






SOUTH WEST BICESTER - PHASE 1 INCREASED HOUSING DENSITY

Transport Assessment

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Transport Assessment

07/08/2012

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1 Introduction

1.1 Background

- 1.1.1 Countryside Properties (Bicester) Ltd has previously been granted outline planning permission (Ref 06/00967/OUT) for up to 1,585 dwellings on their site located in South West Bicester. The development, which is marketed as Kingsmere, will be referred to as South West Bicester Phase 1 for the purpose of this report. Under the Phase 1 proposals, there is a health village (plus an elderly persons nursing home), a local centre, a pub/restaurant, a day nursery, B1/B2 uses within a commercial area, a community centre, a primary school, a secondary school, a hotel, sports pitches and pavilions.
- 1.1.2 The Phase 1 development is located on land at Whitelands Farm to the south west of Bicester and is bounded by the A41 Oxford Road, the B4030 Middleton Stoney Road and the A4095. The location of the site is illustrated on **Figure 1**.
- 1.1.3 The consented development provided a link road between the A41 and the Middleton Stoney Road / Howes Lane junction. The link road, also known as the South West Bicester Perimeter Road, was officially opened in April 2012. The South West Bicester development has also constructed (or is constructing) associated new roads, junctions, parking, infrastructure, earthworks and new accesses to surrounding agricultural land.
- 1.1.4 Countryside Properties (Bicester) Ltd has appointed WSP UK Ltd to provide a Transport Assessment (TA) in support of an increase in the number of dwellings on the South West Bicester Phase 1 site of up to 100 additional dwellings. In order to achieve this, a change of condition application under Section 73 of the Town and Country Planning Act 1990 will be submitted to Cherwell District Council (CDC).
- 1.1.5 This TA has thus been written in support of the application to increase the housing density by up to 100 dwellings across the Phase 1 site. It therefore assesses the impact of the increased housing density and number of dwellings on the local highway network.

1.2 Planning History – “Reserved School Site”

- 1.2.1 As mentioned above, the South West Bicester Phase 1 site benefits from existing outline planning consent for 1,585 dwellings, ancillary uses and related infrastructure. Some of the infrastructure measures brought forward by Phase 1, such as the South West Bicester Perimeter Road and a new roundabout off the A41 Oxford Road, Middleton Stoney Road / Howes Lane Junction, have been constructed and are in operation at the time of writing. A number of housing land parcels within the Phase 1 site are also under construction.
- 1.2.2 During the early consultation stages for the South West Bicester Phase 1 proposals with Cherwell District Council, it was agreed to reserve land for a second primary school in connection with Phase 1. However, following continued consultation, it became clear that two primary schools would not be required, releasing the area reserved for a possible second school for residential development.
- 1.2.3 A separate planning application was submitted and granted in support of up to 46 dwellings on the “reserved school site” (Ref. 11/01052/OUT).

1.3 The Development Proposal

- 1.3.1 It is understood that housing delivery is a key consideration for the continued economic growth of Bicester. The development at South West Bicester is able to positively contribute further to this by allowing for a re-plan of certain land parcels to deliver up to an additional 100 dwellings.
- 1.3.2 The proposed increase represents a 6.3% increase in overall housing numbers on the site. From consultation with the client, Countryside Properties (Bicester) Ltd, it is understood that these additional 100 residential dwellings could be provided across a number of land parcels.

1.4 The Approach of the Transport Assessment

- 1.4.1 This TA seeks to present the relative change in travel demand and impact associated with the provision of up to 100 additional residential dwellings in South West Bicester Phase 1. In doing so, the TA is structured as follows:
- **Section 2** provides an overview of national and local transport policy to provide context for the assessment of the transport issues of the development proposals;
 - **Section 3** provides a review of baseline conditions, including the status of travel by all available modes of transport at South West Bicester Phase 1;
 - **Section 4** details the South West Bicester Phase 1 scheme and the development proposals for up to 100 additional residential dwellings;
 - **Sections 5 and 6** analyse the traffic impact of the proposals; and
 - **Section 7** summaries and concludes the TA.

2 Policy Context

2.1 Introduction

- 2.1.1 The strategic transport policy identified within this chapter sets out the overarching objectives for the development of land use and transport infrastructure, both nationally and locally in South East England.
- 2.1.2 The local transport policy has been developed in respect of this national and regional context and is set out in the Oxfordshire County Council Structure Plan, the Cherwell District Local Plan and the Oxfordshire County Council Local Transport Plan.
- 2.1.3 It is worth noting that some of these policies have been subject to revisions since the Phase 1 planning application was originally submitted.

2.2 National Planning Policy Framework, March 2012

- 2.2.1 Adopted on 27 March 2012, the Department for Communities and Local Government's (DCLG) National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied.
- 2.2.2 The NPPF replaces previous Planning Policy Guidance Notes and Statements, becoming the definitive national planning guidance from which local planning authorities can, in collaboration with their communities, produce local plans appropriate to the character and needs of their area.
- 2.2.3 Key to the NPPF and its success is the following statement from Paragraph 14:
"At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking."
- 2.2.4 The NPPF places an emphasis on the delivery of urban extensions in meeting the wider economic aims of an area. In this respect, the proposed density increase at South West Bicester continues to deliver on this longstanding objective.
- 2.2.5 Transport forms one of the 12 core land use planning principles set out by the NPPF. The transport principle directs that locations which are sustainable, or which can be made sustainable, should become the focus for significant development. Opportunities to utilise sustainable modes of travel to their fullest, such as public transport, walking and cycling should be actively taken and these modes are considered within this TA. Paragraph 7 of the NPPF notes three 'dimensions' of sustainable development:
- Economic
 - Social
 - Environmental
- 2.2.6 Transport is able to contribute significantly to the development's adherence to these principles, through means such as providing infrastructure to support economic growth, enhancing accessibility to services, fulfilling the social needs of people, and providing solutions which minimise pollution and environmental impact.
- 2.2.7 The masterplan design for the proposed development facilitates the use of sustainable modes of travel by prioritising non-car journeys. Journeys made on foot and by cycle at a local level and by bus

and train over a greater distance, will assist in meeting ambitions harboured by the NPPF in paragraph 30 to lower greenhouse gas emission and reduce congestion.

2.2.8 This TA also demonstrates how the proposed development accords with Paragraph 29 of the NPPF which details transport as having:

“...an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives.”

2.2.9 As encouraged in paragraph 29 of the NPPF, South West Bicester has been planned in such a way that gives people a “real choice” regarding their mode of travel. South West Bicester’s density and proximity to local facilities ensures that sustainable modes can be considered a favourable option for local trips.

2.2.10 This TA demonstrates how South West Bicester fulfils the requirements set out in paragraph 32 of the NPPF, to account for:

- *“The opportunities for sustainable transport modes to be used, reducing the need for major transport infrastructure”;*
- *“Provision of safe and suitable access to the site for all people”;* and
- *“Improvements which can be undertaken within the transport network to limit the significant impacts of the development”.*

2.3 The South East Plan: Regional Spatial Strategy for the South East of England, May 2009

2.3.1 The South East Plan (SEP) was adopted in May 2009 and provides a vision for the South East for the period to 2026. It provides an outline of how the region needs to respond to the challenges it faces including housing, the economy, transport and the need to protect the environment. It is the Regional Spatial Strategy for the South East and as such was a material considering in the original determination of the South West Bicester planning application.

2.3.2 The overall vision for the South East, as set out within the SEP is:

“A socially and economically strong, healthy and just South East that respects the limits of the global environment. Achieving this will require the active involvement of all individuals to deliver a society where everyone, including the most deprived, benefits from and contributes to a better quality of life. At the same time the impact of current high levels of resource use will be reduced and the quality of the environment will be maintained and enhanced.”

2.3.3 A key crosscutting theme in the SEP is the need for investment, from the Government and developers, in physical and community infrastructure to sustain current levels of growth.

2.3.4 Several objectives are outlined within the SEP with regard to transport. These include:

- *“To facilitate urban renaissance and foster social inclusion by re-balancing the structure and use of the transport system. In particular, bringing forward measures that encourage modal shift to more sustainable modes and significantly improve the attractiveness of local public transport services, walking and cycling”;* and
- *“To maintain the existing transport infrastructure as an asset.”*

2.3.5 Whilst the Secretary of State has indicated his intention to revoke regional strategies, they currently remain in force and are therefore relevant to the decision making process.

2.4 Oxfordshire Local Transport Plan, April 2011

- 2.4.1 The Third Oxfordshire County Council (OCC) Local Transport Plan was adopted in April 2011 and covers transport policies for the County for the period 2011 to 2030. The policies set out a vision for transport in Oxfordshire in regards to tackling congestion, delivering accessibility, safer roads, better air quality and improving the street environment.
- 2.4.2 In order to reduce the impact of congestion across the whole of Oxfordshire the Policy proposes a dual approach including managing traffic growth (by improving Public Transport provision) as well as limited targeted network capacity increases such as junction improvement schemes.

2.5 Cherwell Local Plan

- 2.5.1 Cherwell District Council is currently in the process of developing a Local Plan. The Local Plan, which will be the key document setting out planning policy for the period until 2026, was considered by the Cherwell District Council Executive on 28th May 2012, with public consultation due to take place later this year. We currently understand that the council intend that submission will take place before the end of the year.

