

South West Bicester

Technical Report 1 (Rev D)

Trip Generation, Distribution & Analysis

Countryside Properties (Bicester) Ltd

October 2006

QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	DRAFT	ISSUE	ISSUE 2	Final
Date	03 Aug 2005	15 Nov 2005	30 March 2006	02 October 2006
Prepared by	M J Foyle	M J Foyle	M J Foyle	S Rachmann-Davies
Signature				
Checked by	J A Phillips	J A Phillips	J A Phillips	S Rachmann-Davies
Signature				
Authorised by	P R Jones	P R Jones	J A Phillips	P R Jones
Signature				
Project number	11011546	11011546	11011546	11011546
File reference	Tech Note 1 – Trip Gen.doc	Tech Note 1b – Trip Gen.doc	Tech Note 1c – Trip Gen.doc	Tech Note 1d – Trip Gen.doc

**WSP Development and
Transportation
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ**

**Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
<http://www.wspgroup.com>**

Reg. No: 2382309

Contents

1	Introduction	1
2	Residential Generation	2
3	Hotel Generation	8
4	Local Centre Employment Generation	9
5	On Site Employment Generation	12
6	School Generation	16
7	Health Centre Generation	18
8	Sports Centre Generation	20
9	Total South West Bicester Generation	21

Figure 1 Zonal Distribution

Annex A	Residential Trip Rates
Annex B	Extracts from NTS – Residential Mode Share
Annex C	Affordable Housing Trip Patterns
Annex D	Extracts from NTS – Daily Profile by Trip Journey Purpose
Annex E	Cambridge New Settlement Survey Data
Annex F	Mode Share of Education Trips
Annex G	Hotel Trip Rates
Annex H	Employment Trip Rates
Annex I	Health Village Trip Rates
Annex J	Sports Centre Trip Rates

1 Introduction

1.1 CONTEXT

1.1.1 WSP Development Ltd has been appointed by Countryside Properties (Bicester) Ltd to provide transport advice in relation to the proposed residential development at South West Bicester, Bicester.

1.1.2 The proposals for South West Bicester are based on providing a high quality development which would include the provision of 1,585 residential units, approximately 20,000sqm of B1 / B2 employment land, a hotel, a health village, a local centre (including 1,000sqm GFA of employment) and associated amenities, a sports centre, open space and community facilities including two primary schools and secondary school provision.

Table 1.1: South West Bicester Land Uses

Land Use	Quantum
Non Educational Uses	
Residential Units	1,585 units
Employment Use (Local Centre)	1,000 sqm GFA
B1 / B2 Employment Use	20,000 sqm GFA
Hotel	100 Bedrooms
Health Village	3.5 Hectares
Sports Centre	2,323 sqm GFA
Educational Uses	
Primary Schools	630 Pupils
Secondary school provision	650 Pupils

It is considered that the local centre and associated amenities will cater predominantly for residents of the new development. Therefore, for the purposes of this trip generation assessment, their effect has not been evaluated as it is not considered that they would generate significant external vehicular trips.

1.1.3 This Technical Report presents an assessment of the generation of person trips associated with the proposed South West Bicester development.

1.1.4 Section 2 of this Technical Report details the trip generation by the residential element of the proposals while Section 3 outlines the external trips that would be generated by the hotel use.

1.1.5 The trip generation associated with the 1,000 sqm GFA of local employment use is assessed in Section 4 while in Section 5 the externally generated trips generated by the 20,000 sqm GFA of B1 / B2 employment is assessed.

1.1.6 In Section 6 the trips associated with the on-site education provision are identified, while in Section 7 external trips generated by the health village are outlined.

1.1.7 The trip generation associated with the proposed sports centre is detailed in Section 8.

Finally, Section 9 of this technical report presents a summary of the total external trip generation and also identified the zonal distribution of the vehicular trips.

2 Residential Generation

2.1 RESIDENTIAL PERSON TRIP GENERATION

2.1.1 The TRICS database has been interrogated in order to determine the quantum of peak hour vehicle trips that would be generated by the proposed residential development. A range of 'mixed private housing' sites have been selected within England from the TRICS database and have been assessed to derive the peak hour vehicular trip rates shown in Table 2.1 below. Extracts from the TRICS database are attached as Annex A.

Table 2.1: Residential 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 / Unit	0.10	0.42	0.52	0.39	0.17
Total Trips (Vehs)	159	666	824	618	269	888

Source: TRICS database

2.1.2 Based on the above, the 1,585 dwelling residential development is predicted to generate 824 and 888 vehicle trips during the morning and evening peak hours respectively.

2.1.3 The TRICS database is considered to be suitable for forecasting the quantum of vehicular trips generated by the proposed development. However, use has been made of National Travel Survey (NTS) data in order to establish the typical mode share of residential journeys, to determine the quantum of non-car and car passenger trips.

2.1.4 Using the NTS data (extracts attached as Annex B), it can be established that car driver trips presently comprise 39% of all morning peak hour trips. The corresponding figure during the evening peak hour is 49%. The existing mode share obtained from NTS data is summarised in Table 2.2 below.

Table 2.2: Mode Share of Residential Trips

Mode of Travel	AM Peak Hour	PM Peak Hour
Non-Car	43%	30%
Car Driver	39%	49%
Car Passenger	18%	21%
Total	100%	100%

Source: NTS Data

2.1.5 The mode share percentages shown in Table 2.2 have been applied to the vehicular trip generation in order to factor-up the vehicle trips to represent the total person trip generation of the residential development (see Table 2.3). It is important to note that the number of car drivers does not reduce as a result of this adjustment.

Table 2.3: Total Residential Person Trips – Gross Generation

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	175	734	909	378	165	543
Car Driver	159	666	824	618	269	888
Car Passenger	73	307	380	265	115	380
Total	406	1,707	2,113	1,262	550	1,811

2.2 ALLOWANCE FOR AFFORDABLE HOUSING

2.2.1 The residential element of the proposed development is likely to comprise approximately 30% affordable units. Analysis of the TRICS database indicates that peak hour trips attributable to affordable units in England are approximately 30% lower than private housing trip rates. This correlates well with information contained within the National Travel Survey (NTS) which indicates that housing occupants on lower incomes generate approximately 20% fewer person trips. Relevant extracts of the TRICS and NTS data are attached as Annex C.

2.2.2 Based on the above, it is considered appropriate to reduce the residential trips generated by the affordable element of the units by 25%. Therefore, it can be demonstrated that the proposed development would generate some 7.5% fewer person trips than if it were wholly market housing.

$$[(0.70 \times 1.0) + (0.30 \times 0.75)] = 0.925$$

2.2.3 Table 2.4 shows the number of person trips that would be generated by the residential component of the development, accounting for the element of affordable housing that would be promoted.

Table 2.4: Total Residential Person Trips – Allowing for Affordable Units

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	162	679	841	350	153	503
Car Driver	147	616	762	572	249	821
Car Passenger	68	284	352	245	107	352
Total	376	1,579	1,955	1,167	509	1,676

2.3 ALLOWANCE FOR COMMUTING JOURNEYS MODE SHIFT

2.3.1 It is anticipated that a proportion of the new residents would gain work at the proposed on-site employment and neighbouring land, to the east of the A41. Analysis of NTS data, presented within Annex D, indicates that 36% of morning peak hour trips are for employment purposes. The corresponding proportion of commuting trips during the evening peak hour is 41%.

2.3.2 Surveys undertaken in a range of mixed-use settlements in England demonstrate that for new developments, approximately 10% of financially active adults work and live in the same development. The same surveys identified a significantly higher proportion (24%) of internal employment trips in more established mixed-use areas. Extracts of the survey data is attached as Annex E.

2.3.3 There are two immediate employment areas available to the new residents, 20,000sqm within the proposed development and an additional 60,000sqm on neighbouring land. The available on-site employment will result in a reduction in external trips and, whilst it is acknowledged that the neighbouring employment development would be external to the site, it is considered that its close proximity would result in a higher number of trips being made by non-car modes.

2.3.4 In order to reflect the level of mode shift that is likely to be achieved at the proposed development, it is considered that 17% of the residential trips for employment purposes (the average of the mixed use development surveyed figures) would shift to non-car modes of transport. This equates to a mode shift of 6.1% of the morning peak trips by car and 7.0% of the evening peak hour trips by car. These trips have been apportioned to the car passenger and non-car modes based on their existing proportions. Tables 2.5 and 2.6 show the mode shift for the on-site and neighbouring employment respectively, while Table 2.7 shows the total mode shift for the new residents.

Table 2.5: Commuting Mode Shift to On-Site Employment

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	3	14	17	14	6	20
Car Driver	-2	-9	-12	-10	-4	-14
Car Passenger	-1	-4	-5	-4	-2	-6
Total	0	0	0	0	0	0

Table 2.6: Commuting Mode Shift to Neighbouring Employment

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

Table 2.7: Allowance for Commuting Mode Shift

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	+13	+55	+68	+57	+25	+82
Car Driver	-9	-38	-47	-40	-17	-57
Car Passenger	-4	-17	-22	-17	-7	-25
Total	0	0	0	0	0	0

2.4 ALLOWANCE FOR INTERNAL EDUCATION TRIPS

2.4.1 As stated in Section 1 of this Technical Report, primary and secondary education provision will be incorporated into the development. Therefore, as the person trips illustrated in Table 2.4 include trips to schools, this element needs to be discounted when deriving the total number of trips that would be external to the development.

2.4.2 Analysis of NTS data (attached as Annex D) indicates that approximately 43% of morning peak hour trips and 4% of evening peak hour trips are likely to be for educational purposes. A further breakdown of the education shows that primary schools account for 45% of all education trips, while secondary and tertiary education account for 35% and 20% respectively. Therefore the proposed education trips for the site equate to 542 and 43 trips during the morning and evening peak hours respectively.

2.4.3 The mode share of these trips has been established using NTS data (extracts attached as Annex F) in order to reflect the typical mode share of primary and secondary trips.

2.4.4 It should be noted that the proposed secondary school provision will only provide facilities for pupils of 14 to 19 years. Consequently, secondary pupils between 11 and 14 years will be required to use off-site secondary schools. It has therefore been assumed that the on-site secondary provision will cater for 5/9ths of secondary education trips, while the remaining 4/9ths will go to external secondary schools.

2.4.5 Tables 2.8 and 2.9 show the resultant mode shift for primary and secondary education.

Table 2.8: Allowance for Internal Primary School Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	-33	-138	-171	-10	-4	-14
Car Driver	-16	-67	-83	-5	-2	-7
Car Passenger	-24	-100	-124	-7	-3	-10
Total	-73	-306	-378	-21	-9	-30

Table 2.9: Allowance for Internal Secondary School Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	-12	-52	-64	-4	-2	-5
Car Driver	-2	-9	-11	-1	0	-1
Car Passenger	-3	-13	-16	-1	0	-1
Total	-17	-73	-91	-5	-2	-7

2.4.6 Given that these trips will remain internal to the development, Table 2.10 shows the total reduction in the external residential trips.

Table 2.10: Allowance for Internal Trips to Schools

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	-45	-190	-235	-13	-6	-19
Car Driver	-18	-75	-93	-5	-2	-7
Car Passenger	-27	-113	-140	-8	-3	-11
Total	-90	-379	-469	-26	-11	-37

2.5 EXTERNAL RESIDENTIAL TRIPS

2.5.1 Table 2.11 shows the total number of external person trips that would be generated by the residential development at South West Bicester, derived by applying the allowances for the mode shift of commuting trips (Table 2.7) and the internalisation of school trips (Table 2.10) to the total residential person trips (Table 2.4).

Table 2.11: External Residential Person Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	129	544	673	394	172	566
Car Driver	120	503	622	527	230	756
Car Passenger	37	154	190	220	96	316
Total	286	1200	1486	1141	497	1638

2.5.2 The resultant external car driver trip rates correspond to 0.39 and 0.48 vehs / unit during the morning and evening peak hours respectively.

3 Hotel Generation

3.1 HOTEL PERSON TRIP GENERATION

3.1.1 The proposed development will comprise up to 100 bedrooms. This equates to approximately 7,000 sqm GFA of hotel use.

3.1.2 The TRICS database has been interrogated to determine the vehicular trip rates attributable to this land use. However, as the TRICS database does not hold any multi-modal data on hotels, the TRAVL database has been used to establish the total person trip generation and hence the derivation of the non-car trip rates.

3.1.3 Table 3.1 illustrates the peak hour trip rates for the hotel use within the proposed development while relevant extracts from the TRICS and TRAVL databases are attached as Annex G. It should be noted that an occupancy rate of 1.25 has been used to calculate the passenger trip rate.

Table 3.1: Hotel Person Trip Rates

Trips per 100 sqm GFA	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	0.00	0.32	0.31	0.35	0.21	0.57
Car Driver	0.32	0.35	0.67	0.36	0.27	0.63
Car Passenger	0.08	0.09	0.17	0.09	0.07	0.16
Total	0.40	0.76	1.15	0.80	0.55	1.36

Source: TRICS and TRAVL databases

3.1.4 Table 3.2 shows the number of person trips that would be generated by the hotel, derived by applying the trip generation rates to the quantum of hotel floor space proposed.

Table 3.2: Hotel Person Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	0	23	22	25	15	40
Car Driver	22	25	47	25	19	44
Car Passenger	6	6	12	6	5	11
Total	28	53	81	56	39	95

4 Local Centre Employment Generation

4.1 EMPLOYMENT TRIP GENERATION

4.1.1 The forecast vehicular trip generation of the 1,000 sqm GFA of local employment use 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 uses within the local centre, given the accessibility of this part of the site by foot, cycle and public transport.

4.1.2 The resultant vehicular trips are shown in Table 4.1 while full details of the TRICS outputs are attached as Annex H.

Table 4.1: Local 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)	14	1	15	1	11	12

Source: TRICS database

4.1.3 Based on the above, the 1,000 sqm employment development would generate a total of 15 vehicle trips during the morning peak hour. The corresponding number of vehicle trips during the evening peak hour is predicted to be 12.

4.1.4 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 4.2, car drivers account for 68% of all employment person trips.

Table 4.2: Mode Share of Local Employment Trips

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

Source: 2001 Census

4.1.5 Table 4.3 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 4.3: Total Local Employment Person Trips – Gross Generation

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	5	0	5	0	4	4
Car Driver	14	1	15	1	11	12
Car Passenger	2	0	2	0	1	1
Total	21	2	23	2	16	18

4.2 ALLOWANCE FOR REDUCED CAR PARKING PROVISION

4.2.1 It is important to note that the resultant person trips shown in Table 4.3 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.

4.2.2 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 mix of employment uses (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.

4.2.3 It is considered that the reduced parking provision at the development will induce a proportionate mode shift away from car use when compared to sites within the TRICS database that exhibit higher parking provisions.

4.2.4 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 4.4 refers).

Table 4.4: Total Local 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	+3	0	+3	0	+2	+2
Car Driver	-4	0	-4	0	-3	-3
Car Passenger	+1	0	+1	0	+1	+1
Total	0	0	0	0	0	0

4.2.5 Table 4.5 shows the resultant mode share of the total person trips which would be generated by the on-site local centre employment uses, derived by applying the allowance for reduced parking provision (Table 4.4) to the total trips (Table 4.3).

Table 4.5: Total Local 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	8	1	9	1	6	7
Car Driver	10	1	11	1	8	9
Car Passenger	3	0	3	0	2	2
Total	21	0	23	2	16	18

5 On Site Employment Generation

5.1 EMPLOYMENT TRIP GENERATION

5.1.1 The forecast vehicular trip generation of the 20,000 sqm GFA of B1 / B2 employment use 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 uses within the South West Bicester development, particularly given that these employment uses will be located adjacent to the existing high quality and frequent bus services along the A41 corridor.

5.1.2 The resultant vehicular trips are shown in Table 5.1 while full details of the TRICS outputs are attached as Annex H.

Table 5.1: B1 / B2 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)	284	24	308	24	218	242

Source: TRICS database

5.1.3 Based on the above, the 20,000 sqm of B1 / B2 employment development would generate a total of 308 vehicle trips during the morning peak hour. The corresponding number of vehicle trips during the evening peak hour is predicted to be 242.

5.1.4 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 5.2, car drivers account for 68% of all employment person trips.

Table 5.2: Mode Share of B1 / B2 Employment Trips

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

Source: 2001 Census

5.1.5 Table 5.3 summarises the number of person trips that would be generated by the proposed B1 / B2 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 5.3: Total B1 / B2 Employment Person Trips – Gross Generation

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	100	8	109	8	77	85
Car Driver	284	24	308	24	218	242
Car Passenger	33	3	36	3	26	28
Total	418	35	453	35	321	356

5.2 ALLOWANCE FOR REDUCED CAR PARKING PROVISION

5.2.1 It is important to note that the resultant person trips shown in Table 5.3 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.

5.2.2 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 mix of employment uses (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.

5.2.3 It is considered that the reduced parking provision at the development will induce a proportionate mode shift away from car use when compared to sites within the TRICS database that exhibit higher parking provisions.

5.2.4 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 5.4 refers).

Table 5.4: Total B1 / B2 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	+63	+5	+68	+5	+48	+54
Car Driver	-84	-7	-91	-7	-65	-72
Car Passenger	+21	+2	+23	+2	+16	+18
Total	0	0	0	0	0	0

5.2.5 Table 5.5 shows the resultant mode share of the total person trips which would be generated by the on-site employment use, derived by applying the allowance for reduced parking provision (Table 5.4) to the total trips (Table 5.3).

Table 5.5: Total B1 / B2 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	163	14	177	14	125	139
Car Driver	200	17	217	17	153	170
Car Passenger	54	5	59	5	42	46
Total	418	35	453	35	321	356

5.3 ALLOWANCE FOR EMPLOYMENT MODE SHIFT

5.3.1 Due to the close proximity of the new residential element of the South West Bicester development, a proportion of the B1 / B2 employment will be satisfied by its future residents. Section 2 (Table 2.5) of this report identifies the likely mode shift in commuting trips that is likely to occur because of the immediate proximity of the new residents. Table 5.6 shows the resultant mode shift as described in Section 2.

Table 5.6: Allowance for B1 / B2 Employment Mode Shift

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	+14	+3	+17	+6	+14	+20
Car Driver	-9	-2	-12	-4	-10	-14
Car Passenger	-4	-1	-5	-2	-4	-6
Total	0	0	0	0	0	0

5.4 EXTERNAL EMPLOYMENT TRIPS

5.4.1 Table 5.7 shows the total number of external trips that will be generated by the proposed on site employment. These figures have been derived by applying the reductions due to mode shift of employment (Table 5.6) to the total employment trips (Table 5.5).

Table 5.7: External B1 / B2 Employment Person Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	177	17	194	20	140	160
Car Driver	190	15	205	13	143	156
Car Passenger	50	4	54	3	38	40
Total	418	35	453	35	321	356

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

6 School Generation

6.1 PUPIL TRIP GENERATION

6.1.1 The proposed development includes the provision of two primary schools and secondary school provision for pupils between 14 and 19 years.

6.1.2 It is understood that the primary schools will accommodate a total of 630 pupils while the secondary school provision will cater for a further 650 pupils.

6.1.3 Therefore, it can be seen that the total education facilities provided on the South West Bicester site will attract a total of 1,280 pupils.

