2.4	2.5	3.1	5.1	2.9	2.8
5-16 year olds								
Walk	50	53	49	53	48	33	49	56
Bicycle	1	1	1	2	2	1	1	3
Car	22	26	28	30	30	31	28	21
Bus	20	19	18	14	19	32	19	19
Other	7	1	3	2	1	4	2	2
All modes	100	100	100	100	100	100	100	100
Average trip length	2.1	1.6	1.7	1.9	2.3	3.7	2.2	2.0

EDUCATION MODE SHARE

reduce for affordable (30% affordable at 25% lower rates)

	AM			PM		
	in	out	tot	in	out	tot
Non Car	162	679	841	350	153	503
driver	147	616	762	572	249	821
pass	68	284	352	245	107	352
total	**376**	**1579**	**1955**	**1167**	**509**	**1676**

Education Trips - 43% of AM : 4% of PM

	AM			PM		
	in	out	tot	in	out	tot
total	**-104**	**-438**	**-542**	**-30**	**-13**	**-43**

0.43	43% of trips in AM
0.04	4% of trips in pm

Breakdown of Education

Primary	0.45	0.64
Secondary	0.19	
Tertiary	0.20	Not on the site
Total	**0.84**	

Primary Trips

	AM			PM		
	in	out	tot	in	out	tot
total	**-73**	**-306**	**-378**	**-21**	**-9**	**-30**

Non Car	0.453	Mode Share of school trips
driver	0.219	
pass	0.328	
total	**1.00**	

Primary Trips

	AM			PM		
	in	out	tot	in	out	tot
Non Car	-33	-138	-171	-10	-4	-14
driver	-16	-67	-83	-5	-2	-7
pass	-24	-100	-124	-7	-3	-10
total	**-73**	**-306**	**-378**	**-21**	**-9**	**-30**

Secondary Trips

	AM			PM		
	in	out	tot	in	out	tot
total	**-31**	**-132**	**-163**	**-9**	**-4**	**-13**

Non Car	0.706	Mode Share of school trips
driver	0.118	
pass	0.176	
total	**1.00**	

Secondary Trips

	AM			PM		
	in	out	tot	in	out	tot
Non Car	-22	-93	-115	-6	-3	-9
driver	-4	-16	-19	-1	0	-2
pass	-6	-23	-29	-2	-1	-2
total	**-31**	**-132**	**-163**	**-9**	**-4**	**-13**

South West Bicester Internal Secondary Trips 5/9 of overall trips

	AM			PM		
	in	out	tot	in	out	tot
Non Car	-12	-52	-64	-4	-2	-5
driver	-2	-9	-11	-1	0	-1
pass	-3	-13	-16	-1	0	-1
total	**-17**	**-73**	**-91**	**-5**	**-2**	**-7**

Mode Share Results

	AM			PM		
	in	out	tot	in	out	tot
Non Car	-45	-190	-235	-13	-6	-19
driver	-18	-75	-93	-5	-2	-7
pass	-27	-113	-140	-8	-3	-11
total	-90	-379	-469	-26	-11	-37

Calculating Mode Share

	5-10 yr olds	11-16 yr olds
Walk	41	25
Bicycle	0	1
Car	42	20
Bus	14	49
Other (mostly Rail)	3	5
All Modes	100	100

Mode Shares of School Children

	5-10 yr olds	11-16 yr olds
Non Car	58	80
Driver	-	-
Pass	42	20
All Modes	100	100

Allow for Driver Non Car

	5-10 yr olds	11-16 yr olds
Non Car	58	80
Driver	28	13
Pass	42	20
All Modes	128	113

1.5 Children Per Car

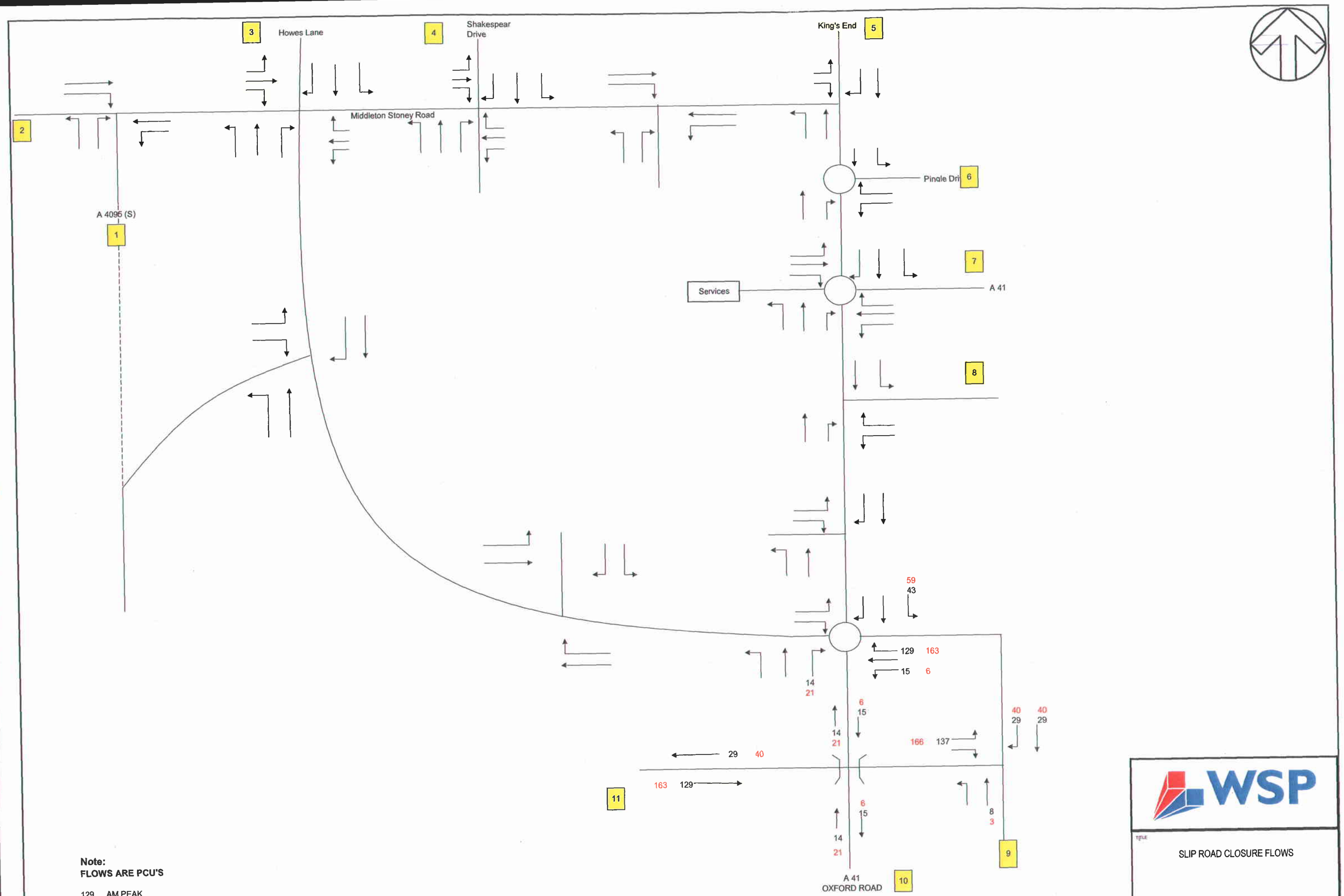
Re-Adjust for 100% Non Car

	5-10 yr olds	11-16 yr olds
Non Car	0.453	0.706
Driver	0.219	0.118
Pass	0.328	0.176
All Modes	1	1