2.6 Non-Statutory Cherwell Local Plan

- 2.6.1 This Plan, whilst not part of the development plan for the district, was approved by the Council as an interim policy document for development control purposes. It was a key material consideration when the outline Planning Application for South West Bicester was being determined.
- 2.6.2 Transport policies within the Non-Statutory Cherwell Local Plan (NSCLP) have been prepared alongside Oxfordshire County Council, Integrated Transport and Land Use Strategies for Banbury and Bicester. The main aim of the strategies is to seek to accommodate planned development whilst minimising the growth in motorised traffic. The NSCLP thus takes into account the following key principles:
- *“Direct new development to locations where it can be accessed by walking, cycling and public transport and so reduce the need to travel, particularly by motor car”;*
 - *“Facilitate improvements to transport infrastructure”;* and
 - *“Adopt reduced parking strategies as maxima for new developments”.*
- 2.6.3 In order to provide credence to these key principles, a number of policies have been adopted covering all areas including transport:
- *Policy TR6: “The Council will seek to facilitate the provision and operation of an effective public transport system as a genuine alternative to the use of private vehicles”;* and
 - *Policy TR9: “All new development shall provide cycle parking to Oxfordshire County Council Standards”.*
- 2.6.4 Housing allocations for Bicester within the NSCLP have been made with regard to the Structure Plan and central government guidance in making, *“the best use of previously developed land and in reducing the need to travel particularly by private car”.*
- 2.6.5 South West Bicester was identified as a mixed-use urban extension within the NSCLP. Policy H13 sets out a framework for development in the area.
- 2.6.6 Insert 2 of the NSCLP identifies the allocation of employment to the east of the A41 and strategic footpaths and cycle links through South West Bicester. Policies H13 and TR31 detail the ability of

South West Bicester to meet the overarching sustainable transport objectives of national policy through to local planning policy.

- 2.6.7 Land use and transport policies are stated to be integrated and support the strategic aims of the Oxfordshire Local Transport Plan. Chapter 6 of the NSCLP sets out transport policies in relation to the development of local transport infrastructure in the Cherwell District.
- 2.6.8 Policy TR5 advocates that development should not compromise the safe movement and free flow of traffic, whilst Policy TR6 seeks to facilitate the provision and operation of an effective public transport system as a genuine alternative to the use of private vehicles.
- 2.6.9 Other transport policies of relevance to the proposed development at South West Bicester include Policy TR11 regarding parking provision, Policy TR19 for roads in residential areas as well as Policies TR26 and TR27 regarding highway schemes in Bicester.
- 2.6.10 The latter two policies are of particular importance for the development at South West Bicester in their detailing of the A41/A4095 link road and the associated roads from the A41 to Howes Lane / Middleton Stoney Road. The A41/A4095 link road scheme, also known as the South West Bicester Perimeter Road, was successfully delivered ahead of schedule and was totally funded by Countryside Properties (Bicester) Ltd.

3 Existing Conditions

3.1 Site Location

- 3.1.1 The development is located on the south western edge of Bicester, as shown in **Figure 1**. At its northern boundary, South West Bicester is bounded by Middleton Stoney Road, while to the east is the A41 Oxford Road. To the south lies the Chesterton to Wendlebury Road and Gagle Brook, while the A4095 forms the western boundary of the site.

3.2 Journeys on Foot and by Cycle

- 3.2.1 The routes of established footpaths and cycleways near the site are shown in **Figure 2**. The Figure shows that the majority of the town is located within a radius of approximately 2km from the centre of the development, which is considered within IHT guidance, (*Guidelines for Providing for Journeys on Foot*) to be a reasonable and a considered journey to be undertaken on foot.
- 3.2.2 In addition to the highlighted routes (Figure 2), there are footways adjacent to the majority of local roads near the development as well as a number of footpaths providing access towards Bicester town centre. Middleton Stoney Road has a footway along its northern side from Howes Lane to King's End, varying in width between approximately one and two metres. From the Middleton Stoney Road / Oxford Road / King's End roundabout towards Bicester town centre, pedestrians can follow a footway with street lighting to reach a pelican crossing just south of King's End / King's Avenue junction. A footway of two metres on the eastern side of King's End and Church Street connects the pelican crossing to Bicester town centre via Church Street.
- 3.2.3 Pedestrians wishing to access the north of Bicester town centre can follow the footway on the western side of King's End / Queen's Avenue. A pelican crossing between Kingsclere Road and King's End provides a crossing point to the eastern side of Queen's Avenue. A footway of up to 3.5 metres in width links to the crossing point towards St. John's Street. A pedestrian refuge crossing at the junction with Manorsfield Road allows pedestrian access to the northern end of Bicester town centre.
- 3.2.4 To the east of the development, pedestrian links to the Tesco superstore and Bicester Village Retail Park are provided along the eastern side of Oxford Road. These are two metres wide and continue along both the northern and southern aspects of Pingle Drive.
- 3.2.5 Route 51 of the national cycle network links Old Place Yard with the garden centre on A41 Oxford Road via Roman Road. An existing toucan crossing located on the eastern arm of the A41 roundabout and an uncontrolled pedestrian crossing at the A4421 / Pingle Drive roundabout allows both pedestrian and cyclists to cross these junctions safely.

3.3 Existing Bus Services

- 3.3.1 Bus services principally operate along the A41 Oxford Road, adjacent to the eastern side of South West Bicester. Further services operate within the Highfield residential estate to the north and along A4095 Middleton Stoney Road, following the northern boundary of the development.
- 3.3.2 Bus services that operate within close proximity of South West Bicester are depicted on **Figure 3** and are summarised in **Table 3.1** overleaf.

Table 3.1: Existing Bus Services near South West Bicester

Service Number	Bus Operator	Bus Route	Service Days	Bus Frequency
8	United Counties	Bicester – Weston Favell	Mon – Sat	Every 60 minutes
16	The Shires	Aylesbury – Bicester	Mon – Sat	5 Daily
18	Langston & Tasker	Aylesbury – Bicester	Mon – Fri	1 Daily
18	Langston & Tasker	Buckingham – Bicester	Mon - Fri	4 Daily
21	Grayline	Bicester Town Centre – Greenwood Estate	Mon – Sat	Every 30 minutes
22 / 23	Heyfordian Travel	Langford – Bicester (Caversfield Estate)	Mon – Sat	Every 60 minutes
25	Heyfordian Travel	Oxford / Woodstock – Bicester	Mon – Sat	2/3 Daily
25a	Heyfordian Travel	Oxford – Bicester	Mon – Sat	Every 60 minutes
37	Heyfordian Travel	Bicester – Hardwick – Finmere	Tues & Weds	2 Daily
81	Heyfordian Travel	Bicester – Banbury	Thurs – Sat	2 Daily
81	Heyfordian Travel	Somerton – Bicester	Thurs – Sat	1 Daily
81a	Heyfordian Travel	Bicester – Ardley – Fewcott – Fritwell – Ardley – Bicester	Tues & Weds	2 Daily
94	Charlton	Charlton On Otmoor – Bicester	Tues & Fri	1 Daily
NS5	Stagecoach Oxford	Bicester – Oxford	Mon – Sat	1 per Evening
S5	Stagecoach Oxford	Oxford – Bicester	Mon – Sat	Every 60 Minutes
T1A	Tex Coaches	Banbury – Bicester (Village Outlet)	Mon – Sat	4 Daily
X5	United Counties	Cambridge – Oxford	Mon – Sun	Every 30 minutes
X81	Heyfordian Travel	Bicester – Banbury	Mon – Sat	1 Daily

Source: www.carlberry.co.uk (August, 2012)

- 3.3.3 Bus services operate to Oxford from Bicester with a 35 minute journey time. Service X5, operated by Stagecoach, provides a link from Cambridge to Oxford via St. Neots, Bedford, Milton Keynes, Buckingham and Bicester with a 30 minute frequency, Mondays to Sundays. This service runs along the A41 to the east of South West Bicester, through the bus station before exiting to the north of Bicester towards Buckingham.
- 3.3.4 Local services also provide links to Bicester town centre along the B4100 London Road corridor. These include route 94, which then goes on to connect to the town centre with links to a large employment area to the north east of Bicester. Once out of Bicester, these services provide links to Langford and Oxford.

3.4 Travel by Rail

- 3.4.1 The local rail network is illustrated in **Figure 3**. As can be seen, Bicester has the benefit of access to two rail stations. Bicester North station is located 950 metre north of the town centre, while Bicester Town station is located 800 metres to the east of South West Bicester.

- 3.4.2 Bicester North rail station offers passengers a good range of facilities including a coffee and snack shop, cycle storage and ticket machines. There is also parking facilities available for motorised traffic on a pay and display basis with the opportunity for the purchase of monthly, quarterly, bi-annual and annual season tickets.
- 3.4.3 Bicester Town station provides undercover cycle storage, with four racks available near the station entrance.
- 3.4.4 **Table 3.2** summarises direct services available from Bicester North and Bicester Town rail stations.