6.1.4 Using pupil yield factors a comparison of 0.25 pupils per dwelling (primary) and 0.20 pupils per dwelling (secondary), it can be seen that the proposed South West Bicester development could generate for a total of 713 pupils.

6.1.5 As stated in Section 2, the proposed secondary school provision has been assumed to provide facilities for 5/9ths of the secondary education age groups. Consequently, given that the proposed primary schools will accommodate all predicted primary pupils associated with new residents, the South West Bicester Development will generate a total of 572 pupils (396 primary pupils and 176 secondary pupils) to the proposed on-site education facilities. Therefore, 55% of the pupils at the proposed schools will travel from outside of the development.

6.1.6 As Table 2.10 illustrates, the 572 pupils on the South West Bicester development would generate a total of 469 and 37 person trips during the morning and evening peak hour. Therefore, on a pro-rata basis, the remaining 708 pupils which would originate from outside of the site will generate a further 580 and 46 trips during the respective peak hours.

6.1.7 Table 6.1 depicts these externally generated trips. The mode share has been established using NTS data (extracts attached as Annex F) in order to reflect the typical mode share of primary and secondary education trips.

Table 6.1: Externally Generated (by Pupils) Education Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	235	56	291	7	16	23
Car Driver	93	22	116	3	6	9
Car Passenger	140	33	173	4	10	14
Total	468	112	580	14	32	46

6.1.8 In order to ensure a robust assessment, the trips in the above table make no allowance for any student absences.

6.2 STAFF TRIP GENERATION

6.2.1 Using data contained within the TRICS database it can be established that, on average, one full time equivalent member of staff is required for every 12 pupils. Therefore, a total of 107 staff are likely to be employed within the primary and secondary establishments in order to cater for the 1,280 pupils.

6.2.2 Again, using information within the TRICS database it can be demonstrated that 75% of trips in the morning period (0700-1000) occur during the 0800 to 0900 peak hour. Similarly, 20% of trips during the afternoon period (1500 to 1800) occur during the 1700 to 1800 peak hour.

6.2.3 Based on the above it can be established that 81 and 21 staff trips will be generated during the 0800-0900 and 1700-1800 peak hours.

6.2.4 Table 6.2 summarises these trips. The trips have been attributed to each mode of travel by applying the mode share for employment trips established from 2001 census data for Bicester (summarised in Table 4.2).

Table 6.2: Externally Generated (by Staff) Education Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	14	0	14	0	4	4
Car Driver	64	0	64	0	17	17
Car Passenger	3	0	3	0	1	1
Total	81	0	81	0	21	21

6.3 TOTAL EDUCATION TRIP GENERATION

6.3.1 Table 6.3 shows the total external trip generation for the proposed educational uses on the South West Bicester development site, derived by combining the pupil (Table 6.1) and staff (Table 6.2) trip generations.

Table 6.3: Total Externally Generation Education Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	249	56	305	7	20	27
Car Driver	157	22	180	3	23	26
Car Passenger	143	33	177	4	10	15
Total	549	112	661	14	54	68

7 Health Centre Generation

7.1 DEVELOPMENT PROPOSALS

7.1.1 The proposed health village will be located in the north eastern corner of the site, adjacent to Middleton Stoney Road, covering an area of approximately 3.5 hectares. Whilst the final uses for the site will need to be determined by the local health authority, it is currently considered that the following mix of health uses could be provided within this site:

- Nursing Home – approximately 80 beds / residents;
- Doctors Surgery – approximately 8.5 full time equivalent staff;
- GP Medical Centre – approximately 26 full time equivalent staff;
- Diagnostic Clinic – approximately 15 full time equivalent staff;
- Community Hospital – approximately 30 beds.

7.1.2 Given the intended uses within the health village, it is anticipated that the majority of visitors would be residents of the proposed South West Bicester development and other local residents, who would be within reasonable walking and cycling distance. Furthermore, the facilities are located adjacent to the Middleton Stoney Road and A4421 Oxford Road corridors and are therefore highly accessible in relation to existing bus services.

7.1.3 Consequently, it is likely that a large proportion of person trips associated with these uses would be undertaken by non-car modes. In this respect, the vehicular trip generation for the proposed health village has been derived by determining the overall number of person trips and then applying an appropriate vehicular mode share, based on the location and accessibility of the health village.

7.2 PERSON TRIP GENERATION

7.2.1 The forecast person trip generation of the health village has been taken from appropriate multi-modal sites in the TRICS database. The resultant vehicular trip rates are shown in Table 7.1, while full details of the TRICS outputs are attached as Annex I.

Table 7.1: Health Village Person Trip Rates

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Nursing Home (per bed)	0.09	0.06	0.15	0.06	0.08	0.14
Doctors Surgery (per FTE staff)	1.71	0.88	2.59	1.14	1.59	2.73
GP Medical Centre (per FTE staff)	1.71	0.88	2.59	1.14	1.59	2.73
Diagnostic Clinic (per FTE staff)	1.18	0.41	1.59	0.66	1.00	1.66
Community Hospital (per bed)	1.16	0.24	1.40	0.42	0.98	1.40

7.2.2 The person trip rates shown in Table 7.1 have then been multiplied by the anticipated quantum of each health village use, as detailed in paragraph 7.1.1, to derive the total person trips shown in Table 7.2.

Table 7.2: Health Village Person Trip Generation

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Nursing Home (per bed)	7	5	12	5	6	11
Doctors Surgery (per FTE staff)	15	7	22	10	14	23
GP Medical Centre (per FTE staff)	44	23	67	30	41	71
Diagnostic Clinic (per FTE staff)	18	6	24	10	15	25
Community Hospital (per bed)	35	7	42	13	29	42
Total Person Trips	119	49	167	67	106	172

7.2.3 As can be seen from Table 7.2, the proposed health village is predicted to generate 167 and 172 two-way person trips during the morning and evening peak hours respectively.

7.3 VEHICULAR TRIP GENERATION

7.3.1 In order to derive the predicted car driver and car passenger trips associated with the proposed health village, an appropriate vehicular mode share and car occupancy has then been applied to the total person trips.

7.3.2 As described in paragraph 7.1.2, it is anticipated that a large proportion of person trips associated with the proposed health village would be undertaken by non-car modes. Consequently, given the site's accessibility, it is considered that an overall car mode share (car driver and passenger) of 70% will provide a robust assessment of the potential car person trips associated with the health village. In order to derive the split of car drivers and car passengers, it has been assumed that car trips associated with the health village uses would have an occupancy of 1.2 persons per vehicle. This is considered to provide an appropriate balance between staff and visitor.

7.3.3 Based on the above assumptions, Table 7.3 provides a breakdown of the predicted person trips by car and non-car modes.

Table 7.3: External Health Village Trip Generation

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	36	15	50	20	32	51
Car Driver	69	28	98	39	62	100
Car Passenger	14	6	19	8	12	21
Total Person Trips	119	49	167	67	106	172

7.3.4 From Table 7.3, it can be seen that the health village would generate 98 and 100 two-way vehicular trips during the morning and evening peak hours respectively. To provide a robust assessment, it is assumed these would all be external person trips.

8 Sports Centre Generation

8.1 SPORTS CENTRE PERSON TRIP GENERATION

8.1.1 The proposed development will comprise up to 2,323 sqm GFA of sports centre.

8.1.2 The TRICS database has been interrogated to determine the multi-modal trip rates attributable to this land use. Multi-modal trips rates for pedestrians, cyclists, bus users, vehicles and vehicle occupants have been obtained. The car passenger trip rates have been derived by obtaining the difference between the number of vehicle occupants and the number of vehicles, whilst the number of car drivers equates to the number of vehicles.

8.1.3 Table 8.1 illustrates the peak hour trip rates for the sports centre use within the proposed development while relevant extracts from the TRICS database are attached as Annex J.

Table 8.1: Sports Centre Person Trip Rates

Trips per 100 sqm GFA	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car (bus, walk, cycle)	0.32	0.18	0.5	0.37	0.36	0.73
Car Driver	0.53	0.53	1.06	1.02	0.9	1.92
Car Passenger	0.2	0.1	0.3	0.47	0.81	1.28
Total	1.05	0.81	1.86	1.86	1.71	3.93

Source: TRICS databases

8.1.4 Table 8.2 shows the number of person trips that would be generated by the sports centre, derived by applying the trip generation rates to the quantum of sports centre floor space proposed.

Table 8.2: Sports Centre Person Trips

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	In	Out	Total	In	Out	Total
Non-Car	7	4	11	9	8	17
Car Driver	12	12	25	24	21	45
Car Passenger	5	2	7	11	19	30
Total	24	18	43	44	48	91

9 Total South West Bicester Generation

9.1 CUMULATIVE TRIP GENERATION

9.1.1 Tables 9.1 and 9.2 present the total external person trip generation for the South West Bicester development, derived by combining the external residential (Table 2.11), hotel (Table 3.2), local employment (Table 4.5), B1 / B2 employment (Table 5.7) and education (Table 6.3), health village (Table 7.3) and sports centre (Table 8.2) trip generation forecasts.

Table 9.1: South West Bicester External Trip Generation – AM Peak Hour (0800-0900)

Mode of Travel	Non Educational Uses			Educational Uses			Total		
	In	Out	Total	In	Out	Total	In	Out	Total
Non-Car	358	603	962	249	56	305	607	659	1266
Car Driver	424	583	1007	157	22	180	581	605	1186
Car Passenger	114	172	286	143	33	177	257	205	462
Total	896	1358	2254	549	112	661	1445	1470	2915

Note: Minor discrepancies due to rounding

Table 9.2: South West Bicester External Trip Generation – PM Peak Hour (1700-1800)

Mode of Travel	Non Educational Uses			Educational Uses			Total		
	In	Out	Total	In	Out	Total	In	Out	Total
Non-Car	468	373	841	7	20	27	475	393	867
Car Driver	628	483	1111	3	23	26	631	506	1137
Car Passenger	248	171	420	4	10	15	253	182	434
Total	1344	1027	2371	14	54	68	1358	1080	2438

Note: Minor discrepancies due to rounding

9.2 TRIP DISTRIBUTION & ASSIGNMENT

9.2.1 The forecast vehicular trips have been distributed in accordance with zonal distributions derived from the 2001 Journey to Work census. Data relating to commuting trips originating within all wards within Bicester has been averaged in order to derive the vehicular distribution for both the residential and employment for the South West Bicester development trips. The resultant zonal distribution are summarised in Table 9.3 and 9.4 while Figure 1 illustrates the depiction of the areas covered by each of the zones.

Table 9.3: Residential Vehicular Trip Distribution

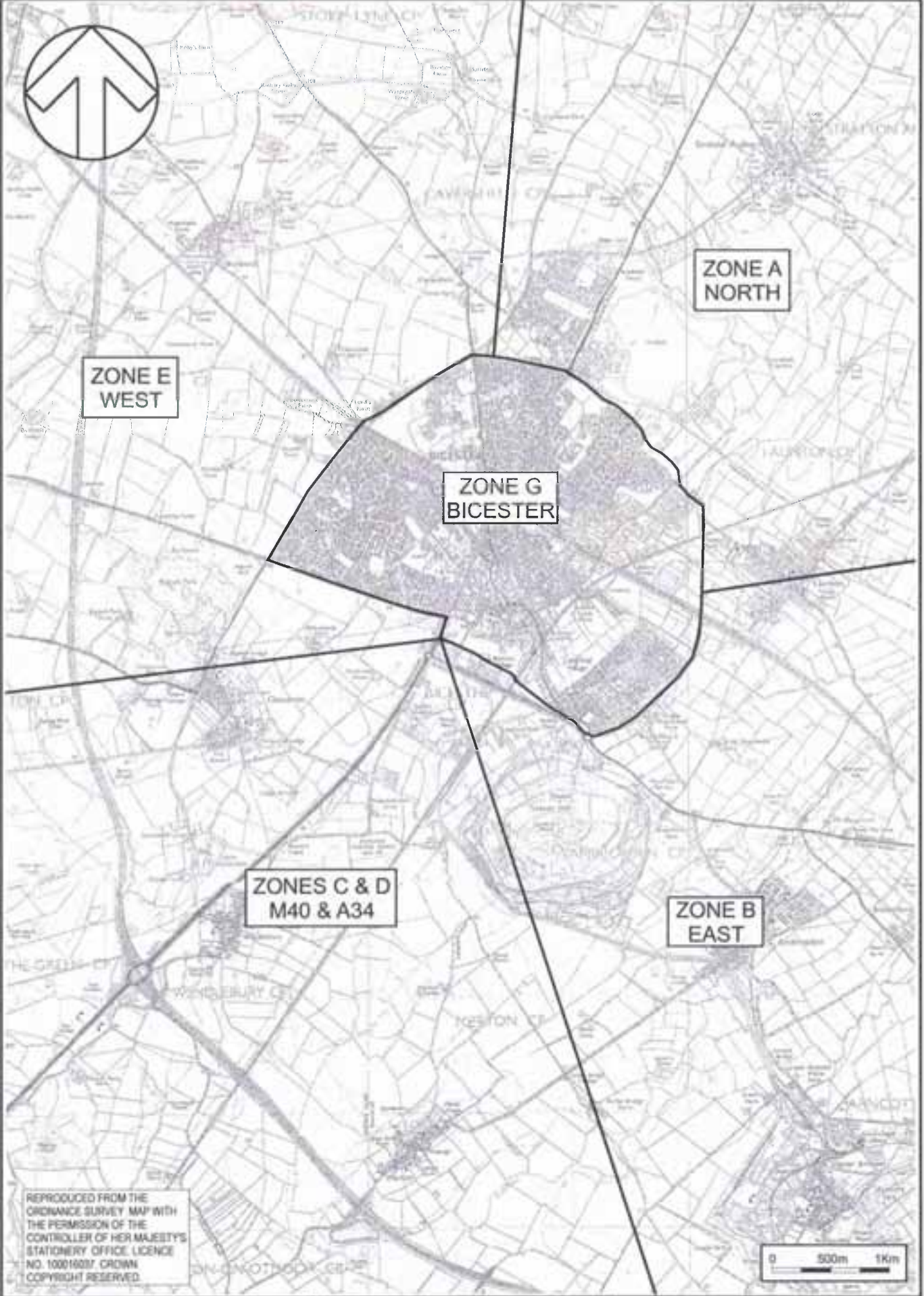
Area	Percentage Distribution
Bicester	25.8%
North	4.8%
East	7.6%
South (M40)	12.6%
South (A34)	46.3%
West	3.0%
Total	100%

Table 9.4: Employment 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%



Figure 1 Zonal Distribution



M:\Sas\West Bicester\DRAWINGS\Core\October 2006\TA\1546-F... Distribution Zones.cdr



FIGURE No: 1

DISTRIBUTION ZONES



Annex A

Residential Trip Rates

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : K - MIXED PRIVATE HOUSING

Selected regions and areas:

02 SOUTH EAST	
ES EAST SUSSEX	1 days
HC HAMPSHIRE	13 days
HF HERTFORDSHIRE	1 days
WS WEST SUSSEX	5 days
05 EAST MIDLANDS	
NT NOTTINGHAMSHIRE	4 days
06 WEST MIDLANDS	
SH SHROPSHIRE	1 days
ST STAFFORDSHIRE	1 days
WK WARWICKSHIRE	1 days
WO WORCESTERSHIRE	3 days

Main parameter selection:

Parameter: Number of households
 Range: 26 to 1165 (units:)

Date Range: 01/01/96 to 03/06/03

Selected survey days:

Monday	1 days
Tuesday	6 days
Wednesday	2 days
Thursday	13 days
Friday	8 days

Selected survey types:

Manual count	17 days
Directional ATC Count	13 days

Optional parameter selection:Use Class:

C3 30 days

Location:

Neighbourhood Centre	5 days
Edge of Town	22 days
Edge of Town Centre	3 days

Population within 1 mile:

1,001 to 5,000	6 days
5,001 to 10,000	3 days
10,001 to 15,000	14 days
15,001 to 20,000	5 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

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

5,001 to 25,000	1 days
25,001 to 50,000	3 days
75,001 to 100,000	16 days
100,001 to 125,000	2 days
125,001 to 250,000	2 days
250,001 to 500,000	5 days
500,001 or More	1 days

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	5 days
1.1 to 1.5	22 days
1.6 to 2.0	1 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	1 days
<20 per day	1	20	1 days
20-39 per day	2	40	0 days
40-59 per day	3	60	5 days
60-79 per day	4	80	1 days
80+ per day	> 4	> 80	22 days

LIST OF SITES relevant to selection parameters

1	ES-03-K-01	MIXED HOUSING, LEWES	EAST SUSSEX
		OLD MALLING WAY SOUTH MALLING LEWES	
		Total Number of households: 491 *****	
		Survey date: THURSDAY 29/03/01	Survey Type: MANUAL
2	HC-03-K-04	PORTSMOUTH HOUSING	HAMPSHIRE
		ST GEORGES ROAD	
		PORTSMOUTH	
		Total Number of households: 150 *****	
		Survey date: THURSDAY 11/12/97	Survey Type: MANUAL
3	HC-03-K-05	PORTSMOUTH HOUSING	HAMPSHIRE
		BROAD STREET	
		PORTSMOUTH	
		Total Number of households: 64 *****	
		Survey date: THURSDAY 18/12/97	Survey Type: MANUAL
4	HC-03-K-08	FLEET HOUSING	HAMPSHIRE
		ANCELLS ROAD ANCELLS FARM FLEET	
		Total Number of households: 747 *****	
		Survey date: THURSDAY 05/03/98	Survey Type: MANUAL
5	HC-03-K-09	WINCHESTER HOUSING	HAMPSHIRE
		RIDGEWAY/MEADOW W. BADGER FARM WINCHESTER	
		Total Number of households: 1040 *****	
		Survey date: THURSDAY 26/02/98	Survey Type: MANUAL
6	HC-03-K-10	EASTLEIGH HOUSING	HAMPSHIRE
		KNIGHTWOOD ROAD BADGER'S COPSE EASTLEIGH	
		Total Number of households: 700 *****	
		Survey date: WEDNESDAY 18/08/99	Survey Type: MANUAL
7	HC-03-K-11	WINCHESTER HOUSING	HAMPSHIRE
		RIDGEWAY/MEADOW W. BADGER FARM WINCHESTER	
		Total Number of households: 1040 *****	
		Survey date: THURSDAY 09/03/00	Survey Type: DIRECTIONAL
		Survey date: FRIDAY 10/03/00	Survey Type: DIRECTIONAL
		Survey date: THURSDAY 15/06/00	Survey Type: DIRECTIONAL
		Survey date: FRIDAY 16/06/00	Survey Type: DIRECTIONAL
		Survey date: THURSDAY 21/09/00	Survey Type: DIRECTIONAL
		Survey date: FRIDAY 22/09/00	Survey Type: DIRECTIONAL
		Survey date: THURSDAY 07/12/00	Survey Type: DIRECTIONAL
		Survey date: FRIDAY 08/12/00	Survey Type: DIRECTIONAL

LIST OF SITES relevant to selection parameters (Cont.)