	5-10 yr olds	11-16 yr olds
Non Car	45.3%	70.6%
Driver	21.9%	11.8%
Pass	32.8%	17.6%
All Modes	100.0%	100.0%

APPENDIX L

Reassignment Effects of A41 Slip Road Closures



Note:
FLOWS ARE PCU'S

129 AM PEAK
163 PM PEAK

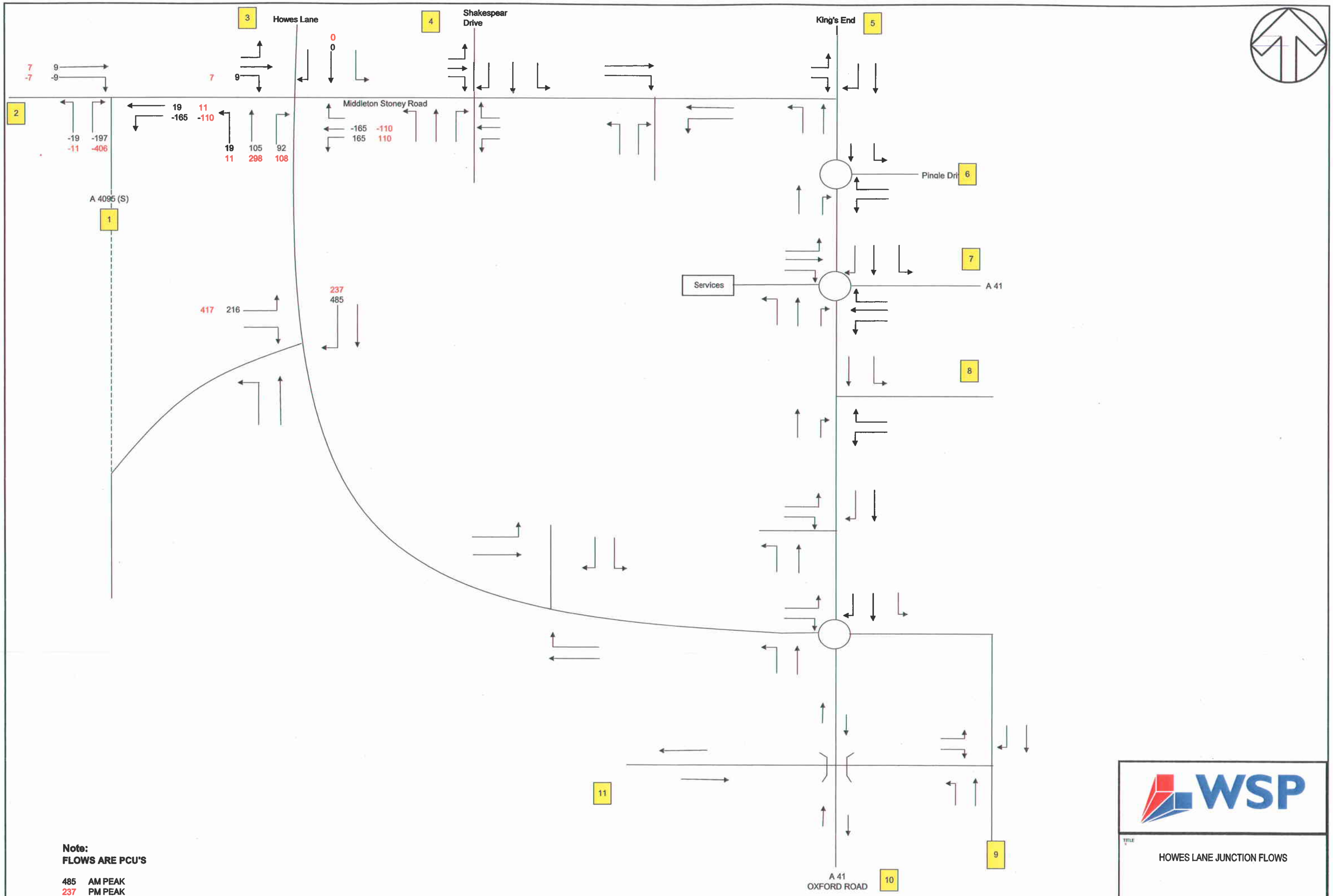
WSP

TITLE
SLIP ROAD CLOSURE FLOWS

FIGURE No:
L1

APPENDIX M

Reassignment Effects of Howes Lane Junction



Note:
FLOWS ARE PCU'S

485 AM PEAK
237 PM PEAK

WSP

TITLE

HOWES LANE JUNCTION FLOWS

FIGURE No:

M1

APPENDIX N

Diversion Effects of Perimeter Road

South West Bicester – Diverting Traffic

Cordon surveys undertaken on Tuesday 12 July 2005 in order to determine the existing distribution of vehicle trips in and around South West Bicester. Average journey times were also recorded between each of the cordon points.

Cordons were placed at the following locations:

1. South of the slip roads on the A41 Oxford Road;
2. Middleton Stoney Road, east of the junction with Shakespeare Drive
3. On the B4030 Bicester Road, west of the A4095 staggered priority junction
4. To the south St Johns Street and north of St Georges Street on Queen street Avenue in Central Bicester;
5. On the B4100, north of the four-arm roundabout junction with the A4095
6. On the A41 by the railway bridge
7. North of Bicester on the A4421, north of the roundabout junction with the A4095; and
8. On the A4095 Bignell View Road south of the staggered priority junction with Middleton Stoney Road

From these cordon and journey time surveys it has been established which routes are most likely to divert onto the proposed by-pass between the A41 Oxford Road to the A4095 during the peak hours. These routes are as follows:

- 1,2,3 and 3,2,1;
- 1,2,5 and 5,2,1;
- 1,4,5 and 4,5,1;
- 1,4,7 and 7,4,1; and
- 1,6,5 and 5,6,1;

In addition it was considered that 50% of trips routing through 1,6,7 and 7,6,1 would divert to the by-pass as a result of the saving in journey time. In order to identify the likely number of trip which would divert during the peak hours, 60% of the 2 hour recorded flows were assumed to occur in the peak hours. Table 1 below sets out the number of vehicle trips which were recorded as routing through the above cordons.

Table 1. – Vehicle trips which are likely to divert to the proposed by-pass

Cordon	AM		PM	
	Inbound	Outbound	Inbound	Outbound
1,2,3 and 3,2,1	5	2	4	0
1,2,5 and 5,2,1	0	0	2	2
1,4,5 and 5,4,1	8	13	5	10
1,4,7 and 7,4,1	50	74	101	64
1,6,5 and 5,6,1	3	4	4	1

The above flows were growthed to the opening year of 2014. These flows are set out in Table 2 below.