Table 3.2: Existing Rail Services from Bicester's Rail Stations

Train Route	Rail Station	Service Days	Train Frequency
Banbury (via Kings Sutton)	Bicester North	Mon – Fri Sat Sun	7 Daily Every 60 minutes Every 60 minutes
London (Marylebone) (via Gerrards Cross, Beaconsfield, High Wycombe, Princes Risborough & Haddenham And Thame Parkway)	Bicester North	Mon – Fri Sat Sun	16 Daily 5 Daily 5 Daily
Birmingham (via Kings Sutton, Banbury, Leamington Spa, Warwick, Hatton, Dorridge & Solihull)	Bicester North	Mon – Sun	Every 60 minutes
Stratford Upon Avon (via Banbury, Leamington Spa, Warwick, Claverdon, Bearley & Wilmcote)	Bicester North	Mon – Sun	Every 2 Hours
Oxford (via Islip)	Bicester Town	Mon – Fri Sat Sun	11 Daily 13 Daily 9 Daily

Source: www.carlberry.co.uk (August, 2012)

- 3.4.5 As can be seen in **Table 3.2**, regular services throughout the day ensure a range of destinations are readily accessible from Bicester North and Bicester Town rail stations. The employment, recreational and shopping opportunities within Oxford are available within a 25 minutes rail journey from Bicester Town station while Banbury offers similar opportunities within a 15 minute rail journey of Bicester North station.
- 3.4.6 Employment opportunities within London are also accessible from Bicester North with 16 services daily terminating at London Marylebone for onward connections within the capital.
- 3.4.7 The opportunity is also there for improved frequencies resulting from the proposed Evergreen III project, which looks at the provision of a spur line to allow direct Oxford to London Marylebone services via Bicester.

3.5 Journeys by Car

- 3.5.1 The existing highway network near the development site is illustrated in **Figure 4**. This shows the newly constructed and opened perimeter road linking the A41 and Middleton Stoney Road that was provided as part of the Phase 1 development. The road was officially opened to the public in April 2012 and is subject to a 50 mph speed limit. The link road will go some way to relieving traffic congestion to the south west of Bicester around Bicester Village.

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- 3.5.2 Middleton Stoney Road, which is approximately seven metres wide, runs along the northern boundary of the South West Bicester site. The road provides a link between Bicester and Middleton Stoney, with further links to Junction 10 of the M40 and Lower Heyford. West of Bicester, the road is subject to a national speed limit. This is reduced to 50mph between Howes Lane and Villiers Road and is then further reduced to 30mph. As part of the South West Bicester Phase 1 scheme, the 30mph speed limit will be extended along Middleton Stoney Road to Howes Lane. There is currently a temporary 30mph speed limit on Middleton Stoney Road between Howes Lane and Villiers Road that will remain until the permanent speed limit change is introduced.
- 3.5.3 Street lighting is provided along Middleton Stoney Road between Shakespeare Drive and its junction with King's End / Roman Road.
- 3.5.4 King's End lies to the north of Middleton Stoney Road. This seven metre wide single carriageway road provides a link between the A41 Oxford Road and Bicester town centre via Church Street and Queens Avenue. Shakespeare Drive and Howes Lane provide other routes to the north western areas of Bicester from Middleton Stoney Road.
- 3.5.5 The A41 Oxford Road forms the eastern boundary of the South West Bicester Phase 1 scheme and is a dual carriageway road subject to the national speed limit. A mini roundabout provides access to Middleton Stoney Road and central Bicester, while a roundabout to the south enables access to Tesco and the Bicester Village outlets. A third roundabout on the A41 Oxford Road facilitates access to a petrol filling station. The eastern arm of this roundabout continues as the A41, forming Bicester's eastern perimeter road.
- 3.5.6 To the south, the A41 Oxford Road provides strategic links with M40 Junction 9 and the A34 for longer-distance travel.

3.6 Traffic Flows

- 3.6.1 The South West Bicester Phase 1 TA (November 2006) presented baseline traffic flows. At the time of the planning application for the land referred to as the "reserved school site", given the historical nature of the data, it was felt appropriate to offer some validation of the information by carrying out revised manual classified peak hour turning count surveys in 2009. These were carried out between Middleton Stoney Road and A41. In addition to these, 2010 manual classified peak hour turning surveys were undertaken at Middleton Stoney Road / Howes Lane and Middleton Stoney Road / Shakespeare Drive. The baseline traffic flows used for the purpose of this TA are therefore based on the 2009/2010 traffic surveys.

3.7 Personal Injury Accidents

- 3.7.1 Personal Injury Accident (PIA) data has originally been obtained to inform the South West Bicester Phase 1 TA (November 2006) covering a five-year period between 01/05/2000 to 30/04/2005.
- 3.7.2 For the "reserved school site" application, new accident data was obtained (covering 04/02/2005 to 20/04/2010), however, given the historic nature of both sets of data, it was felt appropriate to re-visit the accident analysis to understand if there has been any changes in trends.
- 3.7.3 Therefore, new data has been obtained for roads adjacent to the South West Bicester site, namely Middleton Stoney Road, Oxford Road and A41. The data was supplied by Oxfordshire County Council and covers a period from 01/01/2007 to 31/05/2012 (68 months). Within this time, 53 accidents were recorded, only 37 of which affected the key junctions surrounding the South West Bicester Phase 1 development. An accident plot is included as **Appendix A**.

3.7.4 **Table 3.3** below summarises these 37 accidents, while a full summary of the accident analysis is attached in **Appendix A**.

Table 3.3: Accident Analysis

Location	Severity		
	Slight	Serious	Fatal
A41 Esso Roundabout	9	1	0
A41 Tesco Roundabout	1	0	0
Middleton Stoney Road / King's End	4	0	0
Middleton Stoney Road /Shakespeare Drive	1	2	0
Middleton Stoney Road / Howes Lane	4	1	1
South West Bicester Access	3	0	0
Perimeter Road (Vendee Drive)	10	0	0

- 3.7.5 **Table 3.3** shows that there have been 10 Personal Injury Accidents (PIAs) at the A41 Esso Roundabout. The single serious accident was a result of drink driving, while most of the slight accidents were a result of shunts. Only one accident involved a motorcyclist.
- 3.7.6 Only a single accident in the period studied was recorded at the A41 Tesco Roundabout. This single accident was a result of a driver not slowing in time at the junction and shunting into a waiting driver.
- 3.7.7 There were four accidents at Middleton Stoney Road and King's End, of which all were slight accidents. Three of these accidents were a result of vehicles failing to give way, with the other being a result of drink driving. All of the accidents involved cars, with one of the accidents also involving a pedal cyclist and one also involving a motorcyclist.
- 3.7.8 The Middleton Stoney Road with Shakespeare Drive had three accidents, of which two were serious. All accidents were due to failure to give way into and out of Shakespeare Drive. Two of the three accidents involved two wheeled vehicles, one with a pedal cycle and one with a motorcycle. The upgrade of this junction into a roundabout, as part of the consented South West Bicester Phase 1 scheme has now been completed, thus enabling vehicles to exit Shakespeare Drive in a safe manner.
- 3.7.9 The Middleton Stoney Road / Howes Lane junction had six accidents in the five-year period. The only fatal accident at this location was due to excessive speeds (approximately 130mph) along Middleton Stoney Road. Two accidents resulted in traffic wanting to U-turn, one of which involved a pedal cyclist, with the remaining collisions were due to failure to give way and right turning movements. The proposed junction improvements at this location committed to as part of the consented South West Bicester Phase 1 scheme will allow for U-turn movements, the absence of which had contributed to two of the accidents.
- 3.7.10 Many of the accidents along the A41 corridor were shunt type accidents related to speed. Many of the accidents along Middleton Stoney Road were a result of turning manoeuvres and failing to give way. A reduction in traffic levels on this road as a result of the implementation of the Perimeter Road, as well as the introduction of traffic calming measures and a 30mph speed limit on Middleton Stoney Road, is likely to minimise the risks in the future.
- 3.7.11 The improvements delivered as part of the South West Bicester Phase 1 consent play a part in managing the movement of vehicles in the area by ensuring that the appropriate design standards are maintained and, in some cases, facilitating movements which are not currently possible (e.g. U-turns). The completion of roundabouts along Middleton Stoney Road allows for the provision of turning movements, while additional accesses on the A41 south of the Esso Roundabout will reduce speeds up to the junction.

4 Development Proposals

4.1 South West Bicester Phase 1

4.1.1 The consented South West Bicester Phase 1 scheme included a mix of land uses across South West Bicester comprising of 1,585 residential dwellings, approximately 20,000sqm of B1/B2 employment land, a hotel, a health village, a local centre (including 1,000sqm of employment) and associated amenities, open space, community facilities, a primary school and a secondary school. The location of South West Bicester Phase 1 is shown on **Figure 1**.

4.1.2 A number of transport improvements were proposed to facilitate sustainable travel and mitigate any residual vehicular traffic impact. At the time of writing, the below reflects a summary of the already constructed and opened transport improvements, or those proposals nearing completion:

- A network of pedestrian and cycle connections (constructed);
- Re-routing of existing public transport through the development, with new/extended strategic and local hopper bus services running through the site, potentially connecting to a Park & Ride site (local service due to commence shortly);
- A Residential Travel Plan, including the issue of a Travel Pack to each home owner and the employment of a Travel Plan Co-ordinator (approved);
- A new Perimeter Road connecting the A41 with Middleton Stoney Road along the southern/western fringes of South West Bicester (constructed);
- A new four arm roundabout access from the A41 (constructed);
- A secondary access via a new signalised junction off the A41 (constructed, although not yet in operation);
- Two new priority junctions on Middleton Stoney Road (constructed and in operation);
- A new four arm roundabout at Middleton Stoney Road / Shakespeare Drive (constructed); and
- Further traffic calming measures along Middleton Stoney Road (not yet constructed).

4.1.3 The South West Bicester Phase 1 TA (November 2006) provides more detail on the proposed development and the overall access strategy.

4.1.4 Addition of up to 100 Residential Dwellings

4.1.5 As stated previously, the proposed increase in the scale of South West Bicester by up to 100 additional dwellings represents a 6.3% increase in overall housing numbers.

4.1.6 Whilst no schedule for the increased housing numbers has been finalised at the time of writing, it is anticipated that a broad distribution of these additional houses across much of the site will mean that the impact across the development will be minimal.