8	HF-03-K-01	MIXED PRI. HOUSING,WELWYN GC LONGCROFT GARDENS	HERTFORDSHIRE
		WELWYN GARDEN CITY Total Number of households: 53 ***** Survey date: FRIDAY 06/09/02	Survey Type: MANUAL
9	NT-03-K-02	NEWARK HOUSING BEACON HILL ROAD BEACON HILL NEWARK-ON-TRENT	NOTTINGHAMSHIRE
		Total Number of households: 394 ***** Survey date: THURSDAY 26/11/98	Survey Type: MANUAL
10	NT-03-K-03	MANSFIELD HOUSING LOXLEY DRIVE BERRYHILL MANSFIELD	NOTTINGHAMSHIRE
		Total Number of households: 61 ***** Survey date: TUESDAY 08/12/98	Survey Type: MANUAL
11	NT-03-K-04	NOTTINGHAM HOUSING BEAUMARIS DRIVE GEDLING NOTTINGHAM	NOTTINGHAMSHIRE
		Total Number of households: 160 ***** Survey date: TUESDAY 24/11/98	Survey Type: MANUAL
12	NT-03-K-05	NOTTINGHAM HOUSING JENNY BURTON WAY ASHFIELD NOTTINGHAM	NOTTINGHAMSHIRE
		Total Number of households: 174 ***** Survey date: TUESDAY 08/12/98	Survey Type: MANUAL
13	SH-03-K-01	BRIDGNORTH HOUSING BRAMBLE RIDGE	SHROPSHIRE
		BRIDGNORTH Total Number of households: 52 ***** Survey date: FRIDAY 08/05/98	Survey Type: MANUAL
14	ST-03-K-01	MIXED HOUSING, STAFFORD THE MEADOWS QUEENSVILLE STAFFORD	STAFFORDSHIRE
		Total Number of households: 224 ***** Survey date: TUESDAY 04/07/00	Survey Type: MANUAL
15	WK-03-K-01	MIXED HOUSING, STRATFORD OLD TOWN MEWS OLD TOWN STRATFORD UPON AVON	WARWICKSHIRE
		Total Number of households: 64 ***** Survey date: THURSDAY 07/09/00	Survey Type: MANUAL
16	WO-03-K-01	MIXED HOUSING, WORCESTER MALVERN ROAD LOWER WICK WORCESTER	WORCESTERSHIRE
		Total Number of households: 775 ***** Survey date: FRIDAY 24/05/02	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17	WO-03-K-02	MIXED HOUSING, BROMSGROVE	WORCESTERSHIRE
		ST GODWALDS ROAD	
		ASTON FIELDS	
		BROMSGROVE	
	Total Number of households:	215 *****	
	Survey date:	THURSDAY 23/05/02	Survey Type: MANUAL
18	WO-03-K-03	MIXED HOUSING, WORCESTER	WORCESTERSHIRE
		BYFIELD RISE	
		WORCESTER	
	Total Number of households:	103 *****	
	Survey date:	TUESDAY 03/06/03	Survey Type: MANUAL
19	WS-03-K-03	CHICHESTER HOUSING	WEST SUSSEX
		LAVANT DOWN ROAD	
		LAVANT	
		CHICHESTER	
	Total Number of households:	90 *****	
	Survey date:	MONDAY 20/11/00	Survey Type: DIRECTIONAL
	Survey date:	TUESDAY 21/11/00	Survey Type: DIRECTIONAL
	Survey date:	WEDNESDAY 22/11/00	Survey Type: DIRECTIONAL
	Survey date:	THURSDAY 23/11/00	Survey Type: DIRECTIONAL
	Survey date:	FRIDAY 24/11/00	Survey Type: DIRECTIONAL

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIVATE HOUSING

Calculation factor: 1 HHOLDS**BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. HHOLDS	Trip Rate	No. Days	Ave. HHOLDS	Trip Rate	No. Days	Ave. HHOLDS	Trip Rate
00:00 - 01:00	13	675	0.02	13	675	0.01	13	675	0.03
01:00 - 02:00	13	675	0.01	13	675	0.00	13	675	0.01
02:00 - 03:00	13	675	0.00	13	675	0.00	13	675	0.00
03:00 - 04:00	13	675	0.00	13	675	0.00	13	675	0.00
04:00 - 05:00	13	675	0.00	13	675	0.00	13	675	0.00
05:00 - 06:00	13	675	0.01	13	675	0.02	13	675	0.03
06:00 - 07:00	13	675	0.02	13	675	0.10	13	675	0.12
07:00 - 08:00	30	475	0.07	30	475	0.34	30	475	0.41
08:00 - 09:00	30	475	0.10	30	475	0.42	30	475	0.52
09:00 - 10:00	30	475	0.12	30	475	0.18	30	475	0.30
10:00 - 11:00	30	475	0.11	30	475	0.14	30	475	0.25
11:00 - 12:00	30	475	0.13	30	475	0.13	30	475	0.26
12:00 - 13:00	30	475	0.16	30	475	0.13	30	475	0.29
13:00 - 14:00	30	475	0.14	30	475	0.15	30	475	0.29
14:00 - 15:00	30	475	0.15	30	475	0.14	30	475	0.29
15:00 - 16:00	30	475	0.21	30	475	0.16	30	475	0.37
16:00 - 17:00	30	475	0.27	30	475	0.16	30	475	0.43
17:00 - 18:00	30	475	0.39	30	475	0.17	30	475	0.56
18:00 - 19:00	30	475	0.34	30	475	0.21	30	475	0.55
19:00 - 20:00	13	675	0.25	13	675	0.19	13	675	0.44
20:00 - 21:00	13	675	0.16	13	675	0.12	13	675	0.28
21:00 - 22:00	13	675	0.12	13	675	0.06	13	675	0.18
22:00 - 23:00	13	675	0.09	13	675	0.05	13	675	0.14
23:00 - 24:00	13	675	0.08	13	675	0.04	13	675	0.12
Daily Trip Rates:			2.94			2.93			5.87

Parameter summary

Trip rate parameter range selected: 26 - 1165 (units:)
 Survey date date range: 01/01/96 - 03/06/03
 Number of weekdays (Monday-Friday): 30
 Number of Saturdays: 0
 Number of Sundays: 0
 Optional parameters used in selection: NO
 Surveys manually removed from selection: 0



**Annex B
Mode Share**

Extracts from NTS – Residential



Focus on Personal Travel

December 2001

London: The Stationery Office

FOCUS ON PERSONAL TRAVEL

Table 7.14 Trips-in-progress by time of day and main mode (weekdays): 1992/2000

Index: Average hour for all modes = 100

	Walk	Bicycle	Car/van driver	Car/van passenger	Other private	Local bus	Rail	Taxi/minicab	Other public	All modes
0000-0059	-	-	1	1	-	-	-	-	-	3
0100-0159	-	-	1	-	-	-	-	-	-	2
0200-0259	-	-	1	-	-	-	-	-	-	1
0300-0359	-	-	1	-	-	-	-	-	-	1
0400-0459	-	-	1	-	-	-	-	-	-	2
0500-0559	1	1	6	1	-	-	-	-	-	10
0600-0659	4	1	16	4	1	2	2	-	-	30
0700-0759	13	3	53	14	3	8	7	-	1	102
0800-0859	71	4	93	44	5	20	10	1	1	249
0900-0959	55	2	63	25	3	13	6	1	1	169
1000-1059	46	2	50	25	2	14	3	1	1	145
1100-1159	50	2	52	29	2	14	3	1	1	153
1200-1259	51	2	57	29	2	13	2	1	1	158
1300-1359	46	2	56	26	2	12	2	1	1	148
1400-1459	43	2	55	28	2	12	3	1	1	147
1500-1559	93	3	68	49	5	19	3	2	1	244
1600-1659	45	4	75	40	5	18	5	1	1	193
1700-1759	31	3	87	39	3	13	8	1	1	136
1800-1859	25	2	66	33	2	7	8	1	1	145
1900-1959	21	1	49	28	1	3	4	1	1	109
2000-2059	15	1	32	19	1	2	2	1	-	74
2100-2159	12	1	25	14	1	2	1	1	-	56
2200-2259	9	-	17	9	1	2	1	1	-	40
2300-2359	7	-	11	6	-	1	1	2	-	28
All day	27	2	39	19	2	7	3	1	1	100

N.B. The overall averages for each hour are slightly lower than that shown on Table 7.11 because the average hour for this table is for weekday journeys only.



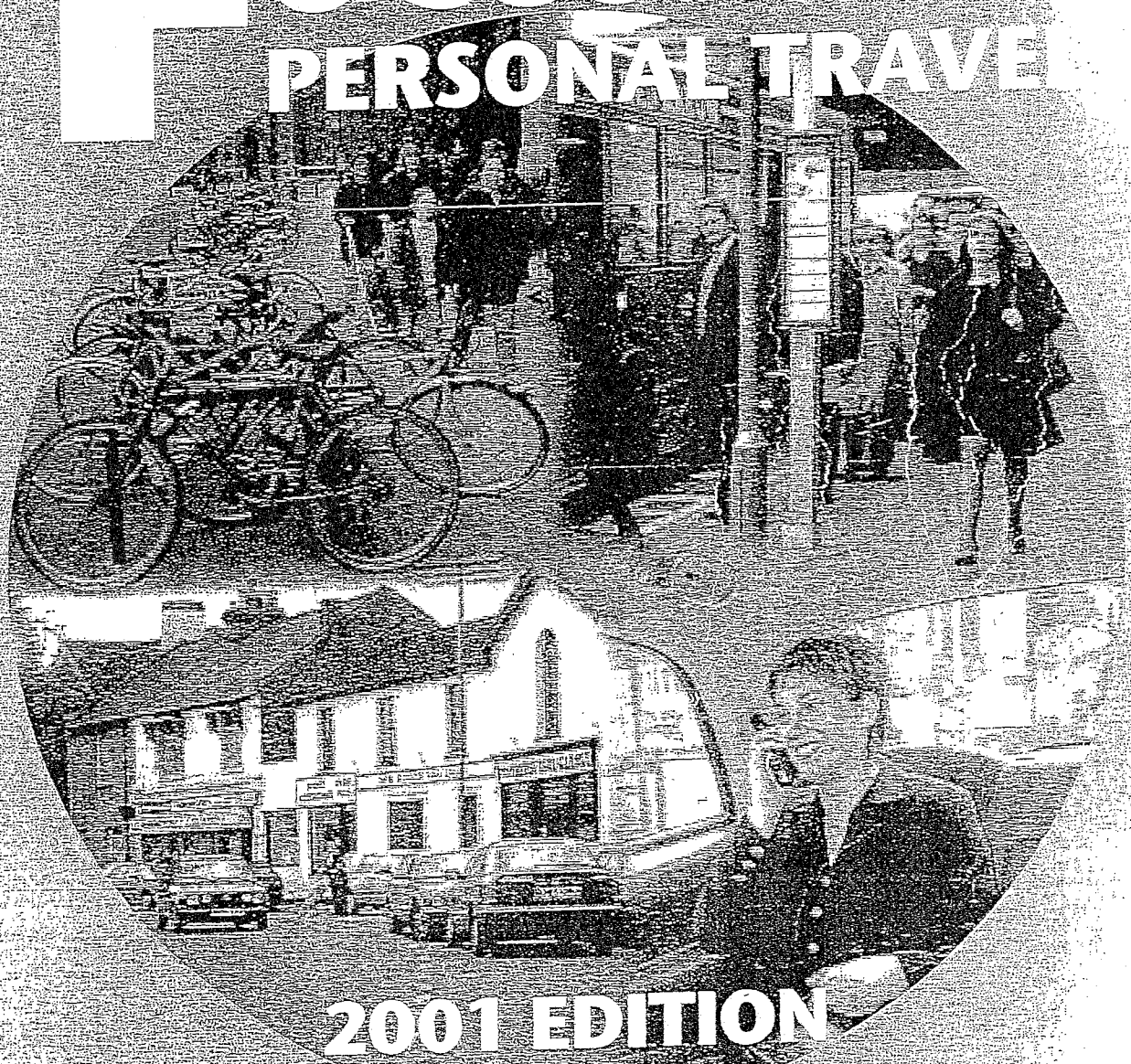
Annex C
Patterns

Affordable Housing Trip

PLANNING



FOCUS ON PERSONAL TRAVEL



2001 EDITION

WSPD BASINGSTOKE
LIBRARY

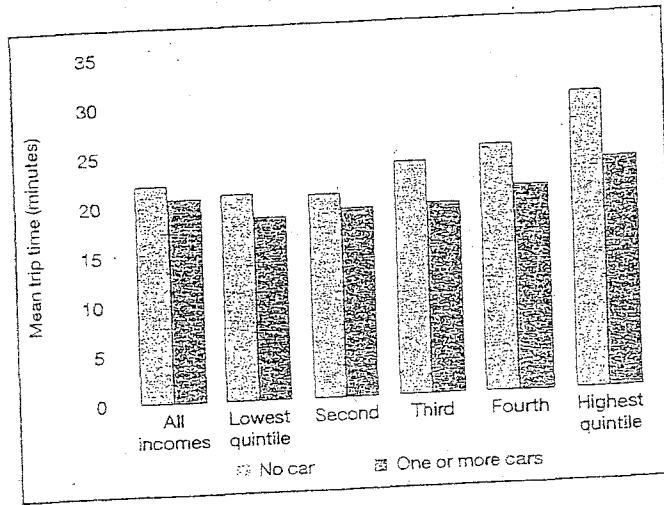
INCLUDING THE

C3

integrated

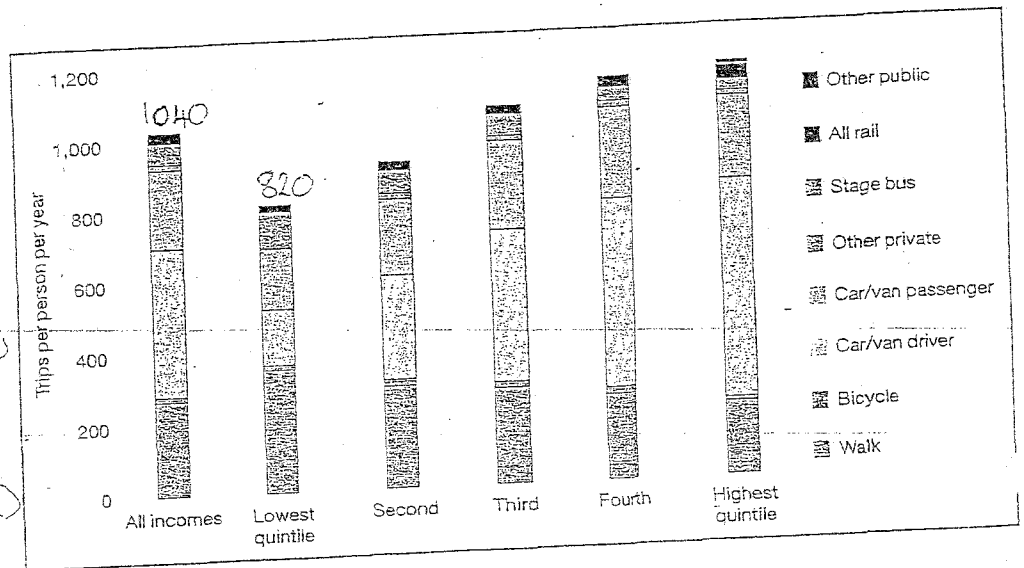
transport

Chart 5.9c Trip time by income quintile and household car ownership: 1998/2000



People living in households in the lowest income quintile, made more of their trips on foot in 1998/2000 (43 per cent) than by car (39 per cent) or bus (12 per cent) (Chart 5.10). With increasing income car use increases, and the number of trips on foot and by bus decline. Rail use (including London Underground) is highest in the highest income quintile.

Chart 5.10 Mode of transport by income quintile: 1998/2000



V INCOME = 1040 TRIPS
 LOWEST INCOME = 820 TRIPS

$$\text{TOTAL} = \frac{820}{1040} = 78\% \text{ (APPROX)}$$

Access to bus and rail services

Travel by public transport is also affected by variations in access to these services. Chapter 6 (Tables 6.4 and 6.5) gives details of access by area type, and, not surprisingly, people living in London and the major cities are much more likely to have good access than rural residents. Poor access to public transport is also a factor in high car ownership in rural areas.

Tables 5.5a and 5.5b illustrate how public transport use varies according to access to services. Over the period 1992/2000, the average number of bus trips per person per year was 65. People with access to the best bus services (within a three minute walk of a service running at least every quarter hour) averaged 100 trips a year, ten times as many as those with the lowest levels of service shown (over 13 minutes walk from a service running less than once an hour).

Affordable Housing

Trip Generation Patterns

The TRICS (Trip Rate Information Computer System) database has been used to provide a comparison between mixed private housing and mixed non-private housing sites throughout England (excluding London).

A summary of the vehicular trip rates for mixed private housing and mixed non-private housing for the morning and evening peak hours together with the percentage reduction in the two-way trip rate between market and affordable housing is shown the Table below. The accompanying TRICS output is included within this Appendix.