Table 2. – 2014 Forecast Base Flows likely to divert to the proposed by-pass

Cordon	AM		PM	
	Inbound	Outbound	Inbound	Outbound
1,2,3 and 3,2,1	5	2	4	0
1,2,5 and 5,2,1	0	0	2	2
1,4,5 and 5,4,1	8	13	5	10
1,4,7 and 7,4,1	50	74	101	64
1,6,5 and 5,6,1	3	4	4	1

11546/c

THE PAUL CASTLE CONSULTANCY

TRAFFIC DATA COLLECTION & PRESENTATION SPECIALISTS

TRAFFIC DATA COLLECTION

& PRESENTATION SYSTEMS

Bicester
O&D Survey

July 2005

FOR

WSP Development – Basingstoke

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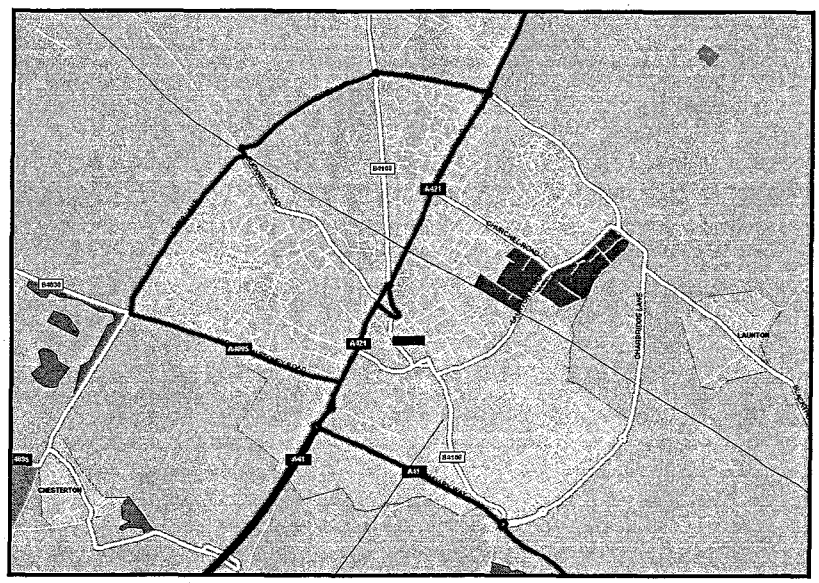
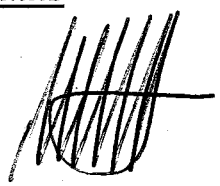


PCC 7838

The Paul Castle Consultancy has prepared this report in accordance with the instructions of WSP DEVELOPMENT for its sole and specific use. The Paul Castle Consultancy shall not be liable for any such use of any information contained herein for any purpose other than that for which the same was prepared and provided, pursuant to their appointment as Traffic Data Collection Specialists in this matter.

Authorisation for Issue:

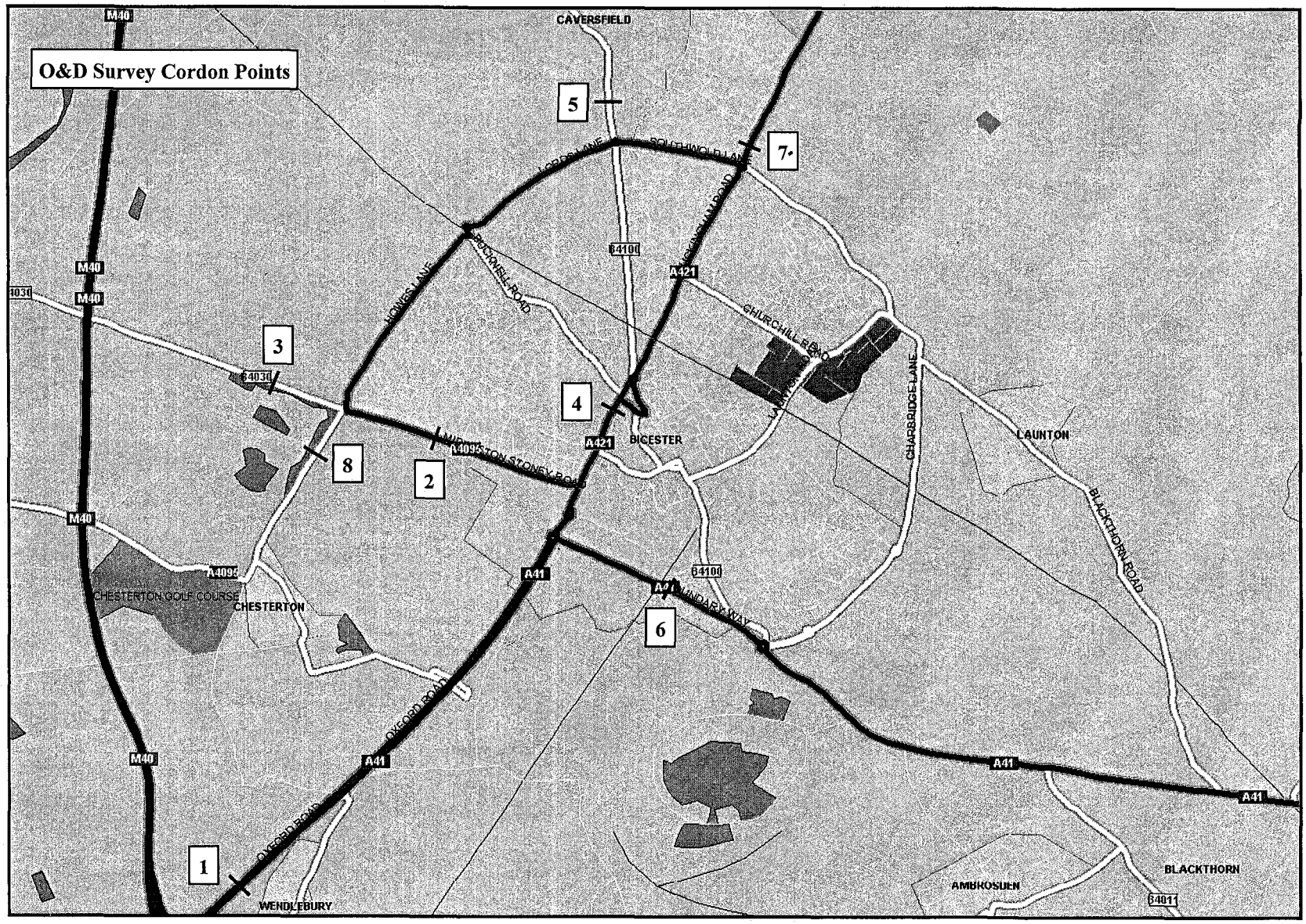
Fieldwork Supervisor:	*Joe Kendhammer*
Report Compiler:	*Steve Lilley-Hopkins*
Project Manager:	*Paul Castle*
Report Date:	*23rd August 2005*



In the event of any queries regarding the content of this report, please contact the Report Compiler (by fax or telephone) who shall deal with your questions.

PAUL CASTLE CONSULTANCY
Map Sheet

Project: Bicester O&D | **PCC No: 7838** | **Originator: Steve Lilley-Hopkins** | **Date: July 2005**



Preface

The Paul Castle Consultancy were appointed by Rebecca Williams of WSP Development, Basingstoke, to undertake an Registration Plate Survey at the above location, in order to determine vehicle origin and destination movements in July 2005.

Methodology: Registration Plate Matching - Cordon O&D Survey

In order to complete this survey, enumerators undertook the following recordings at each of the cordon points. Registration plate numbers were recorded of all heavy vehicles and approximately 50% of all light vehicles (due to 100% of light vehicles being an impossible task at this particular area). In order to achieve the 50% of light vehicles sample rate white, silver and red coloured vehicles were chosen. In addition to the above, Automatic Traffic Counters were placed to record the total number of vehicles passing through each cordon point, as a control count in order to expand the results during analysis.

To complete the data analysis, the following method was used. The registration recordings were imported into the MicroMatch software, and were matched on a site-to-site and 3-way basis for particular routes of interest. These results showed an overall match percentage of ~30% indicating that some ~70% of traffic recorded is either lost within the cordon (for example vehicles parking within the cordon), or exited the cordon via a road which was not surveyed (for example southbound on the B4100). With our local knowledge of the area, this seemed sensible and so we could proceed. The final stage of this process was to expand the actual number of vehicle matches to an estimated figure of matches, were we to have recorded all vehicles – due to the 50% sample rate this means essentially doubling the matched vehicle figures.

In addition to the above, we were able to produce average site-to-site trip times based on the real-time entry and exit times recorded.

All of the results were finally tabulated and presented in a Microsoft Excel spreadsheet.