4.2 Access

4.2.1 The addition of up to 100 residential dwellings will take account of the Design Code and will be in full compliance with standards and guidance. **Figure 5** shows the indicative alignment to the development spine road, which forms the highest hierarchical road within the development.

4.2.2 Whilst the Design Code provides the likely road hierarchy within the site, the actual design of each sub-area is subject to more detailed design as part of the reserved matters application.

4.2.3 The development's spine road has received Approval of Reserved Matters and has been built to base course, or in parts is shortly due for completion. No changes are proposed to the spine road. Additionally, no changes are proposed to the other mandatory alignments, as specified in the Kingsmere Design Code i.e. Secondary Streets (see page 52 of the Code, Figure 3.14).

4.3 Car Parking Provision

4.3.1 The proposed parking provision for South West Bicester will be in line with that of the South West Bicester Phase 1 scheme and in accordance with Design Code parking standards. These car-parking standards are shown in **Table 4.1** below.

Table 4.1: Design Code Car Parking Standards

Land Use		Maximum Number of Parking Spaces
C3	Residential Dwellings	1 bed – 1 space 2 bed – 1 space 3 bed – 2 spaces 4 bed or more – 3 spaces

4.3.2 The proposed development will consist of up to 100 dwellings, and will be a mixture of different sized properties. The residential parking spaces will be allocated in accordance with these standards and will be within the curtilage, or as close as possible to, each group of dwellings which they serve.

5 Trip Generation

5.1 Introduction

- 5.1.1 Trip rates have been obtained from the South West Bicester Phase 1 TA (November 2006) which was produced in support of the planning application relating to the original Phase 1 outline planning application. Adjustments to the trip rates included in the original application allowed for affordable housing and internalisation to be taken into account, which is considered appropriate given the housing mix and provision of employment, health and education facilities within the development.
- 5.1.2 The detailed methodology has been set out in the Technical Note on Trip Generation, Distribution and Analysis, which was produced in support of the Phase 1 planning application and is shown in **Appendix B**.
- 5.1.3 The agreed trip rates and methodology from the original South West Bicester application have been used to assess the impact of the additional 100 dwellings throughout the Phase 1 site.

5.2 Background Traffic Flows

- 5.2.1 The Perimeter Road was opened in April 2012 and adds significant new infrastructure to the town's highway network. Its effects have not yet been determined by OCC. It is not, however, considered appropriate to undertake traffic surveys until traffic levels have found a new equilibrium.
- 5.2.2 The South West Bicester Phase 1 TA (November 2006) made an estimate for the re-assignment effects of the new road and this has been used in the assessment of increased dwelling provision, covered in this TA.
- 5.2.3 More up-to-date traffic flows, obtained in 2009/2010 in connection with the reserved school site application, have been factored up to 2017 using local growth factors (Tempro) and have had the same re-assignment effects applied in order to take account of the Perimeter Road. This represents a period of five years from planning application. The growth factors are summarised in **Table 5.1** below.

Table 5.1: Growth factors for AM and PM peaks in 2009-2010 and 2010-2017 (urban roads)

Peak Period	Growth Factor	
	2009-2010	2010-2017
AM	1.012	1.068
PM	1.012	1.072

Source: Tempro (programme 6.2; data set version 62; level 38UB2)

- 5.2.4 A number of consented developments, which are likely to affect the area surrounding the South West Bicester Phase 1 site have also been considered, which include:
 - South West Bicester “reserved school site” (46 dwellings);
 - Eco Town Pilot Phase – residential (10/01780/HYBRID)
 - Gavray Drive – residential (10/01667/OUT)
 - Bicester Town Centre (07/00422/F)
 - Talisman Road (09/01595/F)
 - Bicester Business Park (07/01106/OUT)

- 5.2.5 A judgement was made as to the likely effects of the developments from their TAs. In most cases, the area of influence does not extend to the South West Bicester area. In others, it is consented that allowances made in the overall traffic growth factors should allow for the effects of the development as part of the planning applications underpinning Tempo. Traffic flows for these consented developments have been obtained from their respective TAs.
- 5.2.6 The following developments were also considered, however due to their location or current planning status, they are deemed not relevant and have therefore, not been included in the traffic flows:
- Former DLO Caversfield, Skimmingdish Lane (11/00151/F & 11/00805/F)
 - Oxford Diocesan Board Business Park (05/01563/OUT & 09/01659/REM)
 - Graven Hill residential (11/01494/OUT) (not consented)
- 5.2.7 WSP UK Ltd are also aware of the following proposals in the pipeline;
- Albion Land Business Park
 - Tesco relocation / expansion to a larger store
 - Bicester Village Expansion and associated highway works
 - NW Bicester Eco-Town (5,000 dwellings)
- 5.2.8 However, at the time of submission, there are no TAs associated with the above projects, or any current applications. It was confirmed with OCC that these projects were not required to be included in the determination of background or forecasted traffic flows in connection with this application (see **Appendix C** for flows).

5.3 Existing and Proposed Trip Generation

- 5.3.1 The South West Bicester Phase 1 TA (November 2006) included the proposed trip rates for the site for the full mix of use. The resultant multi-modal trip generation for the scheme during the morning and evening peak hours is summarised in **Table 5.2**. These trip rates can be found in detail within the submitted TA (November 2006).

Table 5.2: South West Bicester Phase 1 External Trip Generation (all land uses)

Mode of Travel	Total AM Peak (08:00-09:00)			Total PM Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Non-Car	603	671	1,272	477	389	865
Car Driver	572	607	1,181	622	492	1,113
Car Passenger	253	207	460	248	166	415
Total	1,429	1,485	2,912	1,347	1,046	2,393

Source: South West Bicester Phase 1 TA (November 2006)

- 5.3.2 The additional trips resulting from the increase in density has been summarised in **Table 5.3** based on the information provided above. In turn, the addition of this information to the consented trip generation gives the totals shown in **Table 5.4**.

Table 5.3: Additional Dwellings Trip Generation Resulting from the Proposed Development

Mode of Travel	Total AM Peak (08:00-09:00)			Total PM Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Non-Car	10	40	49	23	10	33
Car Driver	8	34	42	33	15	48
Car Passenger	3	14	17	14	6	20
Total	21	88	109	71	31	102

Source: Consultant Calculation

Table 5.4: Total Trip Generation for South West Bicester Phase 1 and the Proposed Development

Mode of Travel	Total AM Peak (08:00-09:00)			Total PM Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Non-Car	613	711	1,321	500	399	898
Car Driver	580	641	1,223	655	507	1,161
Car Passenger	256	221	477	262	172	435
Total	1,450	1,573	3,021	1,418	1,077	2,495

Source: Consultant Calculation

- 5.3.3 As can be seen from **Table 5.3** above, an additional 100 dwellings will result in additional 109 multimodal trips in the morning peak hour and 102 multimodal trips in the evening peak hour. Of these, 42 trips in the morning peak and 48 in the evening peak will be made by car. This increase is not significant and Section 6 of this TA confirms that the performance of local junctions will not be unduly affected.

5.4 Trip Distribution

- 5.4.1 The trip distribution associated with the development has been assumed to be similar to that employed in the Trip Generation Technical Note (**Appendix B**) prepared to support the South West Bicester Phase 1 TA (November 2006).
- 5.4.2 Traffic flow diagrams in **Appendix C** show the proposed development vehicular trips from the increase in density, for the morning and evening peaks respectively.
- 5.4.3 The development traffic flows have been added to the 2017 forecast baseline traffic flows. The resulting 2017 forecast baseline plus development traffic flows, are also shown in **Appendix C**.

6 Development Impact

6.1 Context

- 6.1.1 This section considers the traffic impact of the additional residential trips on the road network, following a density increase of up to 100 dwellings on the consented South West Bicester Phase 1 site. The year of assessment of 2017, represents five years after the registration of the planning application.
- 6.1.2 A comparison between the Do Minimum (completed South West Bicester Phase 1) and the Do Something (with density increase) scenarios has been undertaken based on the cumulative information presented in Section 5 of this report.

6.2 Comparative Analysis

- 6.2.1 A comparative assessment has been made between the existing consented level of traffic at each junction and that which would occur as a result of the increased density proposals.
- 6.2.2 The resulting number of vehicular trips at a number of key junctions is set out below.
- 6.2.3 Access Junctions
- 6.2.4 **Table 6.1** below shows the outcomes of the comparative analysis for the three main junctions providing access to the development.

Table 6.1 Traffic flows for South West Bicester Phase 1 with the proposed density increase

Junction	Forecast Base Flow (2017)		Increased Development Flows		Total Flow (2017)		Proportion of Total Flow (%)	
	AM	PM	AM	PM	AM	PM	AM	PM
Northern South West Bicester Access / B4030 / Shakespeare Drive	1,369	1,488	25	30	1,393	1,515	1.24%	1.39%
Southern South West Bicester Access (from Perimeter Road)	655	670	4	4	670	689	0.20%	0.19%
South West Access / A41 Oxford Road	2,178	2,631	12	14	2,191	3,833	0.34%	0.34%

- 6.2.5 **Table 6.1** shows that the proportion of traffic flows associated with the additional 100 dwellings is no more than 1.39% at the access junctions. This provides a concrete indication that these junctions are not subject to an increase in traffic flow which would give rise to any performance issues.
- 6.2.6 Surrounding Junctions
- 6.2.7 The impact of the development at the other locations, shown in **Table 6.2** overleaf, confirms that the change in traffic flows is not significant.