Table C.1 TRICS Trip Rate Comparison and Percentage Reduction

Time	Mixed Private Housing			Mixed Non- Private Housing			Percentage Reduction in Total
	Arrivals	Departures	Total	Arrivals	Departures	Total	
0800 – 0900	0.10	0.45	0.55	0.13	0.23	0.36	65%
1700 – 1800	0.40	0.18	0.58	0.26	0.17	0.44	76%

Based on the above, it can be demonstrated that the percentage reduction in the two-way peak hour trip rate between market and affordable housing is approximately 70%.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : K - MIXED PRIVATE HOUSING

Selected Regions and Areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
	HC HAMPSHIRE	13 days
	HF HERTFORDSHIRE	1 days
	WS WEST SUSSEX	5 days
03	SOUTH WEST	
	DC DORSET	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	4 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
	ST STAFFORDSHIRE	6 days
	WK WARWICKSHIRE	1 days
	WO WORCESTERSHIRE	3 days
08	NORTH WEST	
	GM GREATER MANCHESTER	5 days
	LC LANCASHIRE	2 days

VEHICULAR TRIP RATES
MIXED PRIVATE HOUSING

Main Parameter Selection:

Parameter: Number of Households
Range: 26 to 1165 (units:)

Date Range: 01/01/95 to 03/06/03

Selected Survey Days:

Monday	3 days
Tuesday	9 days
Wednesday	5 days
Thursday	17 days
Friday	12 days

Selected Survey Types:

Manual Count	23 days
One Way ATC Count	23 days

LIST OF SITES relevant to selection parameters

- | | | | | |
|---|------------|-----------------------------|------------|--------------------------|
| 1 | CA-03-K-01 | MIXED HOUSING, CAMBRIDGE | | CAMBRIDGESHIRE |
| | | FALLOWFIELD | | |
| | | CHESTERTON | | |
| | | CAMBRIDGE | | |
| | | Total Number of Households: | 124 ***** | |
| | | Survey Date: TUESDAY | 06/02/01 | Survey Type: MANUAL |
| 2 | DC-03-K-02 | WAREHAM HOUSING | | DORSET |
| | | WOODLANDS ESTATE | | |
| | | SANDFORD | | |
| | | WAREHAM | | |
| | | Total Number of Households: | 171 ***** | |
| | | Survey Date: THURSDAY | 18/04/96 | Survey Type: MANUAL |
| 3 | ES-03-K-01 | MIXED HOUSING, LEWES | | EAST SUSSEX |
| | | OLD MALLING WAY | | |
| | | SOUTH MALLING | | |
| | | LEWES | | |
| | | Total Number of Households: | 491 ***** | |
| | | Survey Date: THURSDAY | 29/03/01 | Survey Type: MANUAL |
| 4 | GM-03-K-02 | TAMESIDE HOUSING | | GREATER MANCHESTER |
| | | SPRINGWOOD WAY | | |
| | | LIMEHURST | | |
| | | TAMESIDE | | |
| | | Total Number of Households: | 342 ***** | |
| | | Survey Date: FRIDAY | 15/05/98 | Survey Type: ONE WAY ATC |
| | | Survey Date: MONDAY | 18/05/98 | Survey Type: ONE WAY ATC |
| | | Survey Date: TUESDAY | 19/05/98 | Survey Type: ONE WAY ATC |
| | | Survey Date: WEDNESDAY | 20/05/98 | Survey Type: ONE WAY ATC |
| | | Survey Date: THURSDAY | 21/05/98 | Survey Type: ONE WAY ATC |
| 5 | HC-03-K-04 | PORTSMOUTH HOUSING | | HAMPSHIRE |
| | | ST GEORGES ROAD | | |
| | | PORTSMOUTH | | |
| | | Total Number of Households: | 150 ***** | |
| | | Survey Date: THURSDAY | 11/12/97 | Survey Type: MANUAL |
| 6 | HC-03-K-05 | PORTSMOUTH HOUSING | | HAMPSHIRE |
| | | BROAD STREET | | |
| | | PORTSMOUTH | | |
| | | Total Number of Households: | 64 ***** | |
| | | Survey Date: THURSDAY | 18/12/97 | Survey Type: MANUAL |
| 7 | HC-03-K-08 | FLEET HOUSING | | HAMPSHIRE |
| | | ANCELLS ROAD | | |
| | | ANCELLS FARM | | |
| | | FLEET | | |
| | | Total Number of Households: | 747 ***** | |
| | | Survey Date: THURSDAY | 05/03/98 | Survey Type: MANUAL |
| 8 | HC-03-K-09 | WINCHESTER HOUSING | | HAMPSHIRE |
| | | RIDGEWAY/MEADOW W. | | |
| | | BADGER FARM | | |
| | | WINCHESTER | | |
| | | Total Number of Households: | 1040 ***** | |
| | | Survey Date: THURSDAY | 26/02/98 | Survey Type: MANUAL |
| 9 | HC-03-K-10 | EASTLEIGH HOUSING | | HAMPSHIRE |
| | | KNIGHTWOOD ROAD | | |
| | | BADGER'S COPSE | | |
| | | EASTLEIGH | | |
| | | Total Number of Households: | 700 ***** | |
| | | Survey Date: WEDNESDAY | 18/08/99 | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

10	HC-03-K-11	WINCHESTER HOUSING	HAMPSHIRE
		RIDGEWAY/MEADOW W. BADGER FARM WINCHESTER	
		Total Number of Households:	1040 *****
		Survey Date: THURSDAY	09/03/00
		Survey Date: FRIDAY	10/03/00
		Survey Date: THURSDAY	15/06/00
		Survey Date: FRIDAY	16/06/00
		Survey Date: THURSDAY	21/09/00
		Survey Date: FRIDAY	22/09/00
		Survey Date: THURSDAY	07/12/00
		Survey Date: FRIDAY	08/12/00
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
11	HF-03-K-01	MIXED PRI. HOUSING, WELWYN GC	HERTFORDSHIRE
		LONGCROFT GARDENS	
		WELWYN GARDEN CITY	
		Total Number of Households:	53 *****
		Survey Date: FRIDAY	06/09/02
			Survey Type: MANUAL
12	LC-03-K-03	FRECKLETON HOUSING	LANCASHIRE
		SPRING HILL	
		FRECKLETON	
		Total Number of Households:	66 *****
		Survey Date: THURSDAY	04/05/95
			Survey Type: MANUAL
13	LC-03-K-07	LANCASTER HOUSING	LANCASHIRE
		HERONSKYE SKERTON LANCASTER	
		Total Number of Households:	135 *****
		Survey Date: WEDNESDAY	25/06/97
			Survey Type: MANUAL
14	NF-03-K-01	MIXED HOUSING, NORWICH	NORFOLK
		ROBERT GYBSON WAY	
		NORWICH	
		Total Number of Households:	51 *****
		Survey Date: FRIDAY	03/11/00
			Survey Type: MANUAL
15	NT-03-K-02	NEWARK HOUSING	NOTTINGHAMSHIRE
		BEACON HILL ROAD BEACON HILL NEWARK-ON-TRENT	
		Total Number of Households:	394 *****
		Survey Date: THURSDAY	26/11/98
			Survey Type: MANUAL
16	NT-03-K-03	MANSFIELD HOUSING	NOTTINGHAMSHIRE
		LOXLEY DRIVE BERRYHILL MANSFIELD	
		Total Number of Households:	61 *****
		Survey Date: TUESDAY	08/12/98
			Survey Type: MANUAL
17	NT-03-K-04	NOTTINGHAM HOUSING	NOTTINGHAMSHIRE
		BEAUMARIS DRIVE GEDLING NOTTINGHAM	
		Total Number of Households:	160 *****
		Survey Date: TUESDAY	24/11/98
			Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

18	NT-03-K-05	NOTTINGHAM HOUSING	NOTTINGHAMSHIRE
		JENNY BURTON WAY	
		ASHFIELD	
		NOTTINGHAM	
		Total Number of Households:	174 *****
		Survey Date: TUESDAY	08/12/98
			Survey Type: MANUAL
19	SF-03-K-01	MIXED HOUSING, IPSWICH	SUFFOLK
		FINBARS WALK	
		IPSWICH	
		Total Number of Households:	99 *****
		Survey Date: FRIDAY	29/09/00
			Survey Type: MANUAL
20	SH-03-K-01	BRIDGNORTH HOUSING	SHROPSHIRE
		BRAMBLE RIDGE	
		BRIDGNORTH	
		Total Number of Households:	52 *****
		Survey Date: FRIDAY	08/05/98
			Survey Type: MANUAL
21	ST-03-K-01	MIXED HOUSING, STAFFORD	STAFFORDSHIRE
		THE MEADOWS	
		QUEENSVILLE	
		STAFFORD	
		Total Number of Households:	224 *****
		Survey Date: TUESDAY	04/07/00
			Survey Type: MANUAL
22	ST-03-K-02	STAFFORD MIXED HOUSING	STAFFORDSHIRE
		THE MEADOWS	
		QUEENSVILLE	
		STAFFORD	
		Total Number of Households:	224 *****
		Survey Date: MONDAY	10/07/95
		Survey Date: TUESDAY	11/07/95
		Survey Date: WEDNESDAY	12/07/95
		Survey Date: THURSDAY	13/07/95
		Survey Date: FRIDAY	14/07/95
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
			Survey Type: ONE WAY ATC
23	WK-03-K-01	MIXED HOUSING, STRATFORD	WARWICKSHIRE
		OLD TOWN MEWS	
		OLD TOWN	
		STRATFORD UPON AVON	
		Total Number of Households:	64 *****
		Survey Date: THURSDAY	07/09/00
			Survey Type: MANUAL
24	WO-03-K-01	MIXED HOUSING, WORCESTER	WORCESTERSHIRE
		MALVERN ROAD	
		LOWER WICK	
		WORCESTER	
		Total Number of Households:	775 *****
		Survey Date: FRIDAY	24/05/02
			Survey Type: MANUAL
25	WO-03-K-02	MIXED HOUSING, BROMSGROVE	WORCESTERSHIRE
		ST GODWALDS ROAD	
		ASTON FIELDS	
		BROMSGROVE	
		Total Number of Households:	215 *****
		Survey Date: THURSDAY	23/05/02
			Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

26	WO-03-K-03	MIXED HOUSING, WORCESTER	WORCESTERSHIRE
		BYFIELD RISE	
		WORCESTER	
		Total Number of Households: 103 *****	
		Survey Date: TUESDAY 03/06/03	Survey Type: MANUAL
27	WS-03-K-03	CHICHESTER HOUSING	WEST SUSSEX
		LAVANT DOWN ROAD	
		LAVANT	
		CHICHESTER	
		Total Number of Households: 90 *****	
		Survey Date: MONDAY 20/11/00	Survey Type: ONE WAY ATC
		Survey Date: TUESDAY 21/11/00	Survey Type: ONE WAY ATC
		Survey Date: WEDNESDAY 22/11/00	Survey Type: ONE WAY ATC
		Survey Date: THURSDAY 23/11/00	Survey Type: ONE WAY ATC
		Survey Date: FRIDAY 24/11/00	Survey Type: ONE WAY ATC

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIVATE HOUSING
Calculation Factor: 1 HHOLDS
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No Days	Ave HHOLDS	Trip Rate	No Days	Ave HHOLDS	Trip Rate	No Days	Ave HHOLDS	Trip Rate
00:00 - 01:00	18	582	0.02	18	582	0.01	18	582	0.04
01:00 - 02:00	18	582	0.01	18	582	0.00	18	582	0.01
02:00 - 03:00	18	582	0.00	18	582	0.00	18	582	0.01
03:00 - 04:00	18	582	0.00	18	582	0.00	18	582	0.00
04:00 - 05:00	18	582	0.00	18	582	0.01	18	582	0.01
05:00 - 06:00	18	582	0.00	18	582	0.02	18	582	0.03
06:00 - 07:00	18	582	0.01	18	582	0.10	24	486	0.13
07:00 - 08:00	24	486	0.03	24	486	0.34	46	385	0.41
08:00 - 09:00	46	385	0.07	46	385	0.45	46	385	0.55
09:00 - 10:00	46	385	0.10	46	385	0.19	46	385	0.32
10:00 - 11:00	46	385	0.13	46	385	0.14	46	385	0.25
11:00 - 12:00	46	385	0.11	46	385	0.14	46	385	0.27
12:00 - 13:00	46	385	0.13	46	385	0.14	46	385	0.30
13:00 - 14:00	46	385	0.17	46	385	0.15	46	385	0.30
14:00 - 15:00	46	385	0.15	46	385	0.15	46	385	0.30
15:00 - 16:00	46	385	0.15	46	385	0.17	46	385	0.40
16:00 - 17:00	46	385	0.23	46	385	0.16	46	385	0.44
17:00 - 18:00	46	385	0.28	46	385	0.18	46	385	0.58
18:00 - 19:00	46	385	0.40	46	385	0.22	46	385	0.56
19:00 - 20:00	46	385	0.35	46	385	0.21	24	486	0.48
20:00 - 21:00	24	486	0.27	24	486	0.15	24	486	0.34
21:00 - 22:00	24	486	0.19	24	486	0.08	24	486	0.22
22:00 - 23:00	24	486	0.14	24	486	0.05	18	582	0.15
23:00 - 24:00	18	582	0.10	18	582	0.04	18	582	0.12
Daily Trip Rates:			3.11			3.10			6.21

Parameter Summary

Trip Rate Parameter Range Selected: 26 - 1165 (units:)
 Survey Date Date Range: 01/01/95 - 03/06/03
 Number of Weekdays (Monday-Friday): 46
 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 : 03 - RESIDENTIAL
Category : L - MIXED NON-PRIVATE HOUSING

Selected Regions and Areas:

04	EAST ANGLIA	
	NF NORFOLK	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NO NORTH LINCOLNSHIRE	1 days

Main Parameter Selection:

Parameter: Number of Households
Range: 39 to 920 (units:)

Date Range: 01/01/95 to 11/04/03

Selected Survey Days:

Tuesday	1 days
Friday	2 days

Selected Survey Types:

Manual Count	3 days
One Way ATC Count	0 days

VEHICULAR TRIP RATES

MIXED NON-PRIVATE HOUSING

LIST OF SITES relevant to selection parameters

- 1 NF-03-L-01 HOUSING, NORWICH
CHESTNUT COURT

NORFOLK

NORWICH

Total Number of Households: 39 *****

Survey Date: TUESDAY 07/11/00

Survey Type: MANUAL

- 2 NO-03-L-01 HOUSES/FLATS, BELTON
ASHTREE CLOSE

NORTH LINCOLNSHIRE

BELTON

Total Number of Households: 79 *****

Survey Date: FRIDAY 11/04/03

Survey Type: MANUAL

- 3 WO-03-L-01 NON-PRIVATE HOUSES/FLATS
MARTINDALE CLOSE

WORCESTERSHIRE

WARNDON

WORCESTER

Total Number of Households: 152 *****

Survey Date: FRIDAY 08/03/02

Survey Type: MANUAL

TRIP RATE for Land Use 03 - RESIDENTIAL/L - MIXED NON-PRIVATE HOUSING
Calculation Factor: 1 HHOLDS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave HHOLDS	Trip Rate	No. Days	Ave HHOLDS	Trip Rate	No. Days	Ave HHOLDS	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	3	90	0.06	3	90	0.13	3	90	0.19
08:00 - 09:00	3	90	0.13	3	90	0.23	3	90	0.36
09:00 - 10:00	3	90	0.11	3	90	0.15	3	90	0.26
10:00 - 11:00	3	90	0.13	3	90	0.12	3	90	0.25
11:00 - 12:00	3	90	0.15	3	90	0.18	3	90	0.33
12:00 - 13:00	3	90	0.18	3	90	0.15	3	90	0.33
13:00 - 14:00	3	90	0.17	3	90	0.13	3	90	0.30
14:00 - 15:00	3	90	0.18	3	90	0.16	3	90	0.34
15:00 - 16:00	3	90	0.23	3	90	0.22	3	90	0.46
16:00 - 17:00	3	90	0.25	3	90	0.23	3	90	0.48
17:00 - 18:00	3	90	0.26	3	90	0.17	3	90	0.44
18:00 - 19:00	3	90	0.25	3	90	0.16	3	90	0.41
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:			2.11			2.03			4.14

Parameter Summary

Trip Rate Parameter Range Selected: 39 - 920 (units:)
 Survey Date Date Range: 01/01/95 - 11/04/03
 Number of Weekdays (Monday-Friday): 3
 Number of Saturdays: 0
 Number of Sundays: 0
 Optional Parameters Used in Selection: NO
 Surveys Manually Removed from Selection: 0

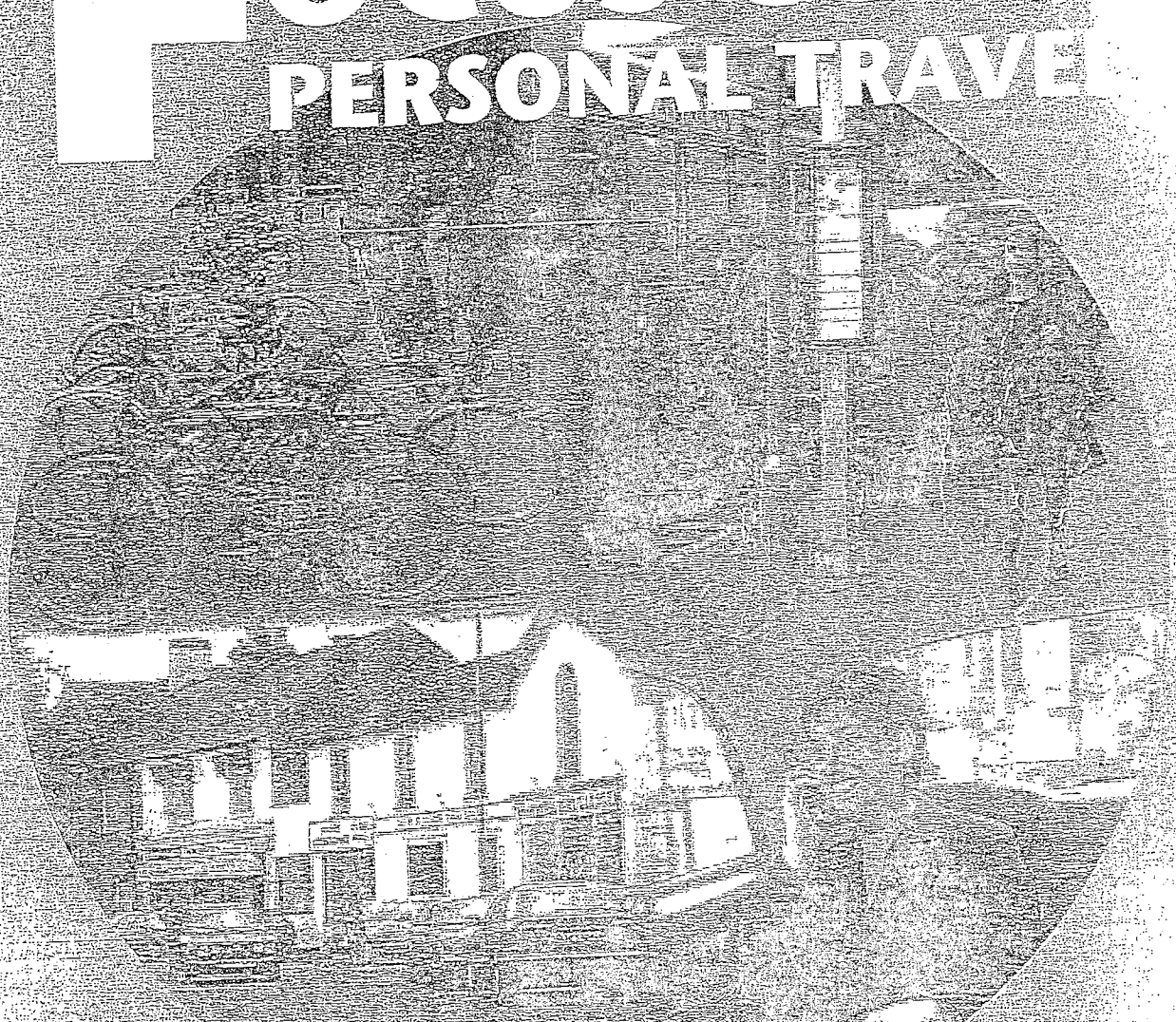


Annex D Extracts from NTS – Daily Profile by Trip Journey Purpose



DTLR
TRANSPORT
LOCAL GOVERNMENT
REGIONS

FOCUS ON PERSONAL TRAVEL



2001 EDITION

WSPD BASINGSTOKE
LIBRARY

C3

integrated

transport

CHAPTER 7 PATTERNS OF TRAVEL

Table 7.12 Trips-in-progress by time of day and trip purpose (weekdays): 1992/2000

												Percentage
	Commuting	Business	Education	Escort education	Shopping	Other personal business and escort	Visit friends at private home	Visit friends elsewhere	Sport/ entertainment	Holiday/ day trip	Other including just walk	All purposes
0000-0059	19	4	-	1	2	9	29	19	11	4	2	100
0100-0159	24	7	1	2	4	8	24	15	9	6	1	100
0200-0259	31	6	1	2	4	7	17	15	11	6	-	100
0300-0359	52	7	1	-	2	10	11	5	4	6	2	100
0400-0459	74	5	-	-	1	5	3	1	2	6	4	100
0500-0559	79	5	-	-	1	7	1	-	1	2	3	100
0600-0659	71	7	-	-	2	9	1	-	2	2	6	100
0700-0759	64	7	6	1	3	12	2	-	1	1	4	100
0800-0859	32	4	28	15	4	11	2	-	1	1	2	100
0900-0959	16	7	8	12	21	22	6	1	3	2	3	100
1000-1059	5	7	2	1	39	23	10	1	4	4	4	100
1100-1159	5	6	2	3	37	21	11	2	3	5	4	100
1200-1259	9	6	4	3	31	21	10	4	4	4	4	100
1300-1359	13	6	4	2	27	23	10	3	4	4	4	100
1400-1459	9	6	2	5	28	20	12	2	4	5	6	100
1500-1559	6	4	22	17	16	15	9	1	3	3	4	100
1600-1659	19	6	10	3	18	18	12	2	4	4	4	100
1700-1759	35	6	3	1	13	18	12	2	5	3	3	100
1800-1859	25	5	2	1	12	18	16	4	10	3	4	100
1900-1959	13	4	1	-	12	18	21	8	15	3	5	100
2000-2059	11	3	1	-	9	17	24	12	14	4	6	100
2100-2159	12	3	2	-	5	16	23	13	17	3	6	100
2200-2259	13	3	1	-	2	12	25	16	17	3	7	100
2300-2359	11	2	-	-	1	9	27	28	13	3	5	100
All day	19	5	8	5	18	18	11	3	5	3	4	100