Site Survey Details

Survey Dates: **Tuesday 12th July 2005**

Hours: **0730 – 0930, 1300 – 1500 & 1630 – 1830**

Location: **See enclosed map**

Intervals: **N/A (real-time)**

Weather: **Hot & sunny**

Survey Results

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

Produced by The Paul Castle Consultancy

Total Vehicle Flow (Inbound & Outbound of Cordon)

	INBOUND							
PERIOD	1	2	3	4	5	6	7	8
AM	2036	468	400	935	964	3537	1181	422
OFF-PEAK	1971	566	325	992	567	2804	702	522
PM	2670	1001	556	1349	841	3626	964	754

	OUTBOUND							
PERIOD	1	2	3	4	5	6	7	8
AM	2659	880	402	1546	725	3540	1002	674
OFF-PEAK	1795	565	329	1260	532	2797	853	440
PM	2130	609	411	1503	882	3630	1322	463

Note: Site 2 'Inbound' is Westbound, 'Outbound' is Eastbound
Site 4 'Inbound' is Northbound, 'Outbound' is Southbound

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

Produced by The Paul Castle Consultancy

Outer Cordon Matched Vehicles (Ignoring Sites 2 & 4)

AM	DESTINATION						
ORIGIN	1	3	5	6	7	8	TOTAL
1	35	13	19	529	146	9	**751**
3	9	32	9	58	22	13	**143**
5	55	16	35	9	19	19	**153**
6	601	84	16	29	6	22	**758**
7	344	26	22	19	68	78	**557**
8	13	35	19	19	61	13	**160**
TOTAL	**1057**	**206**	**120**	**663**	**322**	**154**	**2522**

OFF-PEAK	DESTINATION						
ORIGIN	1	3	5	6	7	8	TOTAL
1	143	29	32	464	276	9	**953**
3	16	45	3	42	13	3	**122**
5	29	6	58	13	26	16	**148**
6	503	42	19	39	13	3	**619**
7	243	32	26	6	113	26	**446**
8	9	9	3	22	52	19	**114**
TOTAL	**943**	**163**	**141**	**586**	**493**	**76**	**2402**

PM	DESTINATION						
ORIGIN	1	3	5	6	7	8	TOTAL
1	94	16	32	510	260	13	**925**
3	16	22	19	91	42	6	**196**
5	26	9	29	13	19	19	**115**
6	513	81	13	58	3	35	**703**
7	269	3	0	26	48	42	**388**
8	13	3	6	35	107	19	**183**
TOTAL	**931**	**134**	**99**	**733**	**479**	**134**	**2510**

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

Produced by The Paul Castle Consultancy

3-Way Matched Vehicles from Site 1

	ROUTE							
PERIOD	1-8-3	1-8-5	1-2-3	1-2-5	1-4-5	1-4-7	1-6-5	1-6-7
AM	0	0	9	0	13	84	9	91
OFF-PEAK	0	0	19	0	13	162	16	48
PM	0	0	6	3	9	169	13	104

3-Way Matched Vehicles to Site 1

	ROUTE							
PERIOD	3-8-1	5-8-1	3-2-1	5-2-1	5-4-1	7-4-1	5-6-1	7-6-1
AM	3	0	3	0	22	123	13	91
OFF-PEAK	0	0	3	3	6	84	3	81
PM	0	0	0	3	16	107	3	100

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

Produced by The Paul Castle Consultancy

2-Way Matched Vehicles from Site 2

	ROUTE						
PERIOD	2-1	2-3	2-4	2-5	2-6	2-7	2-8
AM	55	211	58	22	68	22	104
OFF-PEAK	29	188	35	19	19	0	58
PM	58	221	71	0	74	48	100

2-Way Matched Vehicles to Site 2

	ROUTE						
PERIOD	1-2	3-2	4-2	5-2	6-2	7-2	8-2
AM	61	195	91	22	149	35	84
OFF-PEAK	97	97	133	9	58	9	35
PM	162	159	162	16	178	9	120

2-Way Matched Vehicles from Site 4

	ROUTE						
PERIOD	4-1	4-2	4-3	4-5	4-6	4-7	4-8
AM	503	91	45	55	32	263	29
OFF-PEAK	321	133	84	91	65	338	26
PM	344	162	61	78	78	383	39

2-Way Matched Vehicles to Site 4

	ROUTE						
PERIOD	1-4	2-4	3-4	5-4	6-4	7-4	8-4
AM	247	58	22	104	68	276	29
OFF-PEAK	399	35	71	104	48	227	19
PM	539	71	58	84	94	234	13

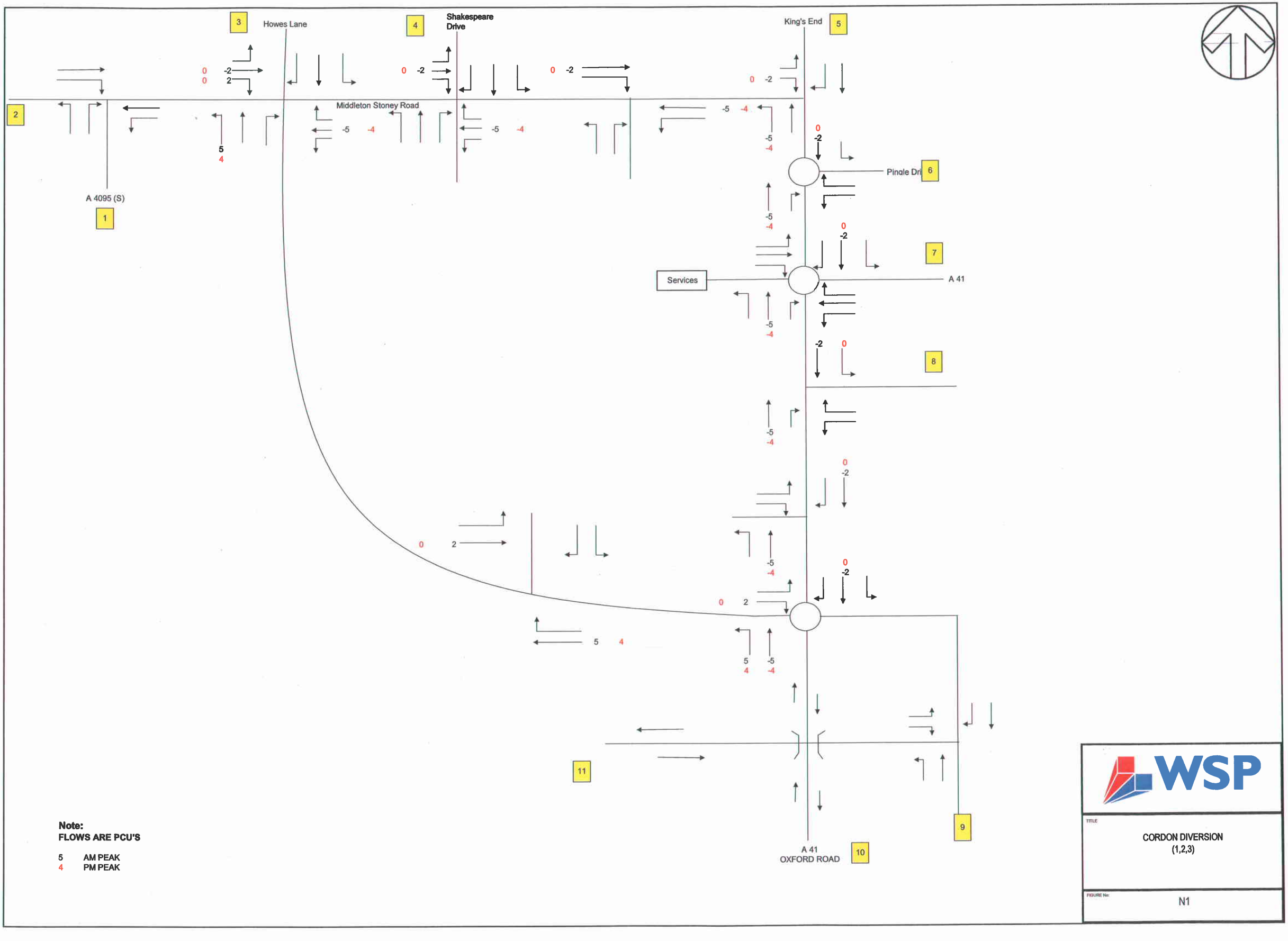
Note: 2-4 figures may include vehicles from other matches, eg 2-5 & 2-7
4-2 figures may include vehicles from other matches, eg 4-3 & 4-8