Table 6.2 Traffic flows for South West Bicester Phase 1 with the proposed density increase

Junction	Forecast Base Flow (2017)		Increased Development Flows		Total Flow (2017)		Proportion of Total Flow (%)	
	AM	PM	AM	PM	AM	PM	AM	PM
SW Perimeter Road / A4095 Howes Lane	1,048	1,039	11	22	1,059	1,060	0.07%	0.12%
SW Perimeter Road / B4030 Middleton Stony Road	1,914	2,321	16	19	1,929	2,339	0.10%	0.11%
A41 Oxford Road / B4030 Middleton Stony Road / Queen's Avenue	2,325	2,515	5	7	2,330	2,521	0.03%	0.04%
A41 Oxford Road / Pingle Drive	2,384	3,271	1	2	2,385	3,273	0.01%	0.01%
A41 Oxford Road / Petrol Filling Station Roundabout	4,049	4,543	5	6	4,055	4,550	0.03%	0.03%
SW Perimeter Road / A41 Oxford Road	3,987	4,394	19	23	4,006	4,417	0.12%	0.13%

6.2.8 As can be seen from **Table 6.2** above, the additional trips generated by the development are not considered to have a significant impact upon the performance of the surrounding junctions, and on this basis, it has been judged that junction capacity assessments would not be required to confirm this assertion.

6.3 Public Transport

- 6.3.1 The public transport service promoted as part of the consented South West Bicester Phase 1 scheme makes provision for a local bus service between South West Bicester and Bicester town centre. This will operate at a 15 minute frequency throughout the day (with four buses per hour).
- 6.3.2 Additionally a strategic service linking South West Bicester to Oxford (Inter-Urban Service) will be provided off the back of an existing bus route. This will operate at a 30 minute frequency. Therefore, the combination of the two public transport strategies will result in both a 15 and 30 minute bus frequency that will benefit the new and existing patrons travelling to and from Bicester.
- 6.3.3 In addition, convenient connections will be provided to ensure access is available to the existing bus services along the A41.
- 6.3.4 The increase in density of the site would not involve a change to the bus strategy agreed in the original South West Bicester TA. On-going discussions with OCC and the operator on implementation are progressing with a view to receiving the best possible outcome for the development.
- 6.3.5 Based on the number of non-car users from **Table 5.3** and the information presented in the Trip Generation Technical Note (**Appendix B**) prepared to support the South West Bicester Phase 1 TA (November 2006), there will be 16 additional bus passengers in the morning peak and 11 in the evening peak as shown in **Table 6.3** overleaf.

Table 6.3: Non-car user trip generation

	Proportion	AM Peak			PM Peak		
		In	Out	Two Way	In	Out	Two Way
Walk	42%	4	17	21	10	4	14
Cycle	28%	2	10	12	6	3	8
Public Transport	33%	3	13	16	8	3	11

Source: South West Bicester Phase 1 TA (November 2006)

- 6.3.6 Whilst the increase in passengers are not expected to be significant enough to warrant any changes in service specification (e.g. increases in frequency), the increase will be beneficial towards further supporting the viability of public transport in offering a true range of choice and in promoting the development as a sustainable place to live.

6.4 Travel Plan

- 6.4.1 It is anticipated that the development would be covered by the agreed Residential Travel Plan for South West Bicester and that the range of sustainable transport measures will be made available to these new residents. The Travel Plan is at an advanced state of implementation and will continue to form the focus of travel demand management.

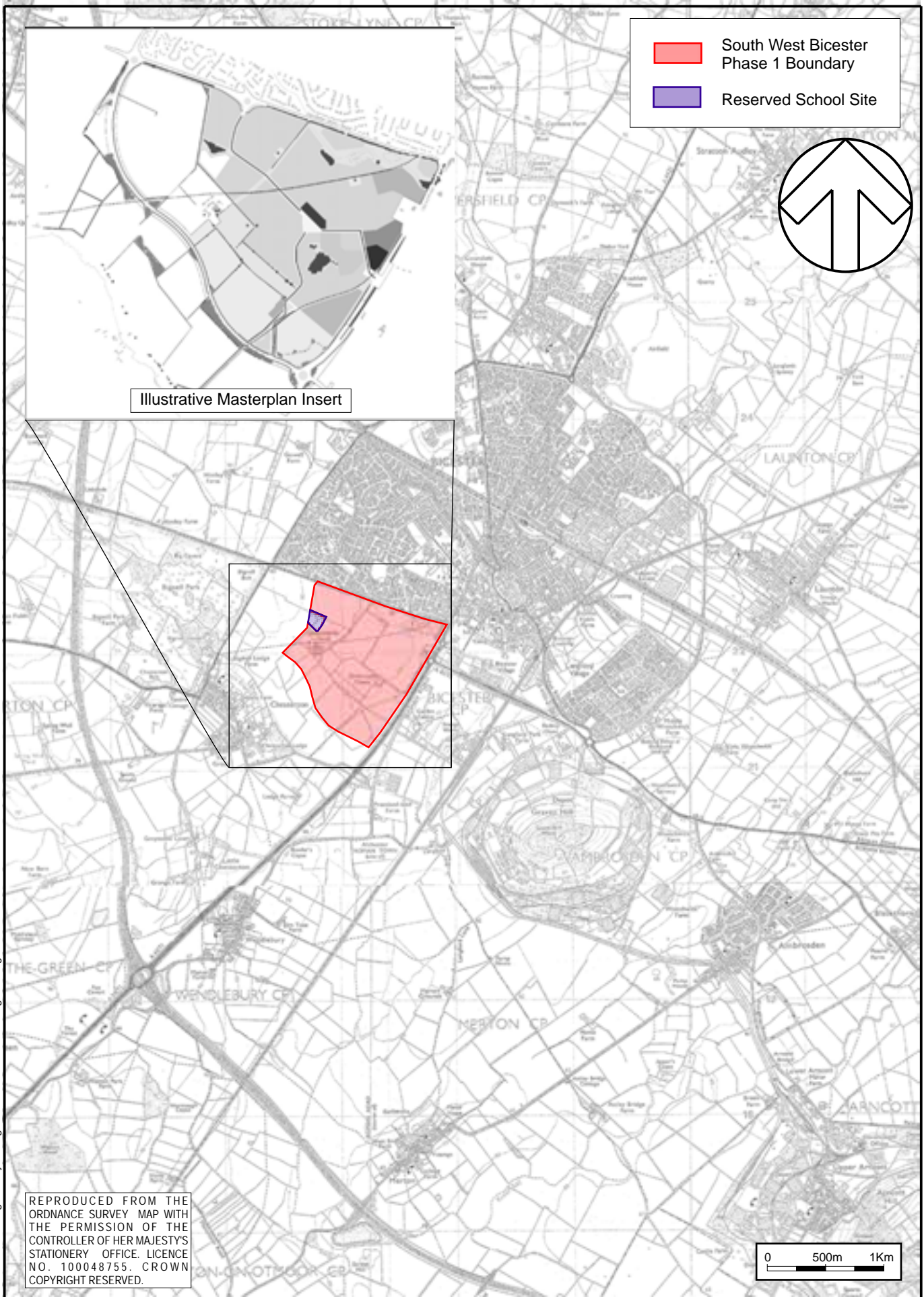
7 Conclusions

7.1 Summary

- 7.1.1 This TA has considered the transport implications which would arise from the development of up to 100 additional residential dwellings within the consented South West Bicester Phase 1 development (Planning Application Reference 06/00967/OUT).
- 7.1.2 The agreed Design Code for the South West Bicester Phase 1 scheme, which follows the ethos of the Manual for Streets guidance, will ensure that the connections to/from South West Bicester will promote permeability, connectivity and prioritise sustainable modes of transport.
- 7.1.3 This report has set out the multi-modal trip generation resulting from the development, which for cars, results in a small increase in vehicular traffic. This has resulted in a small increase in vehicular movements, which it has been demonstrated would not have a significant impact on the performance of local junctions.
- 7.1.4 Consideration has also been shown that the proposed increase in density resulting from up to 100 additional dwellings would have positive implications for the promotion of sustainable transport, including further improving the viability of bus services and furthering the aims of the Residential Travel Plan.
- 7.1.5 The package of infrastructure provided within the South West Bicester Phase 1 scheme has been shown to be sufficient to support the proposed increase in density and provides further justification on the merits and benefits of the scheme to allow OCC, as the highway authority, to sanction the proposals and thereby further contribute to CDC's housing and economic objectives.