Table 7.13 Trips-in-progress by time of day and trip purpose (weekdays): 1992/2000

												Percentage
	Commuting	Business	Education	Escort education	Shopping	Other personal business and escort	Visit friends at private home	Visit friends elsewhere	Sport/ entertainment	Holiday/ day trip	Other including just walk	All purposes
0000-0059	-	-	-	-	-	-	1	2	1	-	-	-
0100-0459	1	-	-	-	-	-	-	1	-	1	-	-
0500-0559	2	-	-	-	-	-	-	-	-	-	-	-
0600-0659	5	2	-	-	-	1	-	-	-	1	2	1
0700-0759	14	5	3	1	1	3	1	-	1	1	4	4
0800-0859	17	9	36	29	2	7	2	-	2	2	5	10
0900-0959	6	9	7	15	8	9	4	1	4	5	6	7
1000-1059	2	8	1	1	13	8	5	2	4	8	7	6
1100-1159	2	8	2	3	13	8	6	4	4	9	7	6
1200-1259	3	8	4	3	11	8	6	3	5	8	6	7
1300-1359	4	7	3	2	9	8	6	6	5	8	6	6
1400-1459	3	7	2	6	9	7	7	5	4	9	8	6
1500-1559	3	8	28	32	9	8	8	4	5	10	9	10
1600-1659	8	9	10	4	8	8	9	4	7	10	8	8
1700-1759	14	8	3	1	6	8	8	4	8	8	6	8
1800-1859	8	5	1	1	4	6	9	7	12	6	7	6
1900-1959	3	3	1	-	3	5	9	12	13	5	6	5
2000-2059	2	2	-	-	1	3	7	12	8	4	4	3
2100-2159	1	1	1	-	1	2	5	9	8	2	3	2
2200-2259	1	1	-	-	-	1	4	3	6	2	3	2
2300-2359	1	1	-	-	-	1	3	11	3	1	1	1
All day	100	100	100	100	100	100	100	100	100	100	100	100

Peak Hour Person Trips by Journey Purpose

Data Derived from 'Focus on Personal Travel - DTLR - 2001 Edition'

Trips in Progress by Time of Day and Trip Purpose (weekdays)

	A	B	C	D	E	F	G	H	I	J	K	Total
	Commuting	Business	Education	Escort Education	Shopping	Other Personal Business & Escort	Visit Friends at Private Home	Visit Friends Elsewhere	Sport / Entertainment	Holiday / Day Trip	Other (Incl Just Walk)	
0000-0059	19	4	0	1	2	9	29	19	11	4	2	100%
0100-0159	24	7	1	2	4	8	24	15	9	6	1	101%
0200-0259	31	6	1	2	4	7	17	15	11	6	0	100%
0300-0359	62	7	1	0	2	10	11	5	4	6	2	100%
0400-0459	74	5	0	0	1	5	3	1	2	6	4	101%
0500-0559	79	5	0	0	1	7	1	0	1	2	3	99%
0600-0659	71	7	0	0	2	9	1	0	2	2	6	100%
0700-0759	84	7	6	1	3	12	2	0	1	1	4	101%
0800-0859	32	4	28	15	4	11	2	0	1	1	2	100%
0900-0959	16	7	6	12	21	22	6	1	3	2	3	101%
1000-1059	5	7	2	1	39	23	10	1	4	4	4	100%
1100-1159	5	6	2	3	37	21	11	2	3	5	4	99%
1200-1259	9	6	4	3	31	21	10	4	4	4	4	100%
1300-1359	13	6	4	2	27	23	10	3	4	4	4	100%
1400-1459	9	6	2	5	28	20	12	2	4	5	6	99%
1500-1559	6	4	22	17	16	15	9	1	3	3	4	100%
1600-1659	19	6	10	3	18	18	12	2	4	4	4	100%
1700-1759	35	6	3	1	13	18	12	2	5	3	3	101%
1800-1859	25	5	2	1	12	18	16	4	10	3	4	100%
1900-1959	13	4	1	0	12	18	21	8	15	3	5	100%
2000-2059	11	3	1	0	9	17	24	12	14	4	6	101%
2100-2159	12	3	2	0	5	16	23	13	17	3	6	100%
2200-2259	13	3	1	0	2	12	25	16	17	3	7	99%
2300-2359	11	2	0	0	1	9	27	28	13	3	5	99%

Summary Table (Rebased to 100% where appropriate)

	(A+B)	(C+D)	(E+F)	(I)	(G+H+J+K)	Total
	Employment	Education	Retail	Leisure / Entertainment	Other Recreational	
0800-0859	36	43	15	1	5	100%
1700-1759	41	4	31	5	20	100%

From similar studies, education trips can be broken down as follows

Breakdown of Education

Primary	0.45
Secondary	0.35
Tertiary	0.20
Total	1.00

Peak Hour Person Trips by Purpose

	Employment	Primary Education	Secondary Education	Tertiary Education	Retail	Leisure / Entertainment	Other Recreational	Total
0800-0859	36	19	15	9	15	1	5	100
1700-1759	41	2	1	1	31	5	20	100



Annex E Cambridge New Settlement
Survey Data

Cambourne Survey 2002

Report

Summary

Moving to CAMBOURNE

- 35% of the people moved from another UK region, 25% moved from Cambridge
- 25% of people wanted to be nearer their jobs
- 25% of people wanted to buy another home in a new village and/or with attractive prices

Home

- 80% of Cambourne residents are owner occupiers
- 50% of the houses are detached
- A third of the houses have 4 bedrooms
- Three quarter of the household hold 2 adults
- 70% of the households have access to the internet

Work, study and travel

- Two third of the adults are employed full-time
- 40% of the adults work/study in Cambridge
- 70% of the people use their car to study/go to work
- Half of the households have two cars

Other activities

- 65% of Cambourne community identify themselves as being Christian
- 70% of the residents are of White origin, 2% of Asian origin
- Almost 90% of people speaks English as first language
- The most practiced activities are Outdoor/Indoor and Gym (10% each)
- A quarter of people have those activities in Cambourne or within 5 miles
- 80% of residents are registered at Monkfield Medical practice
- Less than 3% of people are disabled
- 64% of people are not using a public library
- About 20% of people are not going to a library because they find opening times/access not convenient
- 32% would visit Cambourne library monthly, mainly to borrow books for themselves (65%)

Cambourne Survey 2002
Report

Content

Summary	1
Introduction	3
Demographics	3
Section A: About your move to CAMBOURNE	3
Q1: Which city/town/village did you move to Cambourne from?	3
Q2: What was your main reason for moving home?	3
Q3: What was your main reason for choosing to move to Cambourne rather than elsewhere in the area?	4
Section B: About your home	6
Q5.1: Is your home (owned, rented, etc)	6
Q5.2: Is your home (type)?	6
Q5.3: How many bedrooms do you have in your house?	6
Q6: How many adults, children are there in your household?	7
Q11: Which nursery or school does each child in your household attend during the day?	11
Q7: Do you have access to Internet at home?	11
Section C: About your work, study and travel	12
Q8: Are the adults in your household self-employed, employed full-time, part-time, students, retired, looking after home/family, or unemployed?	12
Q9: In which city/town/village do those that are employed/self employed or students work/study?	12
Q10: How do those people in question get to their place of work/study from home?	13
Q12: How many cars are available for use by your household?	13
Section E: About your other activities	14
Q14: What, if any, is your religion?	14
Q15: What is your ethnic origin?	14
Q16.1: What leisure-activity does your household take part in?	15
Q16.2: In which city/town/village do these activities take place?	16
Q17: Places people do there main food shopping?	16
Q18: Which doctor's surgery/health centre are you registered with?	16
Q19: How many people in your household are disabled?	17
Q20: Do you use a public library in Cambridgeshire?	17
Q21: If you answered YES above, how often do you visit a library? If NO, how often do you think you would visit the library at Cambourne?	18
Q22: Which services do you use or would you use if provided at the library in Cambourne?	18
Annexes	
Annex 1	20
Annex 2	21
Annex 3	21
Annex 10	22
Annex 16	24
Annex 17	26
Annex 20	26
Annex 22	27

Cambourne Survey 2002 Report

Introduction

The questionnaire was sent to every household in Cambourne. The aim of the survey is to follow up the development of Cambourne and what the residents are expecting from services providers. Alternatively, the residents commuting and living habits will also help to improve services. Some results will be compared to the New Estates Survey of Huntingdon, St Neots and St Ives (Research Group, Cambridgeshire County Council, 1991), and Ely New Estate Survey (Development Services, East Cambridgeshire District Council, 2002).

Demographics

A total of 214 household responded to the questionnaire, representing a total population of 558. At that date, it corresponds nearly to 30% response rate of all the houses (784) in Cambourne.

Section A: About your move to CAMBOURNE

Question 1: Which city/town/village did you move to Cambourne from?

Table 1	Frequency	Percent
Other UK Region	73	34.1%
Cambridge City	50	23.4%
East of England	36	16.8%
South Cambridgeshire	28	13.1%
Huntingdonshire	11	5.1%
Foreign Country	9	4.2%
East Cambridgeshire	2	0.9%
Peterborough	1	0.5%
Total	214	100.0%

1. Of those who answered the question, nearly 35% of the people moved from another UK region and nearly a quarter moved from Cambridge (Table 1). The village of Cambourne is also attracting people from the East of England area. Details are in Annex 1.

Question 2: What was your main reason for moving home?

Table 2	Frequency	Percent
Not answered / other	73	34.1%
To be nearer to job	59	27.6%
To find a larger / smaller home	55	25.7%
To be nearer family / friends	23	10.7%
To be nearer children's school	4	1.9%
Total	214	100%

2. Of the people that responded to the survey (Table 2), nearly a third of them moved to Cambourne to be nearer to job, and a quarter wanted to find a larger/smaller home.

Household densities	Number of type of household	Number of people	Density	Ely New Estates Survey Density
One bedroom	3	4	1.3	1.3
Two bedrooms	52	86	1.7	1.6
Three bedrooms	55	123	2.2	2.2
Four bedrooms	72	225	3.1	2.7
Five bedrooms	18	66	3.7	3.5 (5+)
Six bedrooms or more	11	46	4.2	/
Not answered	3	9	3.0	/
Total	214	559	2.6	/

Densities are similar in both surveys for the one, two and three bedrooms. In Cambourne, four and five bedrooms or more have higher densities than in the Ely New Estates Survey.

Question 6: How many adults are there in your household?

Table 6	Frequency	Percent
2 Adults	157	73.4%
1 Adult	46	21.5%
3 Adults	7	3.3%
4 Adults	3	1.4%
No Adult	1	0.5%
Total	214	100.0%

6. There are two adults in three-quarter of the households (Table 6) and more than 20% of the household have one adult.

6.1 Number of children per household?

Table 6.1	Frequency	Percent
No children	128	59.8%
Two children	38	17.8%
One child	28	13.1%
Three children	19	8.9%
Four children	1	0.5%
Total	214	100.0%

6.1 Nearly 60% of the households (Table 6.1) have no children.

Question 6.2: How many children aged 0-4 (preschool) are there in your household?

Table 6.2	Frequency	Percent
No children	172	80.4%
One child	30	14.0%
Two children	12	5.6%
Total	214	100.0%

Section C: About your work, study and travel

Question 8: Are the adults in your household self-employed, employed full-time, part-time, students, retired, looking after home/family, or unemployed?

Table 8	Frequency	Percentage	New Estates Survey (1991)	Cambridgeshire (Census 2001)
Employed full time	247	62.5%	80.0%	44.6%
Employed part time	37	9.4%	7.5%	12.0%
Retired	36	9.1%	2.5%	12.1%
Looking after home/family	34	8.6%	9.0%	5.7%
Self employed	25	6.3%	/	8.9%
Student	14	3.5%	0.2%	2.4%
Unemployed	2	0.5%	0.8%	2.1%
Total	395	100.0%	100.0%	87.8%*

*Not included "Permanently disabled/sick" and "Other" categories

8. Nearly two third of the adults in Cambourne were in full-time employment (Table 8), which is higher than the Census County data; but less people (9.4%) were in part-time employment. In Cambourne, there was 79% of people employed (full time, part time and self employed), 87% in the New Estates Survey and only 65.5% in the county; those percentages reflect the proportion of economically active people in a young development. However, the proportion of Retired people living in Cambourne is high in comparison to the New Estates Survey.

Question 9: In which city/town/village do those that are employed/self employed or students work/study?

Table 9	Frequency	Percentage	Ely New Estates Survey (2002)
Cambridge	133	41.3%	31.5%
Over 15 Miles	58	18.0%	/
Cambourne	30	9.3%	24% (work in Ely/at home)
London	29	9.0%	7%
Within 15 miles	20	6.2%	/
Within 10 miles	20	6.2%	/
Royston	13	4.0%	/
Within 5 miles	11	3.4%	/
Bedford	8	2.5%	/
Total	322	100.0%	/

9. More than 40% of the adults are working/studying in Cambridge (Table 9). There were more people working in Cambridge or London with a house in Cambourne than in Ely. The Ely New Estates Surveys showed that more people work in the City of Ely (4.3% in Cambourne) and about 3% were working from home (1.8% in Cambourne). Details are in Annex 10.

Localities included:

Within 5 miles: Bar Hill, Bourn, Madingley, Papworth Everard, Cambourne, Greater Cambourne Business Park, Home.



Annex F

Mode Share of Education Trips



Department for
Transport

Personal Travel Factsheets

WSPD BASINGSTOKE
LIBRARY

C3

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	47	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	1.5	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	25	28	30	30	31	28	21	
Bus	20	19	18	12	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

Primary Trips

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

Secondary Trips

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

Breakdown of Education

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

Non Car Mode Share of school trips

driver	0.453
pass	0.219
total	0.328
total	1.00

Non Car Mode Share of school trips

driver	0.706
pass	0.118
total	0.176
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
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

	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%

	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%



Annex G Hotel Trip Rates

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : A - HOTELS

Selected regions and areas:

02 SOUTH EAST		
HC HAMPSHIRE		2 days
HF HERTFORDSHIRE		3 days
KC KENT		1 days
SC SURREY		1 days
03 SOUTH WEST		
DC DORSET		6 days
04 EAST ANGLIA		
CA CAMBRIDGESHIRE		1 days
05 EAST MIDLANDS		
NT NOTTINGHAMSHIRE		1 days
06 WEST MIDLANDS		
WO WORCESTERSHIRE		3 days
08 NORTH WEST		
GM GREATER MANCHESTER		2 days

Main parameter selection:

Parameter: Gross floor area
 Range: 355 to 9700 (units: sqm)

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

Selected survey days:

Monday	2 days
Tuesday	4 days
Wednesday	6 days
Thursday	6 days
Friday	2 days

Selected survey types:

Manual count	15 days
Directional ATC Count	5 days

Optional parameter selection:Use Class:

C1 20 days

Location:

Town Centre	1 days
Neighbourhood Centre	1 days
Suburban Area	1 days
Edge of Town	2 days
Edge of Town Centre	4 days
Free Standing	9 days
Commercial Zone	1 days
Development Zone	1 days

Optional parameter selection (Cont.):Population within 1 mile:

1,000 or Less	6 days
1,001 to 5,000	5 days
5,001 to 10,000	2 days
10,001 to 15,000	3 days
15,001 to 20,000	2 days
20,001 to 25,000	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	5 days
50,001 to 75,000	2 days
75,001 to 100,000	2 days
100,001 to 125,000	3 days
125,001 to 250,000	2 days
250,001 to 500,000	4 days
500,001 or More	1 days

Car ownership within 5 miles:

0.6 to 1.0	9 days
1.1 to 1.5	11 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	8 days
<20 per day	1	20	0 days
20-39 per day	2	40	2 days
40-59 per day	3	60	1 days
60-79 per day	4	80	1 days
80+ per day	> 4	> 80	8 days

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

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 - 01:00	5	5700	0.04	5	5700	0.06	5	5700	0.10
01:00 - 02:00	5	5700	0.02	5	5700	0.01	5	5700	0.03
02:00 - 03:00	5	5700	0.00	5	5700	0.00	5	5700	0.00
03:00 - 04:00	5	5700	0.00	5	5700	0.00	5	5700	0.00
04:00 - 05:00	5	5700	0.00	5	5700	0.00	5	5700	0.00
05:00 - 06:00	5	5700	0.02	5	5700	0.02	5	5700	0.04
06:00 - 07:00	8	6556	0.08	8	6556	0.07	8	6556	0.15
07:00 - 08:00	19	5377	0.16	19	5377	0.23	19	5377	0.39
08:00 - 09:00	20	5126	0.32	20	5126	0.35	20	5126	0.67
09:00 - 10:00	20	5126	0.30	20	5126	0.28	20	5126	0.58
10:00 - 11:00	20	5126	0.18	20	5126	0.22	20	5126	0.40
11:00 - 12:00	20	5126	0.20	20	5126	0.21	20	5126	0.41
12:00 - 13:00	20	5126	0.26	20	5126	0.23	20	5126	0.49
13:00 - 14:00	20	5126	0.26	20	5126	0.28	20	5126	0.54
14:00 - 15:00	20	5126	0.27	20	5126	0.32	20	5126	0.59
15:00 - 16:00	20	5126	0.27	20	5126	0.31	20	5126	0.58
16:00 - 17:00	20	5126	0.27	20	5126	0.29	20	5126	0.56
17:00 - 18:00	20	5126	0.36	20	5126	0.27	20	5126	0.63
18:00 - 19:00	20	5126	0.45	20	5126	0.27	20	5126	0.72
19:00 - 20:00	12	5980	0.37	12	5980	0.26	12	5980	0.63
20:00 - 21:00	12	5980	0.24	12	5980	0.18	12	5980	0.42
21:00 - 22:00	9	6248	0.14	9	6248	0.28	9	6248	0.42
22:00 - 23:00	7	6314	0.13	7	6314	0.21	7	6314	0.34
23:00 - 24:00	7	6314	0.03	7	6314	0.12	7	6314	0.15
Daily Trip Rates:			4.36			4.47			8.84

Parameter summary

Trip rate parameter range selected: 355 - 9700 (units: sqm)
 Survey date range: 01/01/96 - 08/07/04
 Number of weekdays (Monday-Friday): 20
 Number of Saturdays: 0
 Number of Sundays: 0
 Optional parameters used in selection: NO
 Surveys manually removed from selection: 0

Greater London Authority - Trip Rate Assessment Valid for London
Trip Rate 4 - Average by Time.