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

Produced by The Paul Castle Consultancy

Site-to-Site Average Trip Durations (Minutes)

	DESTINATION							
ORIGIN	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

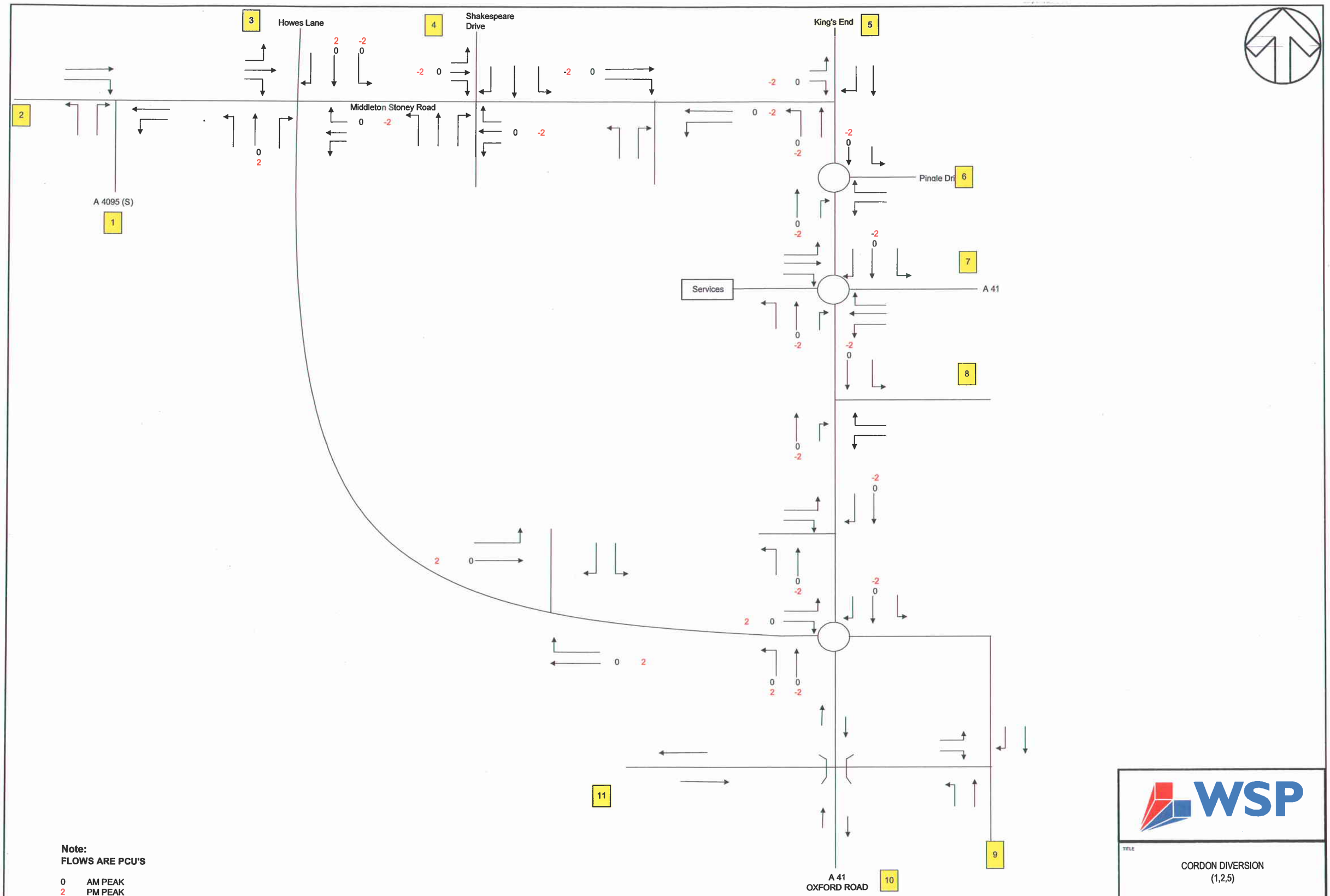
WSP

TITLE

CORDON DIVERSION
(1,2,3)

FIGURE No:

N1



Note:
FLOWS ARE PCU'S

0 AM PEAK
2 PM PEAK

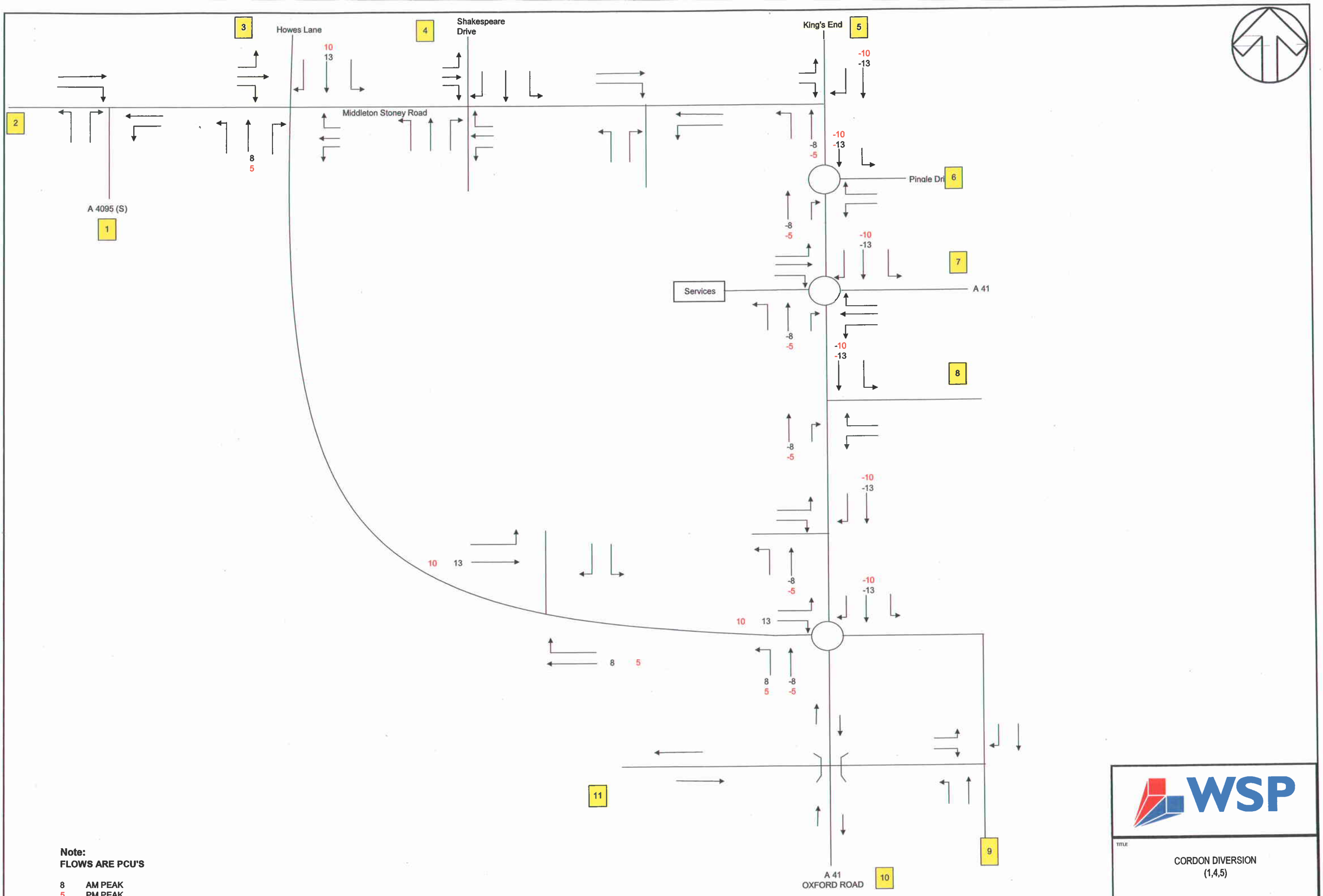
WSP

TITLE

CORDON DIVERSION
(1,2,5)

FIGURE No:

N2



Note:
FLOWS ARE PCU'S

8 AM PEAK
5 PM PEAK

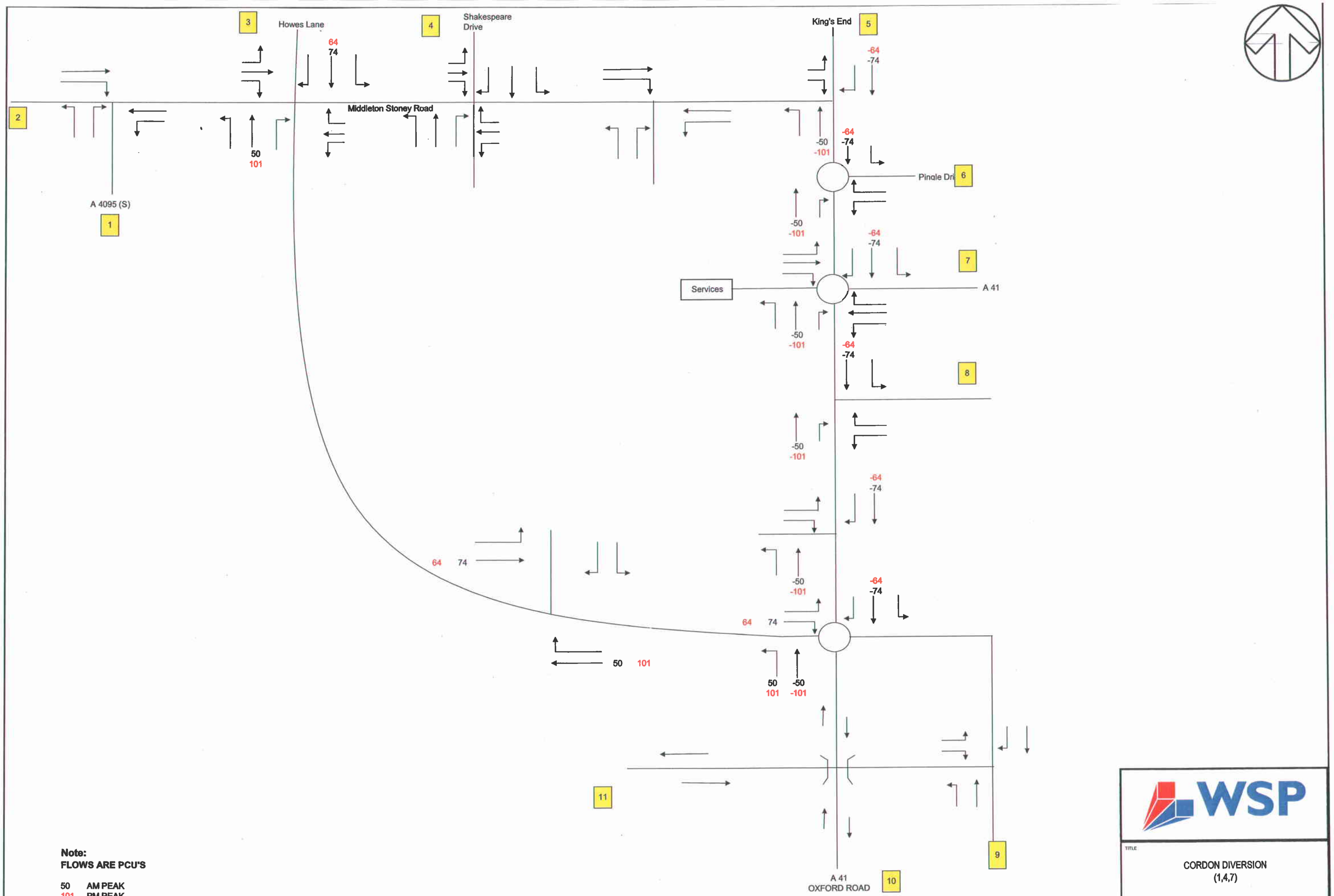
WSP

TITLE

CORDON DIVERSION
(1,4,5)

FIGURE No:

N3



Note:
FLOWS ARE PCU'S

50 AM PEAK
101 PM PEAK

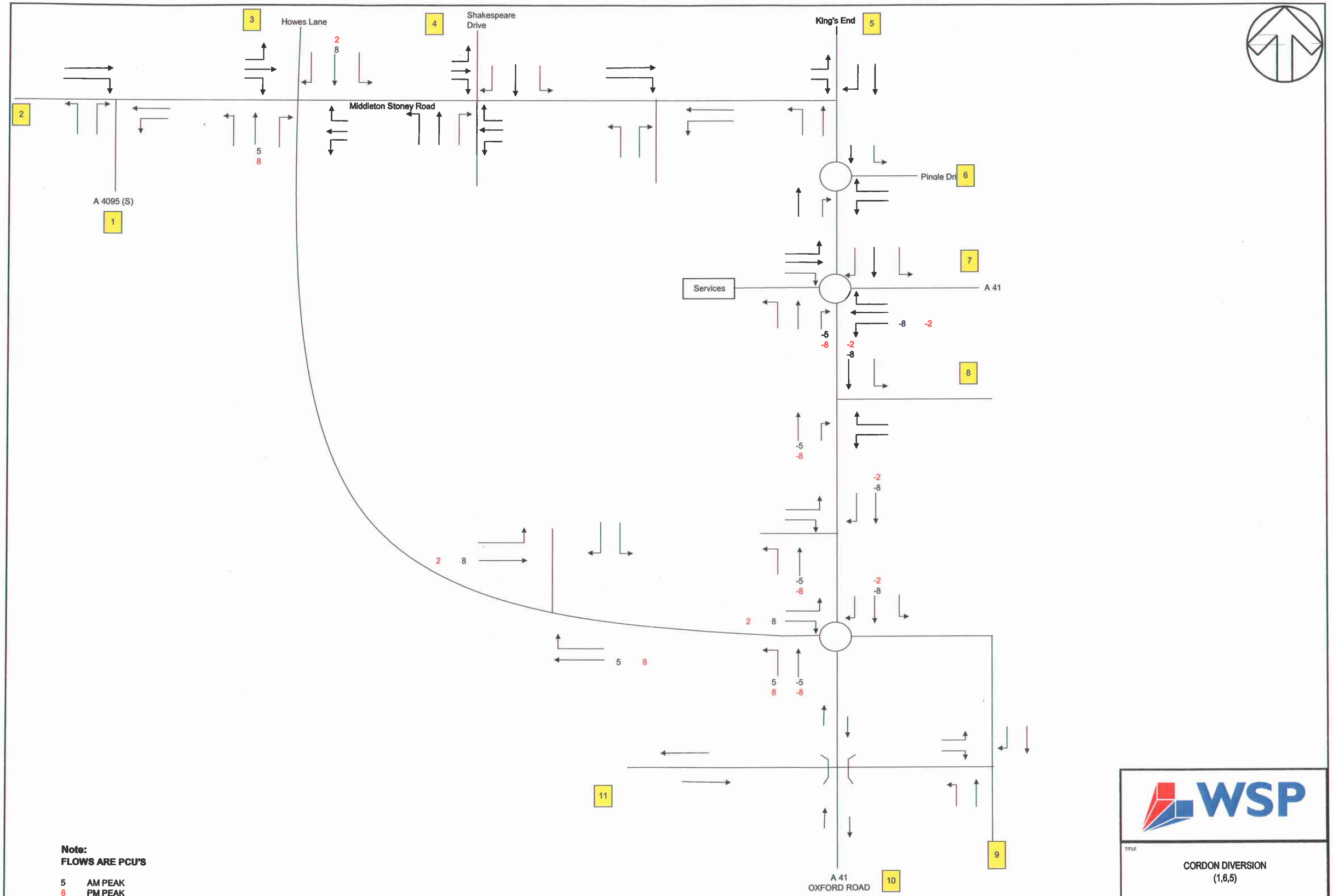
WSP

TITLE

CORDON DIVERSION
(1,4,7)

FIGURE No:

N4



Note:
FLOWS ARE PCU'S

5 AM PEAK
8 PM PEAK

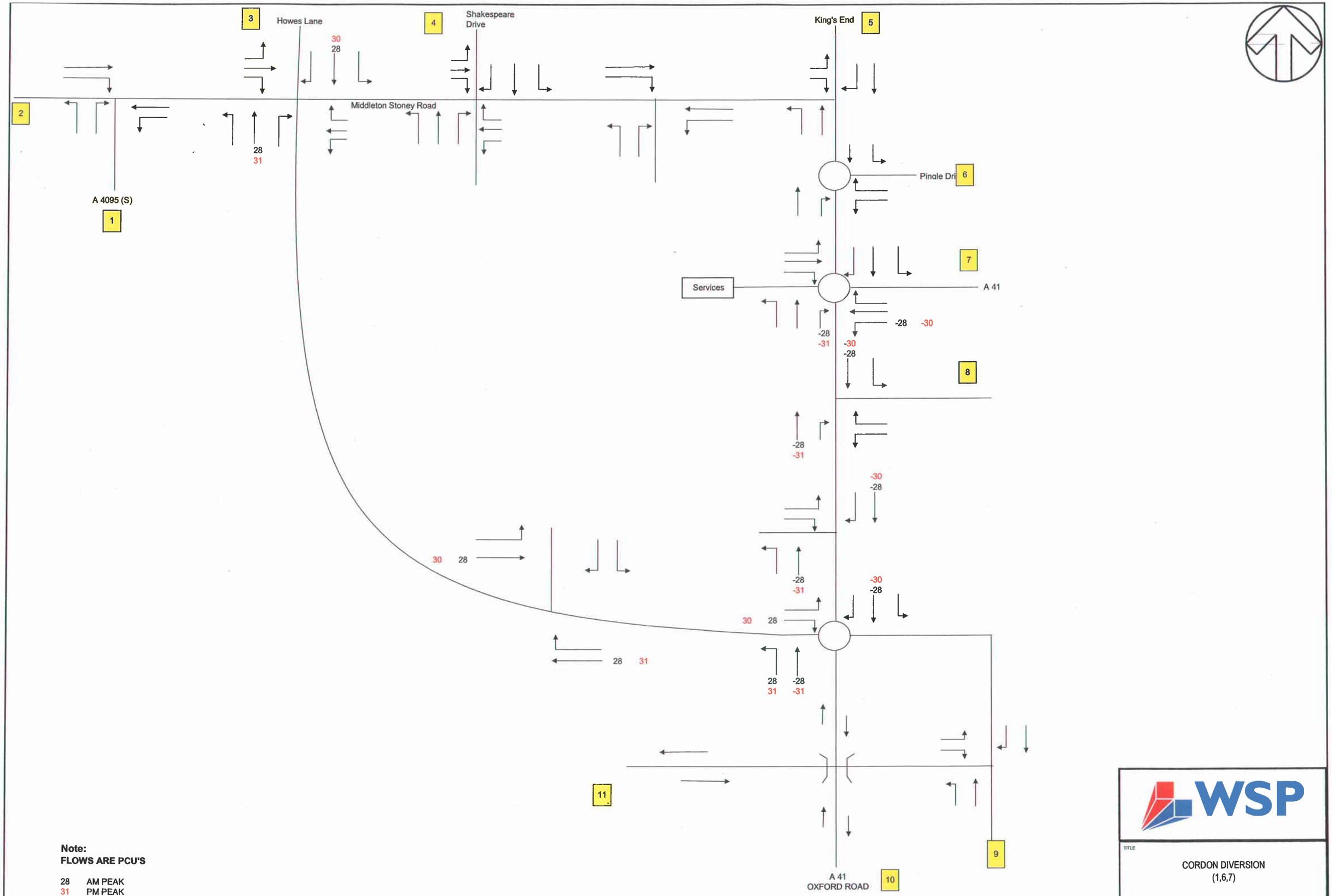
WSP

TITLE

CORDON DIVERSION
(1,6,5)

FIGURE No:

N5



Note:
FLOWS ARE PCU'S

28 AM PEAK
31 PM PEAK

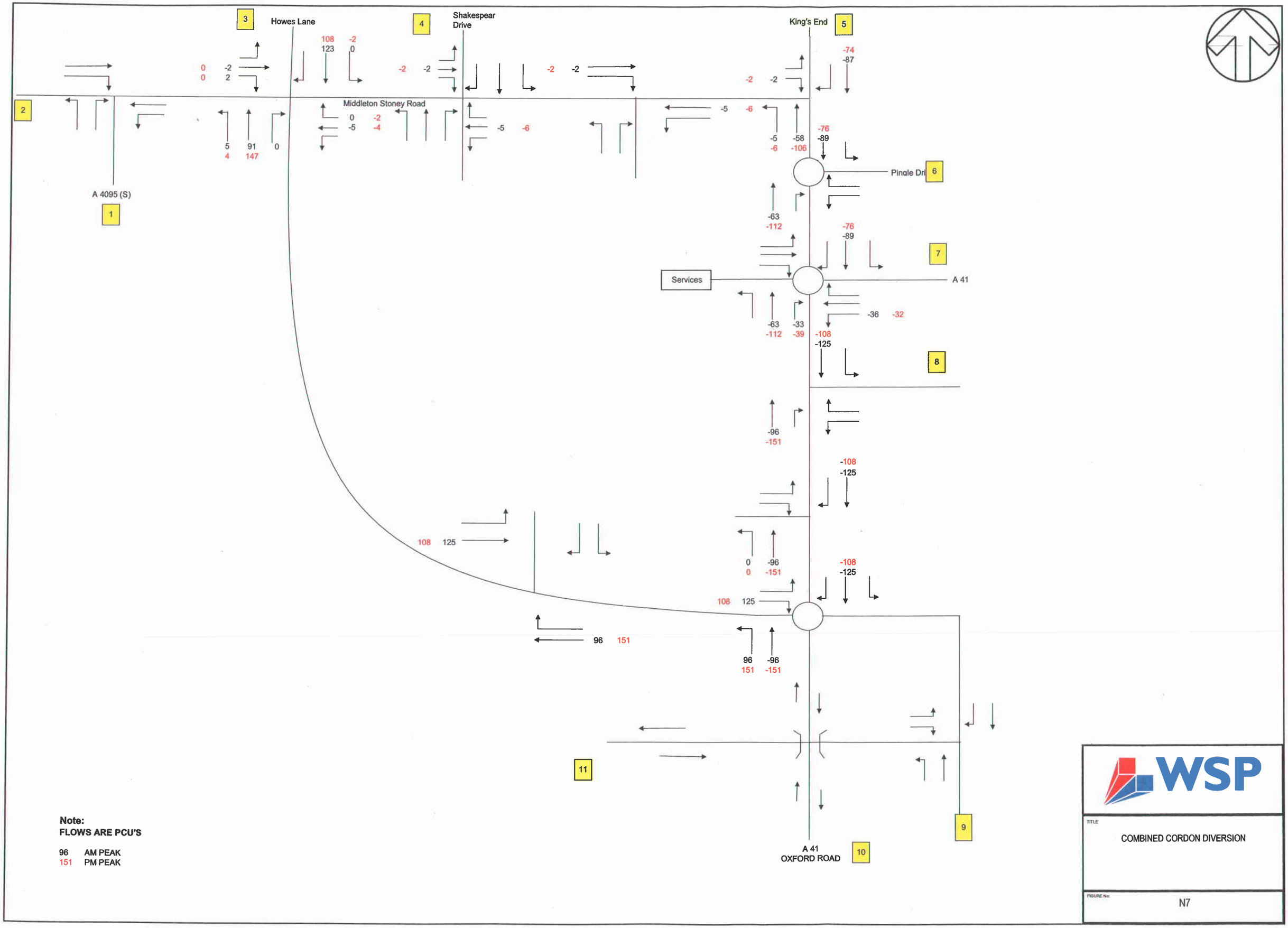
WSP

TITLE

CORDON DIVERSION
(1,6,7)

FIGURE No:

N6



Note:
FLOWS ARE PCU'S

96 AM PEAK
151 PM PEAK

WSP

TITLE

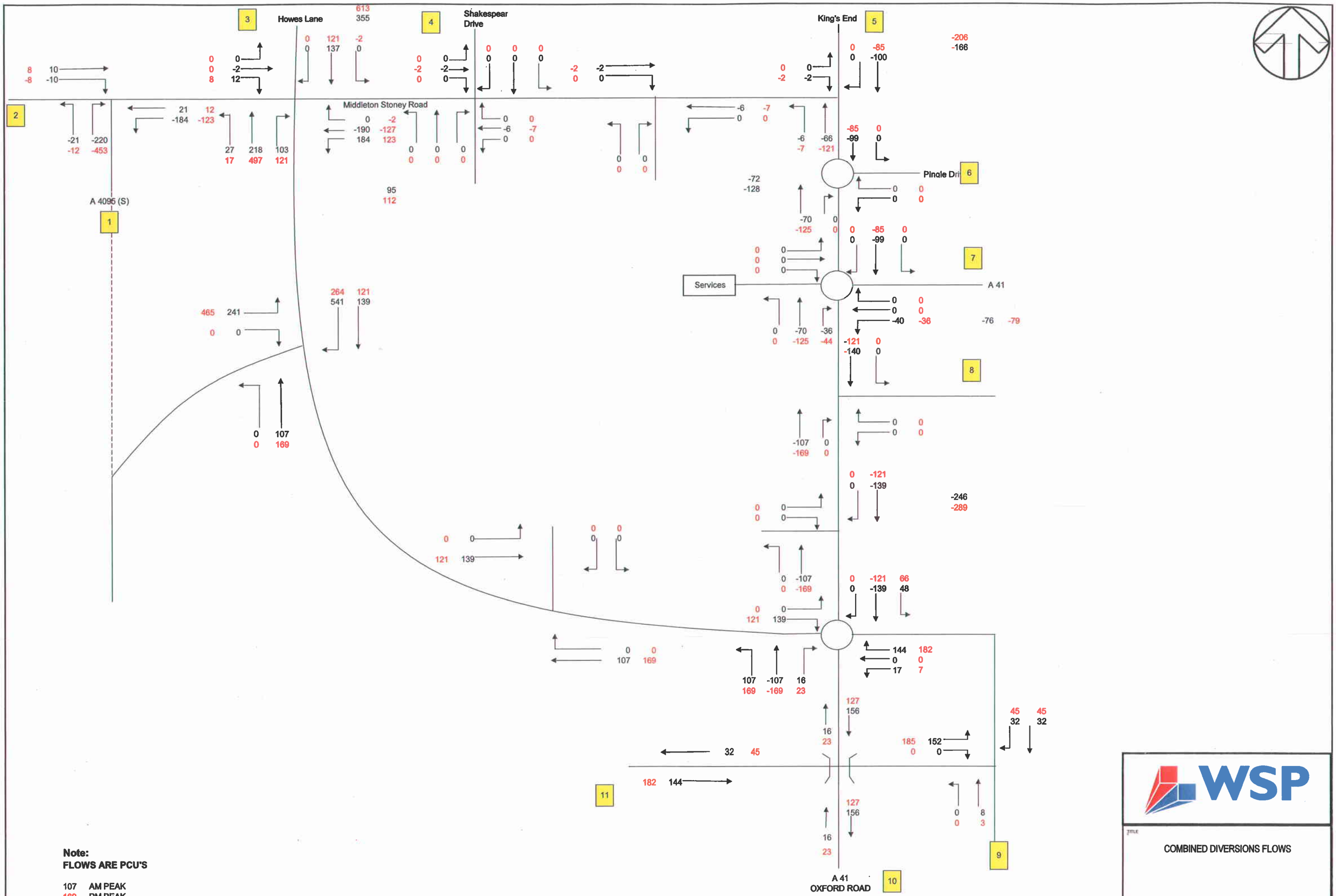
COMBINED CORDON DIVERSION

FIGURE No:

N7

APPENDIX O

Combined Effects of Reassignment and Diversion



Note:
FLOWS ARE PCU'S

107 AM PEAK
169 PM PEAK

WSP

TITLE
COMBINED DIVERSIONS FLOWS

FIGURE No:
01

APPENDIX P

Capacity Analysis – A41 Roundabout

TRL LIMITED

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

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

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

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.

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
TURNING COUNTS
(PERCENTAGE OF H.V.S)

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

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

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
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* 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 ==========

[Printed at 12:46:08 on 27/09/2006]

TRL LIMITED

CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

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

ROUNDABOUT 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 L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius 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.

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
TURNING COUNTS
(PERCENTAGE OF H.V.S)

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

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1456.2	1456.2	100.6	0.07	100.6	0.07
B	189.0	189.0	14.4	0.08	14.4	0.08
C	2106.0	2106.0	181.0	0.09	181.1	0.09
D	223.2	223.2	28.9	0.13	29.0	0.13
ALL	3974.4	3974.4	324.8	0.08	325.0	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 ==========

[Printed at 12:46:43 on 27/09/2006]

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)
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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	
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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)
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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)
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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

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1456.2	1456.2	100.6	0.07	100.6	0.07
B	189.0	189.0	14.4	0.08	14.4	0.08
C	2106.0	2106.0	181.0	0.09	181.1	0.09
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END OF JOB

****** ARCADY 5 run completed.

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

[Printed at 12:46:43 on 27/09/2006]

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