Figures

FIGURE 1
Site Location



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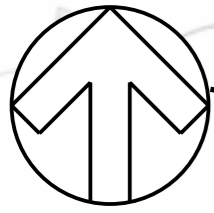
TITLE:

SITE LOCATION

FIGURE No:

1

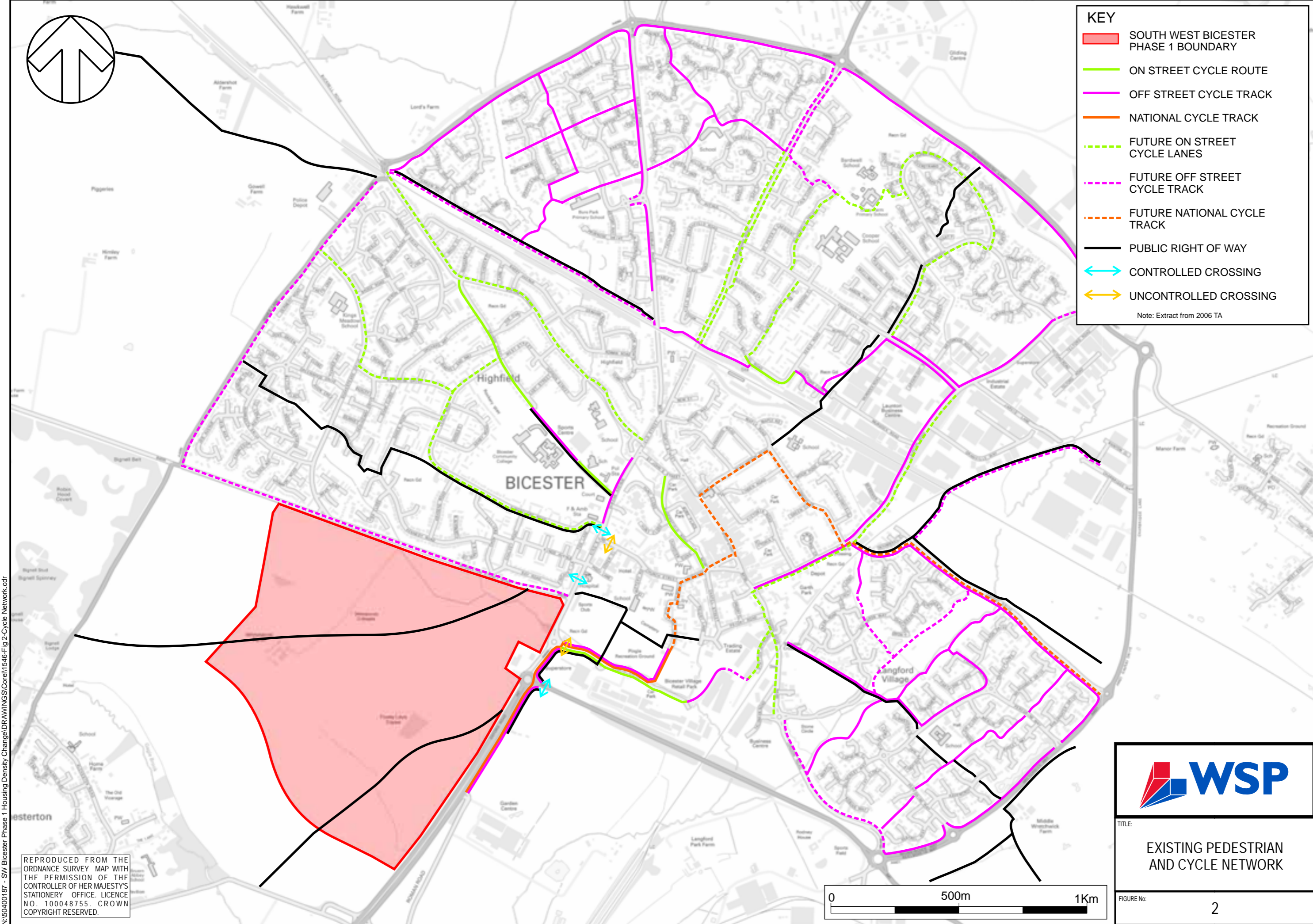
FIGURE 2
Cycle Network



KEY


- SOUTH WEST BICESTER PHASE 1 BOUNDARY
- ON STREET CYCLE ROUTE
- OFF STREET CYCLE TRACK
- NATIONAL CYCLE TRACK
- FUTURE ON STREET CYCLE LANES
- FUTURE OFF STREET CYCLE TRACK
- FUTURE NATIONAL CYCLE TRACK
- PUBLIC RIGHT OF WAY
- CONTROLLED CROSSING
- UNCONTROLLED CROSSING

Note: Extract from 2006 TA



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TITLE:
**EXISTING PEDESTRIAN
AND CYCLE NETWORK**

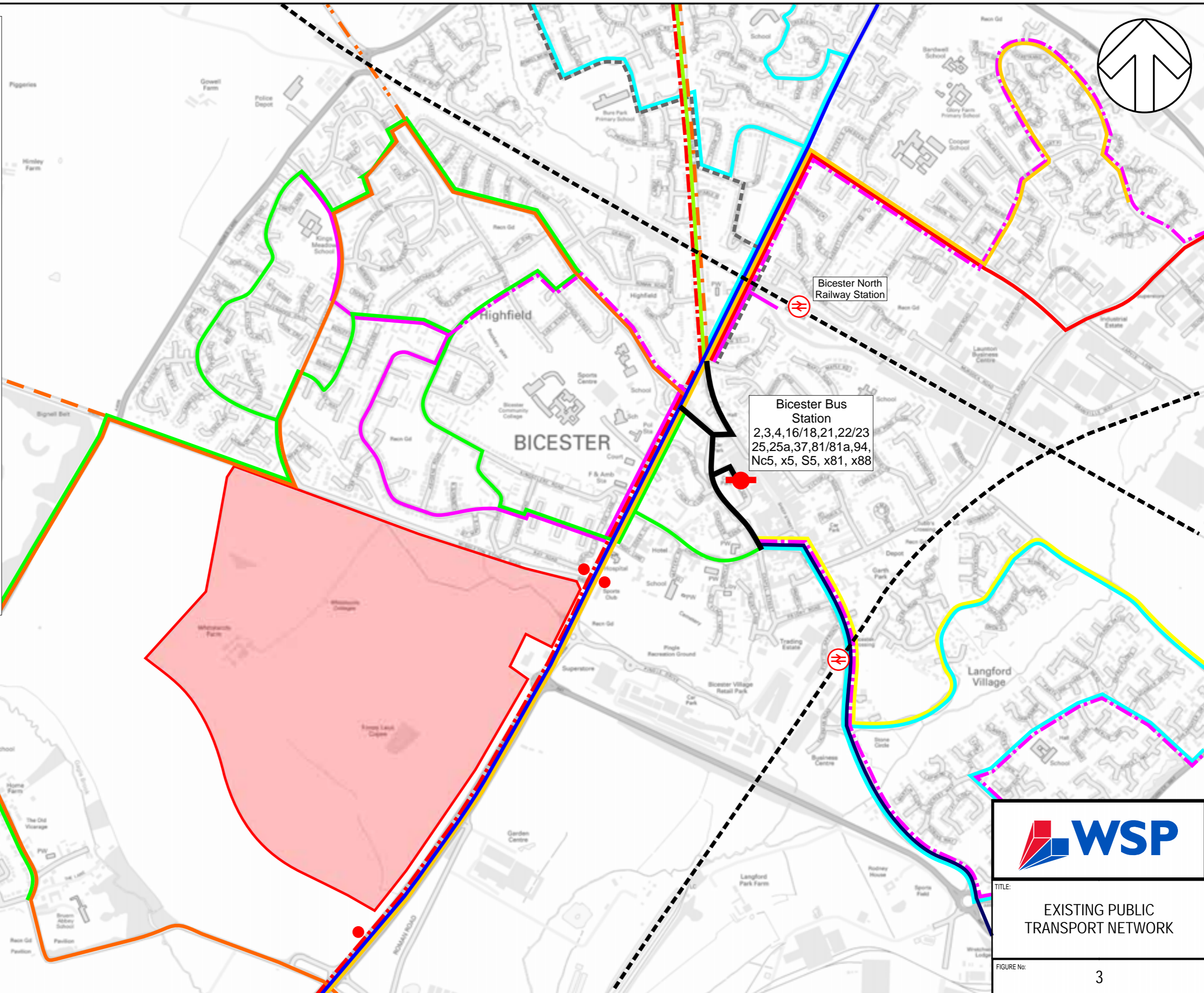
FIGURE No: **2**

FIGURE 3
Public Transport Network

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KEY


-  South West Bicester Phase 1 Boundary
- Route Number**
-  2
-  3
-  4
-  16/18
-  21
-  22/23
-  25
-  25a
-  37
-  81/81a
-  94
-  NC5
-  S5
-  X5
-  X81
-  X88
-  Railway Line
-  Railway Station
-  Bus Stop
-  Bus Station



Bicester Bus Station
 2,3,4,16/18,21,22/23
 25,25a,37,81/81a,94,
 Nc5, x5, S5, x81, x88