Trip rate for: Gross Floor Area:

Sites selected and survey periods displayed:

- Elm Hotel , 1 Elm Road 29/04/1994 Friday survey period: 06:00-24:00
- Woodford Moat House , 30 Oak Hill 21/04/1994 Thursday survey period: 12:00-24:00
- Forte Posthouse Hotel , Southwold Road 12/06/1996 Wednesday survey period: 07:00-24:00
- Ibis Hotel , 30 Stockwell Street 27/01/1997 Monday survey period: 07:00-24:00
- Croydon Park Hotel , 7 Altyre Road 06/05/1997 Tuesday survey period: 07:00-24:00
- County Hotel , 30 Oak Hill 25/04/2002 Thursday survey period: 07:00-22:00

MODE: All Modes		IN	OUT	TOTALS
Time Range	No of Sites	Trip Rate	Trip Rate	Trip Rate
06:00-06:30	1	0.00	0.00	0.00
06:30-07:00	1	0.17	0.00	0.17
07:00-07:30	5	0.14	0.23	0.37
07:30-08:00	5	0.16	0.33	0.49
08:00-08:30	5	0.13	0.28	0.40
08:30-09:00	5	0.27	0.48	0.75
09:00-09:30	5	0.10	0.21	0.31
09:30-10:00	5	0.14	0.19	0.33
10:00-10:30	5	0.14	0.22	0.36
10:30-11:00	5	0.15	0.26	0.40
11:00-11:30	5	0.16	0.16	0.32
11:30-12:00	5	0.10	0.11	0.21
12:00-12:30	6	0.36	0.11	0.47
12:30-13:00	6	0.36	0.21	0.58
13:00-13:30	6	0.39	0.22	0.61
13:30-14:00	6	0.27	0.37	0.64
14:00-14:30	6	0.11	0.31	0.42
14:30-15:00	6	0.12	0.35	0.47
15:00-15:30	6	0.19	0.22	0.42
15:30-16:00	6	0.18	0.25	0.43
16:00-16:30	6	0.45	0.35	0.80
16:30-17:00	6	0.30	0.31	0.61
17:00-17:30	6	0.39	0.27	0.67
17:30-18:00	6	0.41	0.28	0.69
18:00-18:30	6	0.35	0.30	0.65
18:30-19:00	6	0.42	0.34	0.76
19:00-19:30	6	0.64	0.41	1.04
19:30-20:00	6	0.29	0.20	0.50
20:00-20:30	6	0.28	0.31	0.59
20:30-21:00	6	0.25	0.14	0.38
21:00-21:30	6	0.28	0.23	0.51
21:30-22:00	6	0.23	0.15	0.38
22:00-22:30	5	0.13	0.09	0.22
22:30-23:00	5	0.32	0.34	0.67
23:00-23:30	5	0.20	0.28	0.47
23:30-24:00	5	0.20	0.09	0.29

Greater London Authority - Trip Rate Assessment Valid for London
Trip Rate 4 - Average by Time.

Trip rate for: Gross Floor Area:

Sites selected and survey periods displayed:

- Elm Hotel , 1 Elm Road 29/04/1994 Friday survey period: 06:00-24:00
- Woodford Moat House , 30 Oak Hill 21/04/1994 Thursday survey period: 12:00-24:00
- Forte Posthouse Hotel , Southwold Road 12/06/1996 Wednesday survey period: 07:00-24:00
- Ibis Hotel , 30 Stockwell Street 27/01/1997 Monday survey period: 07:00-24:00
- Croydon Park Hotel , 7 Altyre Road 06/05/1997 Tuesday survey period: 07:00-24:00
- County Hotel , 30 Oak Hill 25/04/2002 Thursday survey period: 07:00-22:00

Peak Period for <u>All Modes</u>	Timeband(s)	Trip Rate
IN	19:00-19:30	0.64
OUT	08:30-09:00	0.48
TOTALS	19:00-19:30	1.04

Greater London Authority - Trip Rate Assessment Valid for London
Trip Rate 4 - Average by Time.

Trip rate for: Gross Floor Area:

Sites selected and survey periods displayed:

Elm Hotel , 1 Elm Road 29/04/1994 Friday survey period: 06:00-24:00

Woodford Moat House , 30 Oak Hill 21/04/1994 Thursday survey period: 12:00-24:00

Forste Posthouse Hotel , Southwold Road 12/06/1996 Wednesday survey period: 07:00-24:00

Ibis Hotel , 30 Stockwell Street 27/01/1997 Monday survey period: 07:00-24:00

Croydon Park Hotel , 7 Altyre Road 06/05/1997 Tuesday survey period: 07:00-24:00

County Hotel , 30 Oak Hill 25/04/2002 Thursday survey period: 07:00-22:00

MODE: CAR (All)		IN	OUT	TOTALS
Time Range	No of Sites	Trip Rate	Trip Rate	Trip Rate
06:00-06:30	1	0.00	0.00	0.00
06:30-07:00	1	0.00	0.00	0.00
07:00-07:30	5	0.10	0.17	0.26
07:30-08:00	5	0.10	0.26	0.35
08:00-08:30	5	0.10	0.22	0.32
08:30-09:00	5	0.19	0.30	0.49
09:00-09:30	5	0.05	0.11	0.16
09:30-10:00	5	0.08	0.10	0.18
10:00-10:30	5	0.08	0.11	0.19
10:30-11:00	5	0.12	0.17	0.29
11:00-11:30	5	0.08	0.09	0.17
11:30-12:00	5	0.07	0.07	0.14
12:00-12:30	6	0.26	0.06	0.33
12:30-13:00	6	0.28	0.11	0.39
13:00-13:30	6	0.23	0.15	0.38
13:30-14:00	6	0.16	0.24	0.40
14:00-14:30	6	0.08	0.21	0.29
14:30-15:00	6	0.08	0.23	0.31
15:00-15:30	6	0.14	0.17	0.31
15:30-16:00	6	0.12	0.21	0.33
16:00-16:30	6	0.20	0.23	0.43
16:30-17:00	6	0.20	0.18	0.38
17:00-17:30	6	0.22	0.17	0.40
17:30-18:00	6	0.21	0.15	0.36
18:00-18:30	6	0.22	0.19	0.42
18:30-19:00	6	0.26	0.15	0.42
19:00-19:30	6	0.24	0.20	0.44
19:30-20:00	6	0.20	0.10	0.30
20:00-20:30	6	0.15	0.18	0.33
20:30-21:00	6	0.09	0.07	0.16
21:00-21:30	6	0.16	0.14	0.31
21:30-22:00	6	0.09	0.09	0.18
22:00-22:30	5	0.06	0.05	0.12
22:30-23:00	5	0.12	0.14	0.27
23:00-23:30	5	0.07	0.07	0.15
23:30-24:00	5	0.06	0.05	0.11

Greater London Authority - Trip Rate Assessment Valid for London
Trip Rate 4 - Average by Time.

Trip rate for: Gross Floor Area:

Sites selected and survey periods displayed:

- Elm Hotel , 1 Elm Road 29/04/1994 Friday survey period: 06:00-24:00
- Woodford Moat House , 30 Oak Hill 21/04/1994 Thursday survey period: 12:00-24:00
- Forte Posthouse Hotel , Southwold Road 12/06/1996 Wednesday survey period: 07:00-24:00
- Ibis Hotel , 30 Stockwell Street 27/01/1997 Monday survey period: 07:00-24:00
- Croydon Park Hotel , 7 Altyre Road 06/05/1997 Tuesday survey period: 07:00-24:00
- County Hotel , 30 Oak Hill 25/04/2002 Thursday survey period: 07:00-22:00

Peak Period for <u>CAR (All)</u>	Timeband(s)	Trip Rate
IN	12:30-13:00	0.28
OUT	08:30-09:00	0.30
TOTALS	08:30-09:00	0.49

Greater London Authority - Trip Rate Assessment Valid for London

Trip Rate 4 - Average by Time.

Trip rate for: Gross Floor Area:

Sites selected and survey periods displayed:

Elm Hotel , 1 Elm Road 29/04/1994 Friday survey period: 06:00-24:00

Woodford Moat House , 30 Oak Hill 21/04/1994 Thursday survey period: 12:00-24:00

Forte Posthouse Hotel , Southwold Road 12/06/1996 Wednesday survey period: 07:00-24:00

Ibis Hotel , 30 Stockwell Street 27/01/1997 Monday survey period: 07:00-24:00

Croydon Park Hotel , 7 Altyre Road 06/05/1997 Tuesday survey period: 07:00-24:00

County Hotel , 30 Oak Hill 25/04/2002 Thursday survey period: 07:00-22:00

MODE: car driver		IN	OUT	TOTALS
Time Range	No of Sites	Trip Rate	Trip Rate	Trip Rate
06:00-06:30	1	0.00	0.00	0.00
06:30-07:00	1	0.00	0.00	0.00
07:00-07:30	5	0.08	0.11	0.18
07:30-08:00	5	0.07	0.16	0.23
08:00-08:30	5	0.07	0.16	0.23
08:30-09:00	5	0.17	0.18	0.35
09:00-09:30	5	0.05	0.08	0.13
09:30-10:00	5	0.06	0.08	0.14
10:00-10:30	5	0.07	0.06	0.14
10:30-11:00	5	0.09	0.12	0.21
11:00-11:30	5	0.06	0.07	0.13
11:30-12:00	5	0.05	0.04	0.10
12:00-12:30	6	0.16	0.05	0.21
12:30-13:00	6	0.20	0.09	0.29
13:00-13:30	6	0.17	0.12	0.28
13:30-14:00	6	0.11	0.17	0.28
14:00-14:30	6	0.05	0.16	0.21
14:30-15:00	6	0.06	0.17	0.23
15:00-15:30	6	0.07	0.14	0.20
15:30-16:00	6	0.08	0.14	0.22
16:00-16:30	6	0.14	0.16	0.30
16:30-17:00	6	0.13	0.11	0.25
17:00-17:30	6	0.16	0.10	0.26
17:30-18:00	6	0.14	0.12	0.26
18:00-18:30	6	0.17	0.15	0.32
18:30-19:00	6	0.19	0.11	0.30
19:00-19:30	6	0.17	0.15	0.31
19:30-20:00	6	0.15	0.08	0.24
20:00-20:30	6	0.09	0.11	0.19
20:30-21:00	6	0.07	0.04	0.11
21:00-21:30	6	0.09	0.08	0.17
21:30-22:00	6	0.07	0.06	0.13
22:00-22:30	5	0.04	0.02	0.07
22:30-23:00	5	0.07	0.09	0.17
23:00-23:30	5	0.05	0.04	0.10
23:30-24:00	5	0.03	0.04	0.07

Greater London Authority - Trip Rate Assessment Valid for London
Trip Rate 4 - Average by Time.

Trip rate for: Gross Floor Area:

Sites selected and survey periods displayed:

Elm Hotel , 1 Elm Road 29/04/1994 Friday survey period: 06:00-24:00
Woodford Moat House , 30 Oak Hill 21/04/1994 Thursday survey period: 12:00-24:00
Forte Posthouse Hotel , Southwold Road 12/06/1996 Wednesday survey period: 07:00-24:00
Ibis Hotel , 30 Stockwell Street 27/01/1997 Monday survey period: 07:00-24:00
Croydon Park Hotel , 7 Altyre Road 06/05/1997 Tuesday survey period: 07:00-24:00
County Hotel , 30 Oak Hill 25/04/2002 Thursday survey period: 07:00-22:00

Peak Period for car driver	Timeband(s)	Trip Rate
IN	12:30-13:00	0.20
OUT	08:30-09:00	0.18
TOTALS	08:30-09:00	0.35

Greater London Authority - Trip Rate Assessment Valid for London
Trip Rate 4 - Average by Time.

Trip rate for: Gross Floor Area:

Sites selected and survey periods displayed:

- Elm Hotel , 1 Elm Road 29/04/1994 Friday survey period: 06:00-24:00
- Woodford Moat House , 30 Oak Hill 21/04/1994 Thursday survey period: 12:00-24:00
- Forte Posthouse Hotel , Southwold Road 12/06/1996 Wednesday survey period: 07:00-24:00
- Ibis Hotel , 30 Stockwell Street 27/01/1997 Monday survey period: 07:00-24:00
- Croydon Park Hotel , 7 Altyre Road 06/05/1997 Tuesday survey period: 07:00-24:00
- County Hotel , 30 Oak Hill 25/04/2002 Thursday survey period: 07:00-22:00

MODE: car passenger		IN	OUT	TOTALS
Time Range	No of Sites	Trip Rate	Trip Rate	Trip Rate
06:00-06:30	1	0.00	0.00	0.00
06:30-07:00	1	0.00	0.00	0.00
07:00-07:30	5	0.02	0.06	0.08
07:30-08:00	5	0.02	0.10	0.12
08:00-08:30	5	0.03	0.06	0.09
08:30-09:00	5	0.02	0.11	0.14
09:00-09:30	5	0.00	0.03	0.03
09:30-10:00	5	0.02	0.02	0.04
10:00-10:30	5	0.01	0.04	0.05
10:30-11:00	5	0.03	0.05	0.08
11:00-11:30	5	0.02	0.02	0.04
11:30-12:00	5	0.01	0.02	0.04
12:00-12:30	6	0.10	0.02	0.12
12:30-13:00	6	0.08	0.02	0.10
13:00-13:30	6	0.06	0.03	0.10
13:30-14:00	6	0.05	0.07	0.11
14:00-14:30	6	0.03	0.05	0.08
14:30-15:00	6	0.02	0.06	0.08
15:00-15:30	6	0.07	0.03	0.10
15:30-16:00	6	0.04	0.06	0.10
16:00-16:30	6	0.06	0.07	0.13
16:30-17:00	6	0.07	0.06	0.14
17:00-17:30	6	0.07	0.07	0.14
17:30-18:00	6	0.07	0.03	0.10
18:00-18:30	6	0.05	0.05	0.10
18:30-19:00	6	0.08	0.04	0.11
19:00-19:30	6	0.07	0.05	0.12
19:30-20:00	6	0.05	0.01	0.06
20:00-20:30	6	0.06	0.07	0.14
20:30-21:00	6	0.02	0.03	0.05
21:00-21:30	6	0.07	0.06	0.13
21:30-22:00	6	0.03	0.03	0.05
22:00-22:30	5	0.02	0.03	0.05
22:30-23:00	5	0.05	0.05	0.10
23:00-23:30	5	0.02	0.03	0.05
23:30-24:00	5	0.02	0.01	0.03

Greater London Authority - Trip Rate Assessment Valid for London
Trip Rate 4 - Average by Time.

Trip rate for: Gross Floor Area:

Sites selected and survey periods displayed:

- Elm Hotel , 1 Elm Road 29/04/1994 Friday survey period: 06:00-24:00
- Woodford Moat House , 30 Oak Hill 21/04/1994 Thursday survey period: 12:00-24:00
- Forte Posthouse Hotel , Southwold Road 12/06/1996 Wednesday survey period: 07:00-24:00
- Ibis Hotel , 30 Stockwell Street 27/01/1997 Monday survey period: 07:00-24:00
- Croydon Park Hotel , 7 Altyre Road 06/05/1997 Tuesday survey period: 07:00-24:00
- County Hotel , 30 Oak Hill 25/04/2002 Thursday survey period: 07:00-22:00

Peak Period for <u>car passenger</u>	Timeband(s)	Trip Rate
IN	12:00-12:30	0.10
OUT	08:30-09:00	0.11
TOTALS	08:30-09:00 16:30-17:00 17:00-17:30 20:00-20:30	0.14



Annex H Employment Trip Rates

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

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

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
08:30-10:00

AV 142
0.12

Total 1.54

PM
16:30-18:00

AV 212
0.12

Total 1.26

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

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

1	BU-02-B-01 LONDON ROAD HIGH WYCOMBE Total Gross floor area: 13300 sqm Survey date: THURSDAY 08/07/04	BUSINESS PARK, HIGH WYCOMBE BUCKINGHAMSHIRE	13300 sqm 5.91 Parking Spaces 22.5 per sqm
2	CA-02-B-01 MILTON ROAD CAMBRIDGE Total Gross floor area: 118448 sqm Survey date: MONDAY 27/11/00	CAMBRIDGE SCIENCE PARK CAMBRIDGESHIRE	118448 sqm 3585 Parking Spaces 32.1 per sqm
3	GM-02-B-03 CROSS STREET SALE Total Gross floor area: 3985 sqm Survey date: FRIDAY 28/05/04	BUSINESS PARK, SALE GREATER MANCHESTER	3985 sqm 165 Parking Spaces 24.2 per sqm
4	LC-02-B-02 NAVIGATION WAY PRESTON DOCKLANDS DEVELOPMENT PRESTON Total Gross floor area: 3450 sqm Survey date: THURSDAY 14/03/96	NAVIGATION BUSINESS VILLAGE LANCASHIRE	3450 sqm 126 Parking Spaces 27.4 per sqm
5	OX-02-B-01 GARSINGTON ROAD COWLEY OXFORD Total Gross floor area: 33105 sqm Survey date: TUESDAY 21/10/03	BUSINESS PARK, OXFORD OXFORDSHIRE	33105 sqm 1750 Parking Spaces 18.9 per sqm
6	ST-02-B-03 FRANK FOLEY WAY GREYFRIARS STAFFORD Total Gross floor area: 4064 sqm Survey date: THURSDAY 06/07/00	BUSINESS PARK, STAFFORD STAFFORDSHIRE	4064 sqm 111 Parking Spaces 36.6 per sqm

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

ARR
08:30-09:00
6 / *29392*
0.75
Total 1.314

DEP
17:00-17:30
6 / *29392*
0.57
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



Annex I Health Village Trip Rates

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 05 - HEALTH

Category : F - NURSING HOMES

MULTI-MODAL TOTAL PEOPLESelected regions and areas:

08 NORTH WEST

GM GREATER MANCHESTER

1 days

Main parameter selection:

Parameter: Number of residents

Range: 180 to 180 (units:)

Date Range: 01/01/97 to 22/06/04

Selected survey days:

Tuesday

1 days

Selected survey types:

Manual count

1 days

Directional ATC Count

0 days

LIST OF SITES relevant to selection parameters

1	GM-05-F-02	NURSING HOME, BOLTON	GREATER MANCHESTER
		BRIDGEMAN STREET	
		ROSE HILL	
		BOLTON	
	Total Number of residents:	180 *****	
	Survey date: TUESDAY	22/06/04	Survey Type: MANUAL

TRIP RATE for Land Use 05 - HEALTH/F - NURSING HOMES

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 RESIDE

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	Trip Rate	No. Days	Ave. RESIDE	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	180	0.24	1	180	0.08	1	180	0.32
08:00 - 09:00	1	180	0.09	1	180	0.06	1	180	0.15
09:00 - 10:00	1	180	0.07	1	180	0.02	1	180	0.09
10:00 - 11:00	1	180	0.07	1	180	0.07	1	180	0.14
11:00 - 12:00	1	180	0.06	1	180	0.04	1	180	0.10
12:00 - 13:00	1	180	0.06	1	180	0.04	1	180	0.10
13:00 - 14:00	1	180	0.23	1	180	0.13	1	180	0.36
14:00 - 15:00	1	180	0.09	1	180	0.17	1	180	0.26
15:00 - 16:00	1	180	0.09	1	180	0.15	1	180	0.24
16:00 - 17:00	1	180	0.04	1	180	0.12	1	180	0.16
17:00 - 18:00	1	180	0.06	1	180	0.08	1	180	0.14
18:00 - 19:00	1	180	0.07	1	180	0.11	1	180	0.18
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:			1.18			1.07			2.24