Bicester North Railway Station

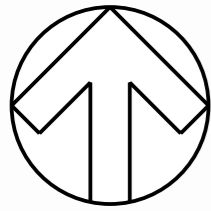
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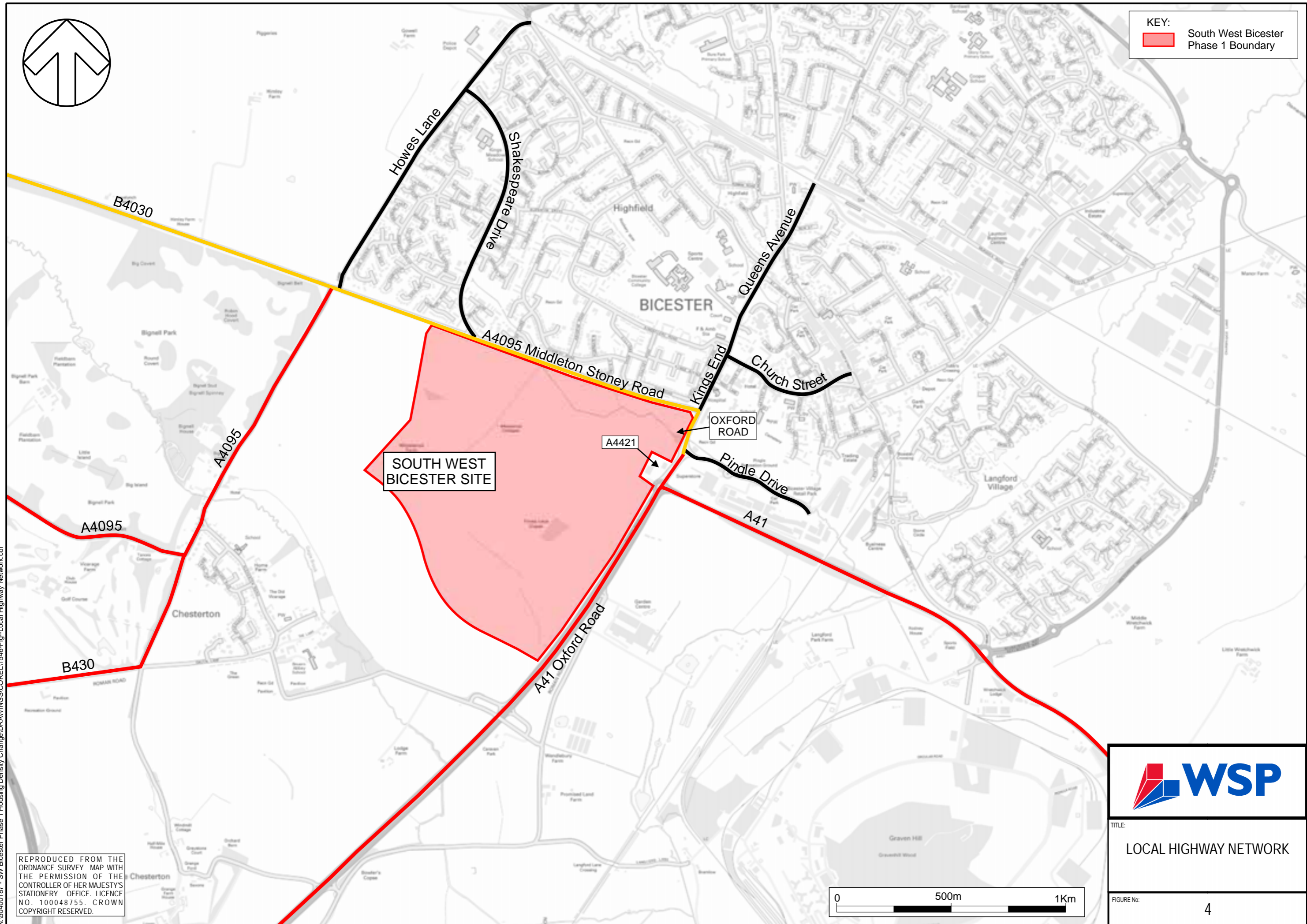
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**EXISTING PUBLIC
 TRANSPORT NETWORK**

FIGURE No: **3**

FIGURE 4
Local Highway Network

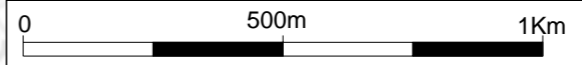



KEY:
 South West Bicester
 Phase 1 Boundary



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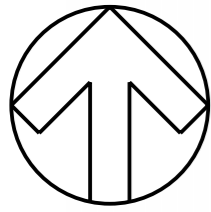
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TITLE:
LOCAL HIGHWAY NETWORK

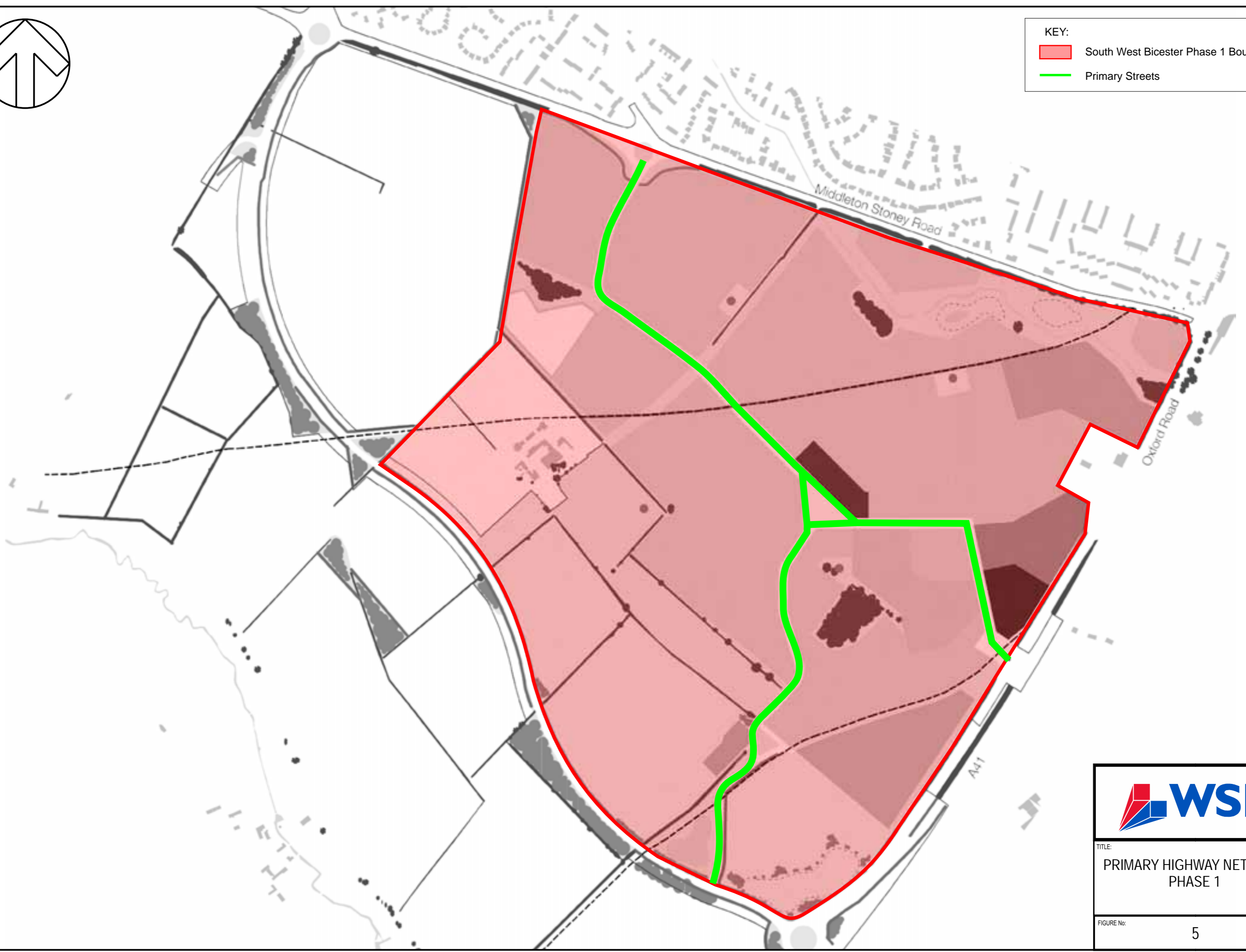
FIGURE No:
 4

FIGURE 5
Street Hierarchy




KEY:

-  South West Bicester Phase 1 Boundary
-  Primary Streets



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TITLE:
PRIMARY HIGHWAY NETWORK
PHASE 1

FIGURE No:
5

Appendices

APPENDIX A
Accident Plot

Accidents between dates:
01/01/2007 and 31/05/2012

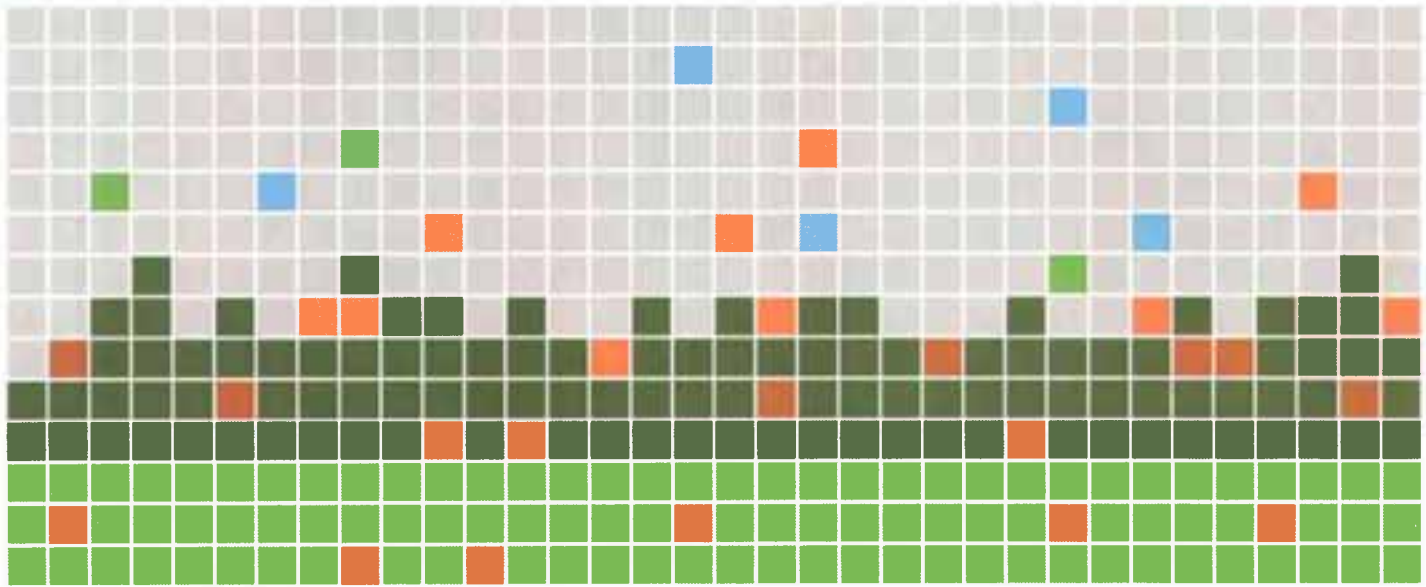
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APPENDIX B