Parameter summary

Trip rate parameter range selected: 180 - 180 (units:)
 Survey date range: 01/01/97 - 22/06/04
 Number of weekdays (Monday-Friday): 1
 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 : 05 - HEALTH
Category : G - GP SURGERIES

MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	2 days
03	SOUTH WEST	
	DC DORSET	1 days
06	WEST MIDLANDS	
	ST STAFFORDSHIRE	1 days
09	NORTH	
	CB CUMBRIA	1 days
	TV TEES VALLEY	1 days

Main parameter selection:

Parameter: Number of Employees
Range: 16 to 45 (units:)

Date Range: 01/01/97 to 18/04/05

Selected survey days:

Monday	2 days
Tuesday	1 days
Wednesday	1 days
Thursday	2 days

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

LIST OF SITES relevant to selection parameters

- | | | | |
|---|---|----------------------------|---------------------|
| 1 | CB-05-G-01 | GP SURGERY, CARLISLE | CUMBRIA |
| | PORT ROAD
NEWTOWN
CARLISLE | | |
| | Total Number of Employees: 0 | | |
| | Survey date: WEDNESDAY 04/09/02 | | Survey Type: MANUAL |
| 2 | DC-05-G-03 | GP SURGERY, NEAR WEYMOUTH | DORSET |
| | PRESTON ROAD
PRESTON
NEAR WEYMOUTH | | |
| | Total Number of Employees: 0 | | |
| | Survey date: MONDAY 08/07/02 | | Survey Type: MANUAL |
| 3 | HC-05-G-02 | GP SURGERY, ROMSEY | HAMPSHIRE |
| | ALMA ROAD | | |
| | ROMSEY | | |
| | Total Number of Employees: 0 | | |
| | Survey date: THURSDAY 07/11/02 | | Survey Type: MANUAL |
| 4 | HC-05-G-03 | GP SURGERY, WINCHESTER | HAMPSHIRE |
| | FRIARSGATE | | |
| | WINCHESTER | | |
| | Total Number of Employees: 0 | | |
| | Survey date: THURSDAY 07/11/02 | | Survey Type: MANUAL |
| 5 | ST-05-G-01 | GP SURGERY, STOKE-ON-TRENT | STAFFORDSHIRE |
| | NEW INN LANE
HANFORD
STOKE-ON-TRENT | | |
| | Total Number of Employees: 0 | | |
| | Survey date: TUESDAY 16/07/02 | | Survey Type: MANUAL |
| 6 | TV-05-G-01 | GP SURGERY, DARLINGTON | TEES VALLEY |
| | VICTORIA ROAD | | |
| | DARLINGTON | | |
| | Total Number of Employees: 0 | | |
| | Survey date: MONDAY 18/04/05 | | Survey Type: MANUAL |

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 EMPLOY

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. EMPLOY	Trip Rate	No. Days	Ave. EMPLOY	Trip Rate	No. Days	Ave. EMPLOY	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	5	34	0.33	5	34	0.19	5	34	0.52
08:00 - 09:00	6	31	1.71	6	31	0.88	6	31	2.59
09:00 - 10:00	6	31	2.55	6	31	2.05	6	31	4.60
10:00 - 11:00	6	31	2.19	6	31	2.38	6	31	4.57
11:00 - 12:00	6	31	1.54	6	31	1.96	6	31	3.50
12:00 - 13:00	6	31	1.21	6	31	1.59	6	31	2.80
13:00 - 14:00	6	31	1.28	6	31	1.25	6	31	2.53
14:00 - 15:00	6	31	1.76	6	31	1.39	6	31	3.15
15:00 - 16:00	6	31	1.59	6	31	1.54	6	31	3.13
16:00 - 17:00	6	31	1.49	6	31	1.65	6	31	3.14
17:00 - 18:00	6	31	1.14	6	31	1.59	6	31	2.73
18:00 - 19:00	6	31	0.16	6	31	0.58	6	31	0.74
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:			16.94			17.06			34.00

Parameter summary

Trip rate parameter range selected: 0 - 0 (units:)
 Survey date range: 01/01/97 - 18/04/05
 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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 05 - HEALTH

Category : E - CLINICS

MULTI-MODAL TOTAL PEOPLESelected regions and areas:

01	GREATER LONDON	
	GL GREATER LONDON	1 days
03	SOUTH WEST	
	DC DORSET	1 days

Main parameter selection:

Parameter: Number of Employees

Range: 37 to 65 (units:)

Date Range: 01/01/97 to 02/09/03

Selected survey days:

Tuesday 1 days

Thursday 1 days

Selected survey types:

Manual count 2 days

Directional ATC Count 0 days

LIST OF SITES relevant to selection parameters

- | | | | |
|---|------------|-----------------------------|---------------------|
| 1 | DC-05-E-01 | MEDICAL CENTRE, SHAFTESBURY | DORSET |
| | | SALISBURY ROAD | |
| | | SHAFTESBURY | |
| | | Total Number of Employees: | 0 |
| | | Survey date: TUESDAY | 02/09/03 |
| | | | Survey Type: MANUAL |
| 2 | GL-05-E-01 | ISLAND HEALTH, ISLE OF DOGS | GREATER LONDON |
| | | EAST FERRY ROAD | |
| | | CROSSHARBOUR | |
| | | ISLE OF DOGS | |
| | | Total Number of Employees: | 0 |
| | | Survey date: THURSDAY | 20/06/02 |
| | | | Survey Type: MANUAL |

TRIP RATE for Land Use 05 - HEALTH/E - CLINICS

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 EMPLOY

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. EMPLOY	Trip Rate	No. Days	Ave. EMPLOY	Trip Rate	No. Days	Ave. EMPLOY	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	2	51	0.22	2	51	0.05	2	51	0.27
08:00 - 09:00	2	51	1.18	2	51	0.41	2	51	1.59
09:00 - 10:00	2	51	2.48	2	51	1.68	2	51	4.16
10:00 - 11:00	2	51	1.87	2	51	1.85	2	51	3.72
11:00 - 12:00	2	51	1.53	2	51	1.67	2	51	3.20
12:00 - 13:00	2	51	0.96	2	51	1.51	2	51	2.47
13:00 - 14:00	2	51	0.92	2	51	0.87	2	51	1.79
14:00 - 15:00	2	51	1.13	2	51	1.03	2	51	2.16
15:00 - 16:00	2	51	0.97	2	51	1.32	2	51	2.29
16:00 - 17:00	2	51	1.20	2	51	1.20	2	51	2.40
17:00 - 18:00	2	51	0.66	2	51	1.00	2	51	1.66
18:00 - 19:00	2	51	0.61	2	51	0.84	2	51	1.45
19:00 - 20:00	1	65	0.03	1	65	0.09	1	65	0.12
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:			13.75			13.52			27.28

Parameter summary

Trip rate parameter range selected: 0 - 0 (units:)
 Survey date range: 01/01/97 - 02/09/03
 Number of weekdays (Monday-Friday): 2
 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 : 05 - HEALTH
Category : B - GENERAL HOSPITAL - WITHOUT CASUALTY

MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
03	SOUTH WEST	
	DC DORSET	1 days

Main parameter selection:

Parameter: Number of beds
Range: 55 to 56 (units:)

Date Range: 01/01/97 to 21/10/02

Selected survey days:

Monday	1 days
Thursday	1 days

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

LIST OF SITES relevant to selection parameters

- | | | | |
|---|--|------------------------------|---------------------|
| 1 | DC-05-B-01 | COMMUNITY HOSPITAL, BRIDPORT | DORSET |
| | HOSPITAL LANE
NORTH ALLINGTON
BRIDPORT | | |
| | Total Number of beds: | 55 ***** | |
| | Survey date: MONDAY | 21/10/02 | Survey Type: MANUAL |
| 2 | ES-05-B-03 | COMMUNITY HOSPITAL, UCKFIELD | EAST SUSSEX |
| | FRAMFIELD ROAD
NEW TOWN
UCKFIELD | | |
| | Total Number of beds: | 56 ***** | |
| | Survey date: THURSDAY | 12/09/02 | Survey Type: MANUAL |

TRIP RATE for Land Use 05 - HEALTH/B - GENERAL HOSPITAL - WITHOUT CASUALTY

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 BEDS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. BEDS	Trip Rate	No. Days	Ave. BEDS	Trip Rate	No. Days	Ave. BEDS	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	2	56	0.48	2	56	0.19	2	56	0.67
08:00 - 09:00	2	56	1.16	2	56	0.24	2	56	1.40
09:00 - 10:00	2	56	1.71	2	56	0.82	2	56	2.53
10:00 - 11:00	2	56	1.09	2	56	1.16	2	56	2.25
11:00 - 12:00	2	56	1.10	2	56	1.21	2	56	2.31
12:00 - 13:00	2	56	0.92	2	56	1.11	2	56	2.03
13:00 - 14:00	2	56	1.20	2	56	0.64	2	56	1.84
14:00 - 15:00	2	56	1.53	2	56	1.34	2	56	2.87
15:00 - 16:00	2	56	0.85	2	56	1.51	2	56	2.36
16:00 - 17:00	2	56	0.86	2	56	1.74	2	56	2.60
17:00 - 18:00	2	56	0.42	2	56	0.98	2	56	1.40
18:00 - 19:00	2	56	0.26	2	56	0.31	2	56	0.57
19:00 - 20:00	1	56	0.18	1	56	0.45	1	56	0.63
20:00 - 21:00	1	56	0.13	1	56	0.20	1	56	0.32
21:00 - 22:00	1	56	0.07	1	56	0.16	1	56	0.23
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:			11.96			12.06			24.01

Parameter summary

Trip rate parameter range selected: 55 - 56 (units:)
 Survey date range: 01/01/97 - 21/10/02
 Number of weekdays (Monday-Friday): 2
 Number of Saturdays: 0
 Number of Sundays: 0
 Optional parameters used in selection: NO
 Surveys manually removed from selection: 0



Annex J

Sports Centre Trip Rates

WSP Mountbatten House Basingstoke

Licence No: 100301

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

MULTI-MODAL VEHICLESSelected 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

WSP Mountbatten House Basingstoke

Licence No: 100301

Optional parameter selection (Cont.):Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	2 days
1.1 to 1.5	1 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	1 days
<20 per day	1	20	0 days
20-39 per day	2	40	0 days
40-59 per day	3	60	0 days
60-79 per day	4	80	0 days
80+ per day	> 4	> 80	1 days

Travel Plan:

Not Known	2 days
Yes	1 days
No	2 days

LIST OF SITES relevant to selection parameters

- | | | | |
|---|-------------------|-----------------------------------|------------------------|
| 1 | DC-07-C-05 | SPORTS CENTRE, BRIDPORT | DORSET |
| | | SKILLING HILL ROAD | |
| | | SKILLING | |
| | | BRIDPORT | |
| | | Total Gross floor area: | 5600 sqm |
| | | Survey date: <i>TUESDAY</i> | <i>11/07/00</i> |
| 2 | GS-07-C-01 | LEISURE CENTRE, GLOUCESTER | GLOUCESTERSHIRE |
| | | BRUTON WAY | |
| | | GLOUCESTER | |
| | | Total Gross floor area: | 5886 sqm |
| | | Survey date: <i>MONDAY</i> | <i>24/05/04</i> |
| 3 | WM-07-C-01 | SPORTS CENTRE, COVENTRY | WEST MIDLANDS |
| | | LIVINGSTONE ROAD | |
| | | COVENTRY | |
| | | Total Gross floor area: | 3280 sqm |
| | | Survey date: <i>THURSDAY</i> | <i>02/02/06</i> |
| 4 | WO-07-C-01 | SPORTS CENTRE, DROITWICH | WORCESTERSHIRE |
| | | BRIAR MILL | |
| | | WYCHAVON | |
| | | DROITWICH | |
| | | Total Gross floor area: | 6000 sqm |
| | | Survey date: <i>FRIDAY</i> | <i>21/07/00</i> |
| 5 | WO-07-C-02 | SPORTS CENTRE, DROITWICH | WORCESTERSHIRE |
| | | BRIAR HILL | |
| | | WYCHAVON | |
| | | DROITWICH SPA | |
| | | Total Gross floor area: | 6000 sqm |
| | | Survey date: <i>FRIDAY</i> | <i>01/07/05</i> |

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

MULTI-MODAL VEHICLES

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 - 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	0.38	1	5600	0.02	1	5600	0.40
07:00 - 08:00	3	5829	0.54	3	5829	0.27	3	5829	0.81
08:00 - 09:00	3	5829	0.53	3	5829	0.53	3	5829	1.06
09:00 - 10:00	3	5829	0.87	3	5829	0.40	3	5829	1.27
10:00 - 11:00	4	5192	0.49	4	5192	0.54	4	5192	1.03
11:00 - 12:00	4	5192	0.43	4	5192	0.57	4	5192	1.00
12:00 - 13:00	5	5353	0.44	5	5353	0.44	5	5353	0.88
13:00 - 14:00	5	5353	0.50	5	5353	0.52	5	5353	1.02
14:00 - 15:00	5	5353	0.61	5	5353	0.51	5	5353	1.12
15:00 - 16:00	5	5353	0.76	5	5353	0.83	5	5353	1.59
16:00 - 17:00	5	5353	0.96	5	5353	0.78	5	5353	1.74
17:00 - 18:00	5	5353	1.02	5	5353	0.90	5	5353	1.92
18:00 - 19:00	5	5353	1.06	5	5353	0.75	5	5353	1.81
19:00 - 20:00	5	5353	1.13	5	5353	1.20	5	5353	2.33
20:00 - 21:00	5	5353	0.55	5	5353	0.88	5	5353	1.43
21:00 - 22:00	5	5353	0.09	5	5353	0.64	5	5353	0.73
22:00 - 23:00	1	5600	0.02	1	5600	0.16	1	5600	0.18
23:00 - 24:00	0	0	0.00	0	0	0.00	0	0	0.00
Daily Trip Rates:			10.38			9.96			20.32

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

WSP Mountbatten House Basingstoke

Licence No: 100301

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

MULTI-MODAL VEHICLE OCCUPANTS

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 - 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 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

WSP Mountbatten House Basingstoke

Licence No: 100301

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

MULTI-MODAL PEDESTRIANS

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 - 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

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 - 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 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

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 - 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 PASSENGERSSelected 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

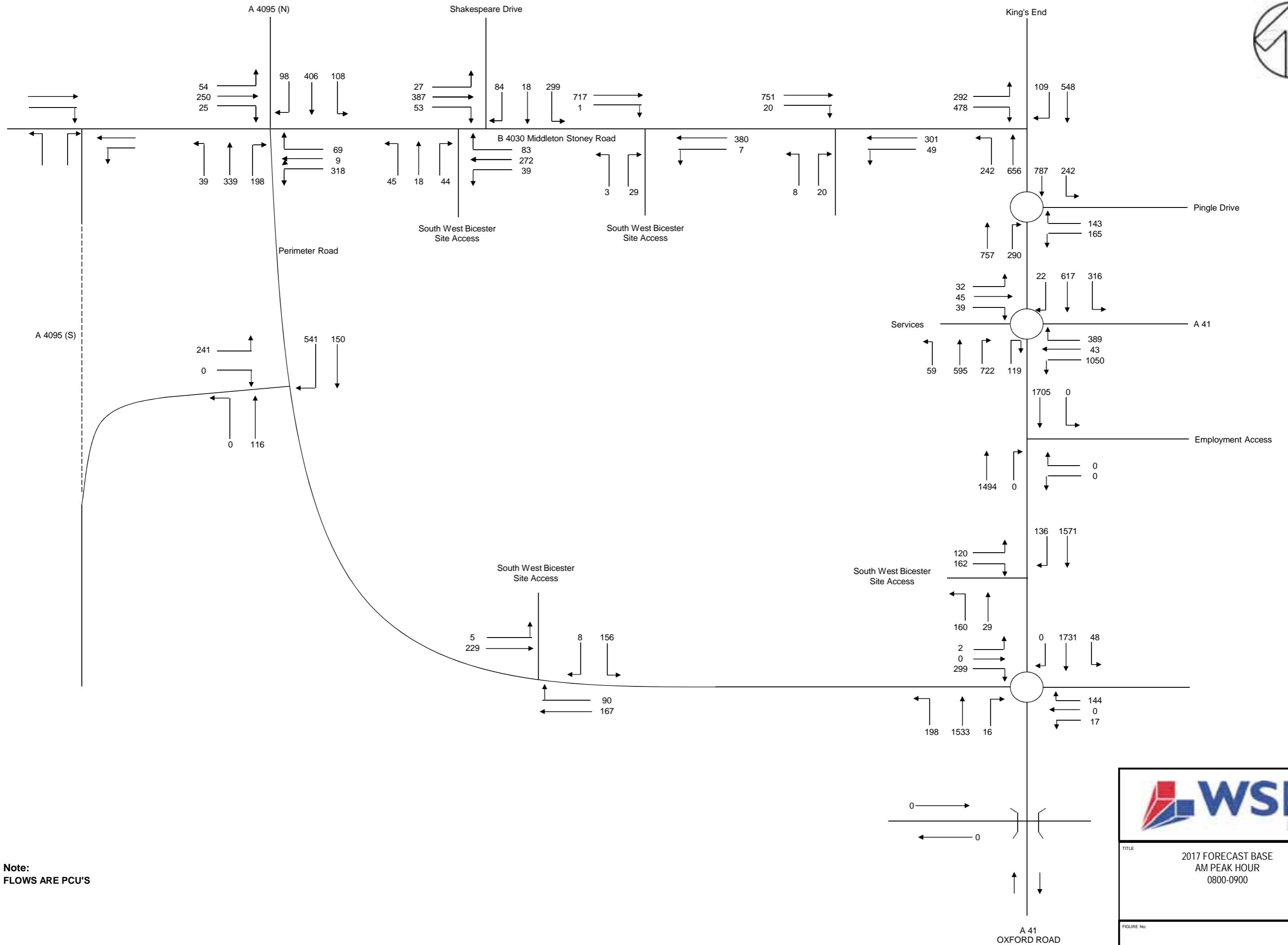
BOLD print indicates peak (busiest) period

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 - 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 C
Traffic Flow Diagrams

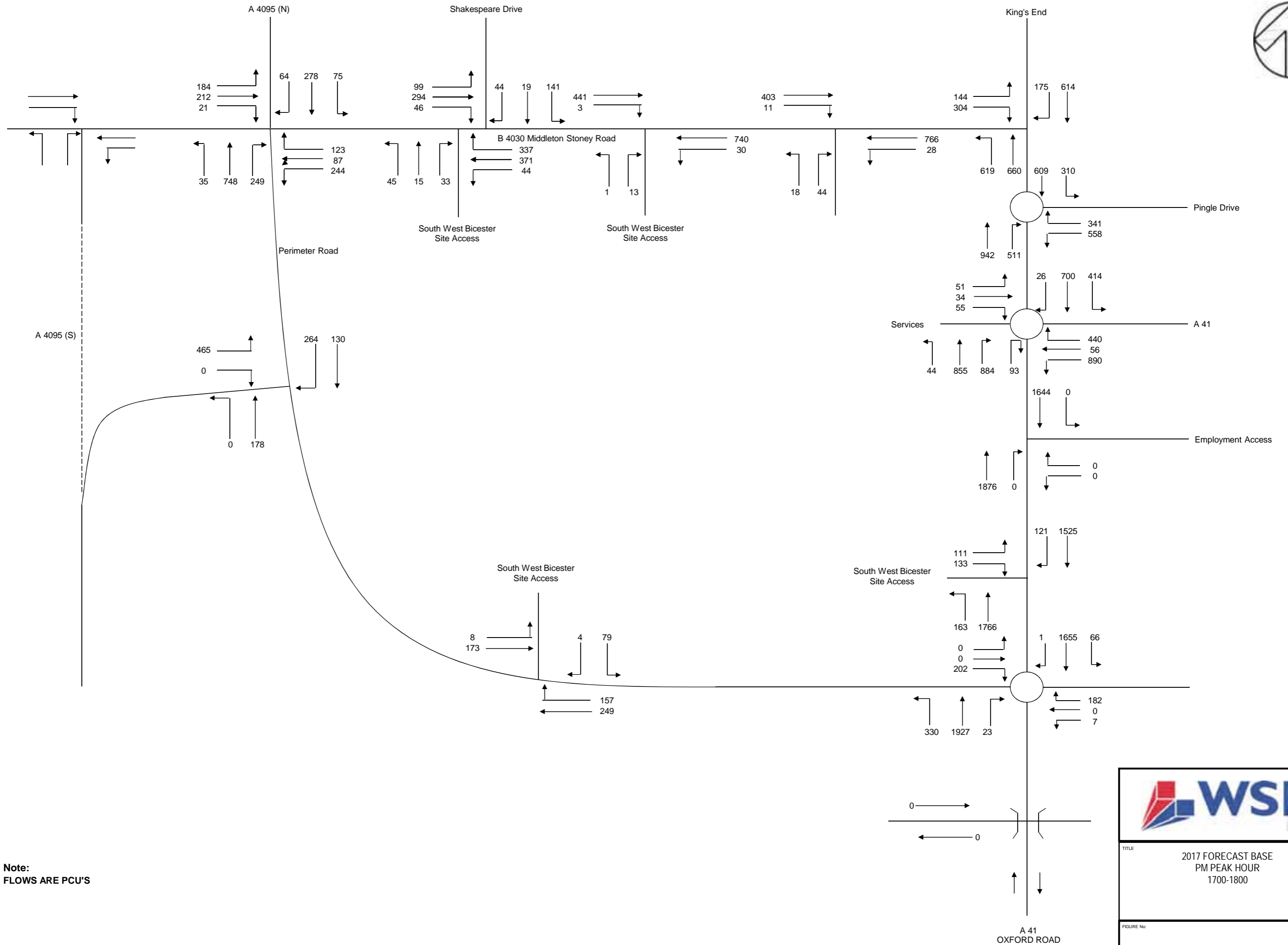


Note:
FLOWS ARE PCU'S




TITLE
2017 FORECAST BASE
AM PEAK HOUR
0800-0900

FIGURE No:

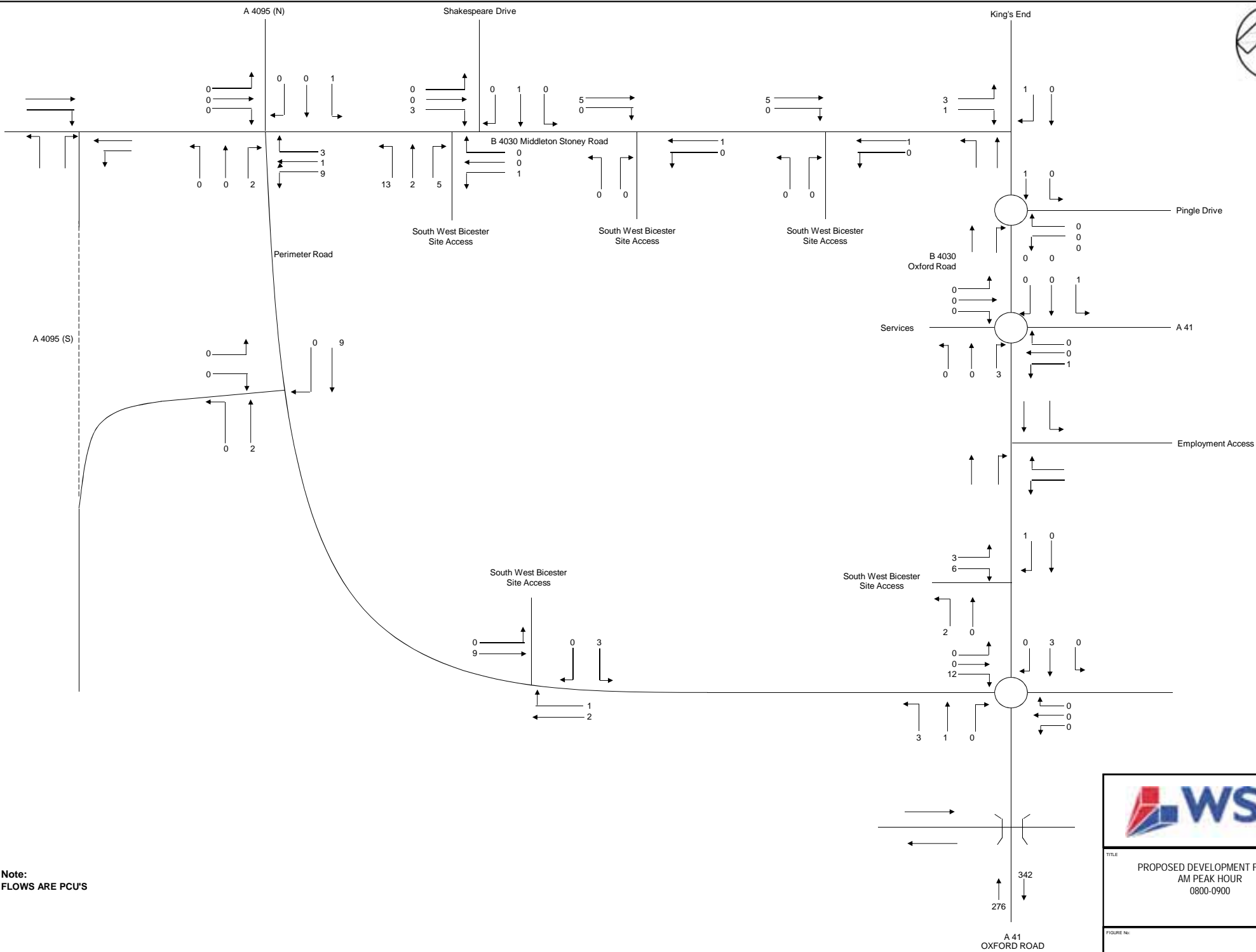
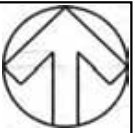


Note:
FLOW'S ARE PCU'S



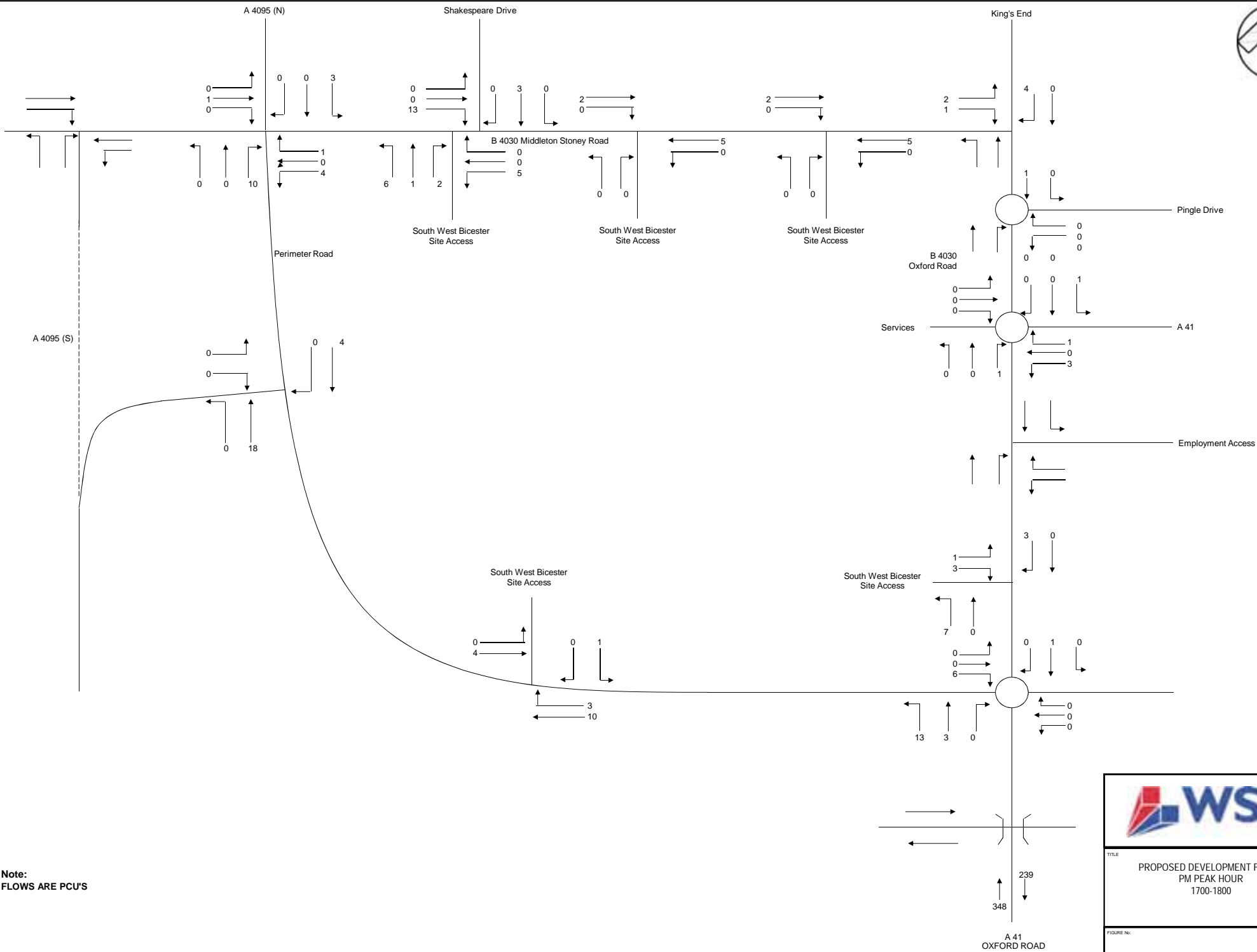
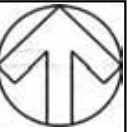
TITLE
 2017 FORECAST BASE
 PM PEAK HOUR
 1700-1800

FIGURE No:



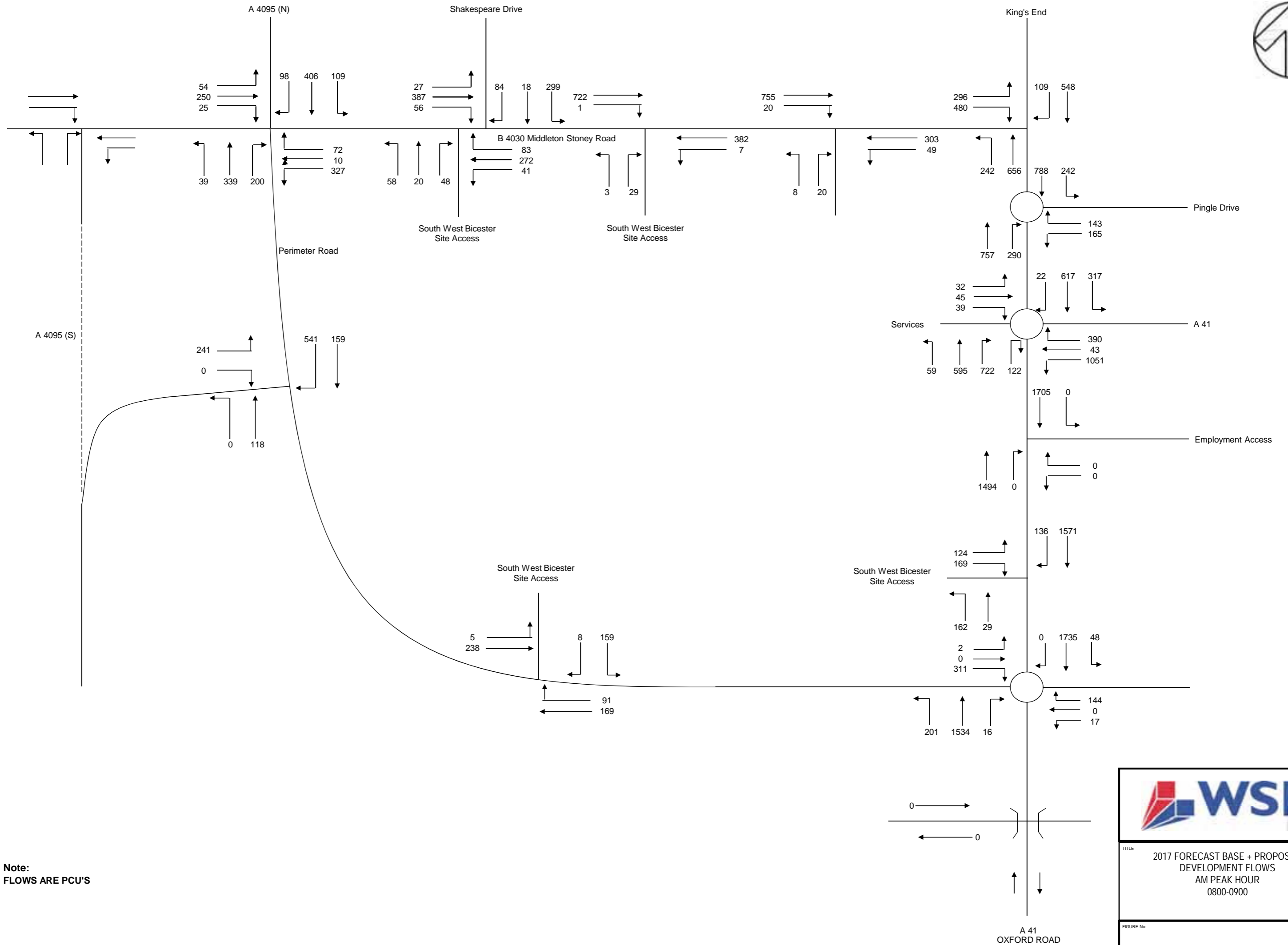
Note:
FLOWES ARE PCU'S

TITLE	PROPOSED DEVELOPMENT FLOES AM PEAK HOUR 0800-0900
FIGURE NO:	




Note:
FLOW ARE PCU'S

TITLE	PROPOSED DEVELOPMENT FLOWS PM PEAK HOUR 1700-1800
FIGURE NO:	

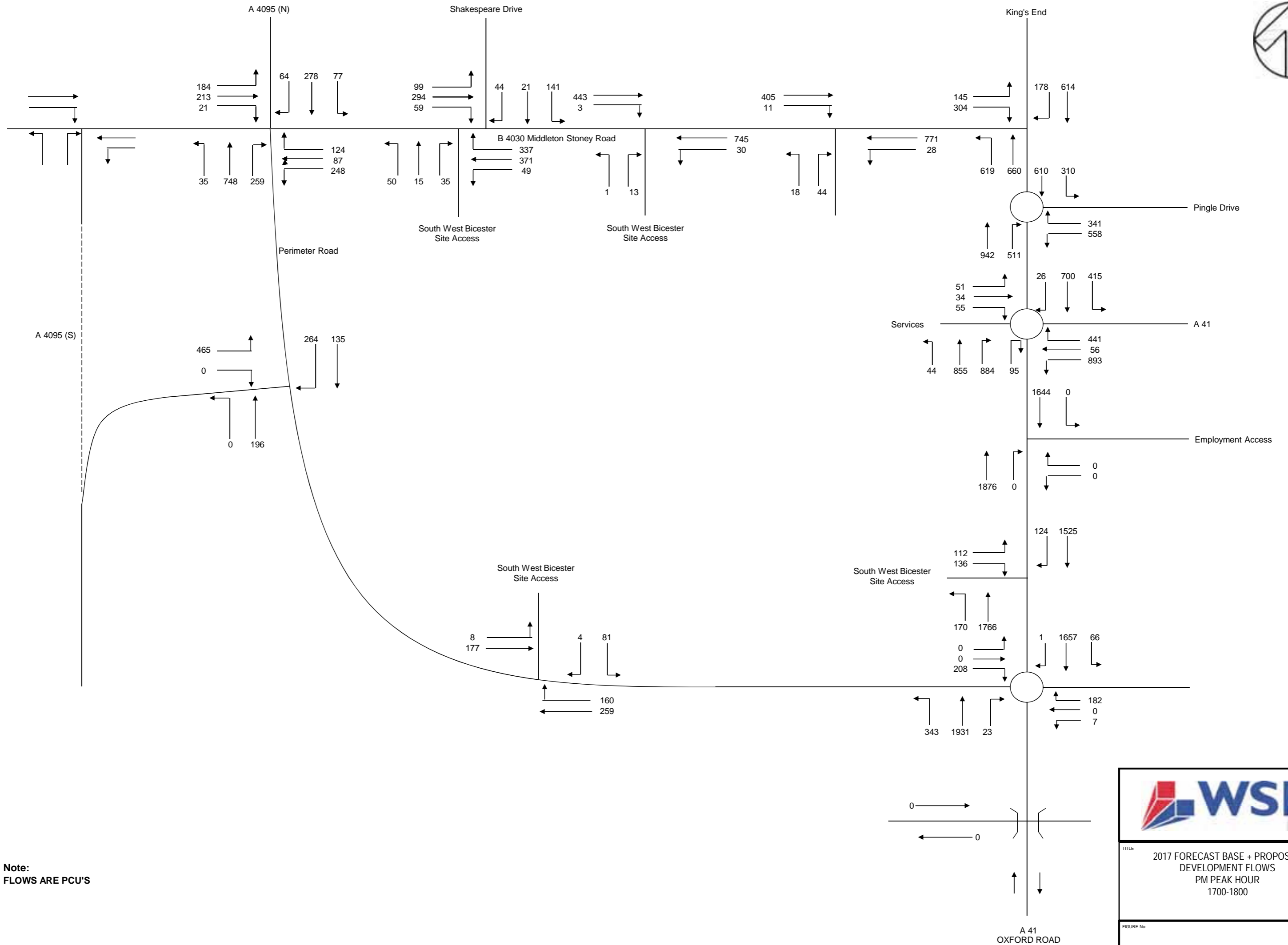


Note:
FLOW ARE PCU'S




TITLE
 2017 FORECAST BASE + PROPOSED
 DEVELOPMENT FLOWS
 AM PEAK HOUR
 0800-0900

FIGURE No:



Note:
FLOW ARE PCU'S



TITLE
 2017 FORECAST BASE + PROPOSED
 DEVELOPMENT FLOWS
 PM PEAK HOUR
 1700-1800

FIGURE No:

WSP UK Limited
Mountbatten House
Basingstoke
RG21 4HJ
UK
Tel: +44 (0)12 5631 8800
Fax: +44 (0)12 5631 8700
www.wspgroup.co.uk