Trip Generation Note



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

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Reg. No: 2382309

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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			PM Peak Hour		
	0800-0900			1700-1800		
	In	Out	Total	In	Out	Total
Trip Rate – Vehs / Unit	0.10	0.42	0.52	0.39	0.17	0.56
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

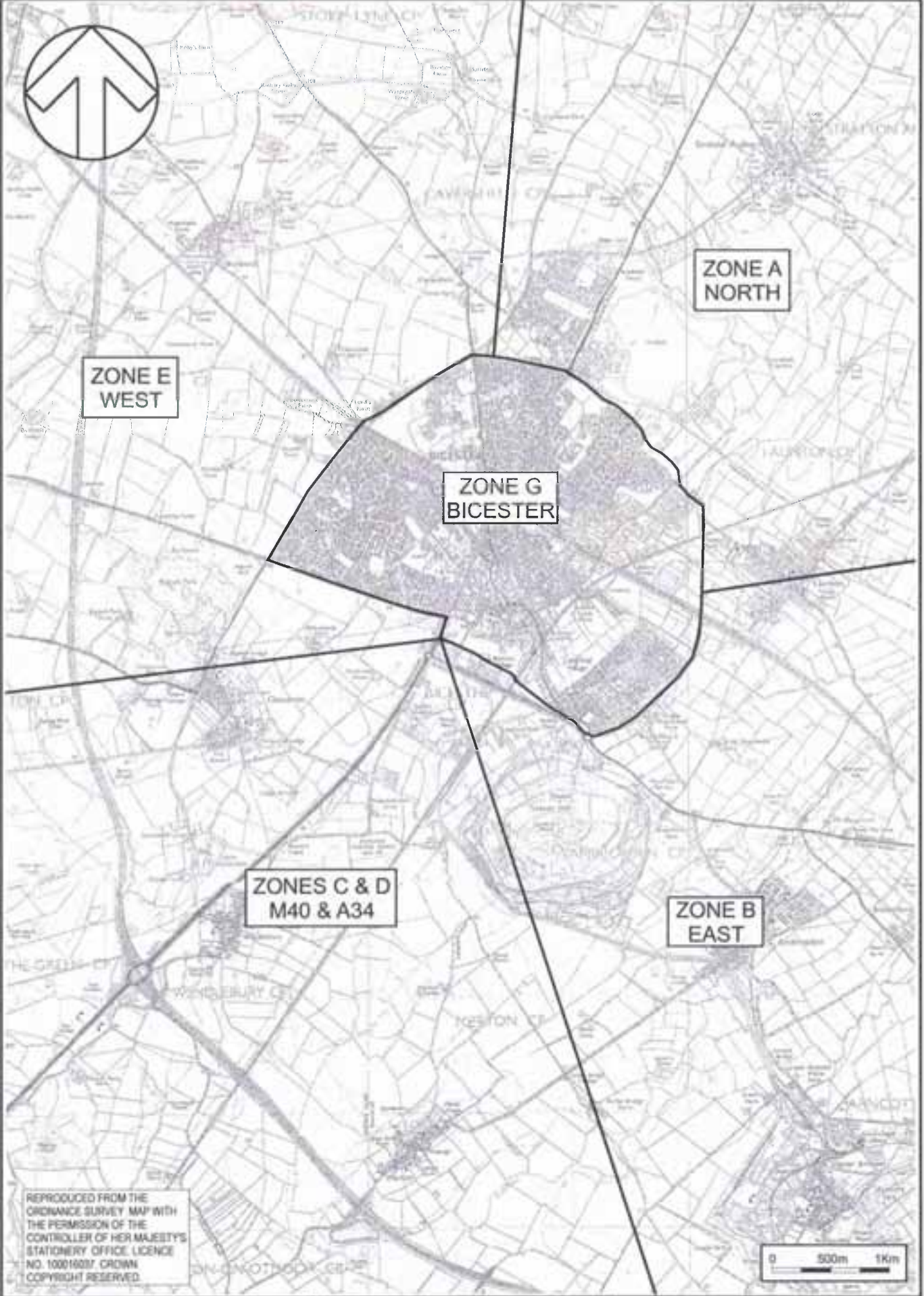
Area	Percentage Distribution
Bicester	25.8%
North	4.8%
East	7.6%
South (M40)	12.6%
South (A34)	46.3%
West	3.0%
Total	100%

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:\Gis\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 date: TUESDAY	21/11/00
		Survey date: WEDNESDAY	22/11/00
		Survey date: THURSDAY	23/11/00
		Survey date: FRIDAY	24/11/00
			Survey Type: DIRECTIONAL
			Survey Type: DIRECTIONAL
			Survey Type: DIRECTIONAL
			Survey Type: DIRECTIONAL
			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

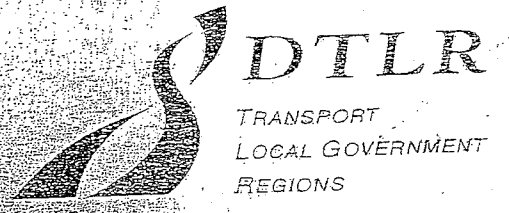
N.B. The overall averages for each hour are slightly lower than that shown on Table 7.11 because the average hour for this table is for weekday journeys only.



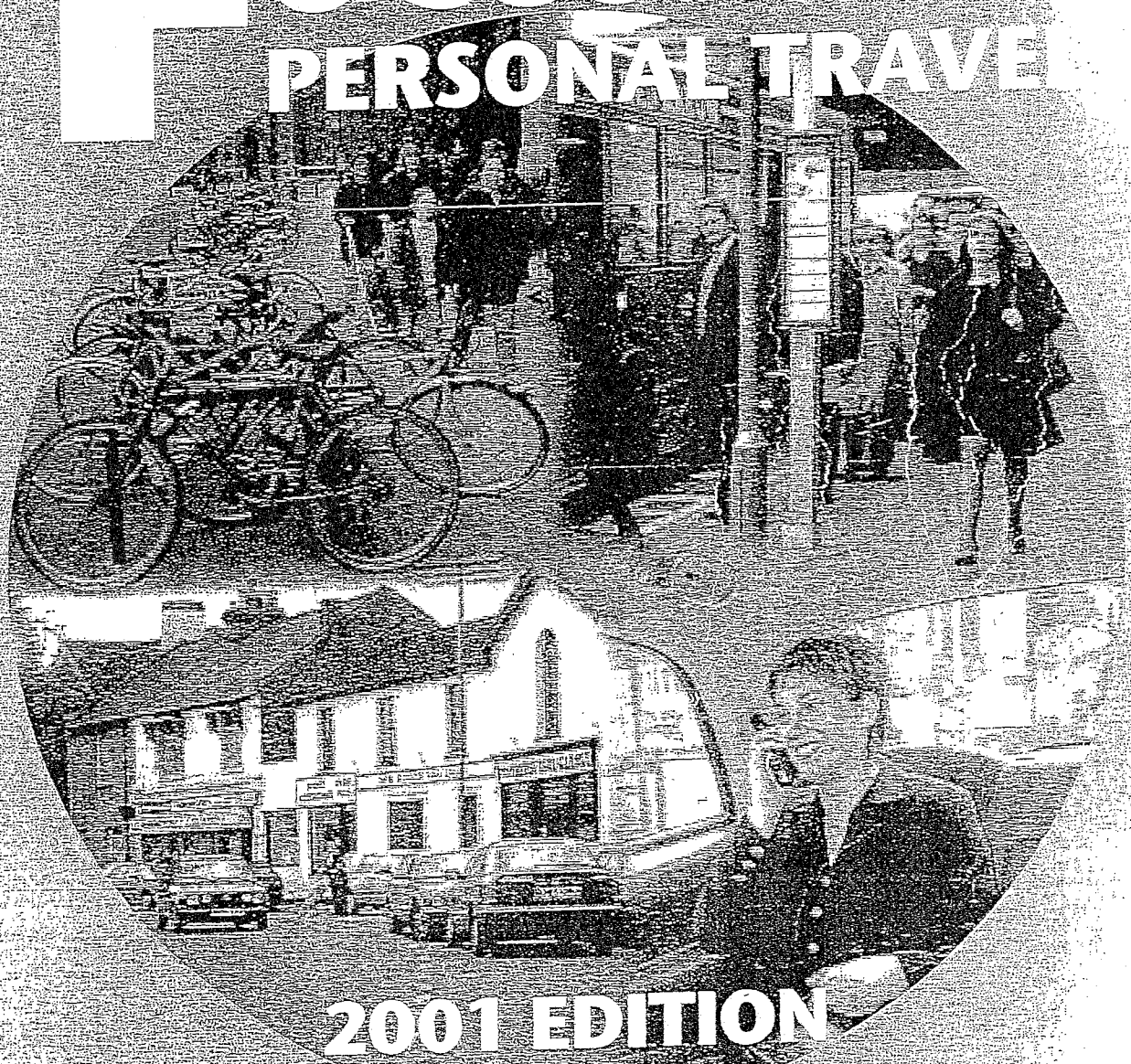
Annex C
Patterns

Affordable Housing Trip

PLANNING



FOCUS ON PERSONAL TRAVEL



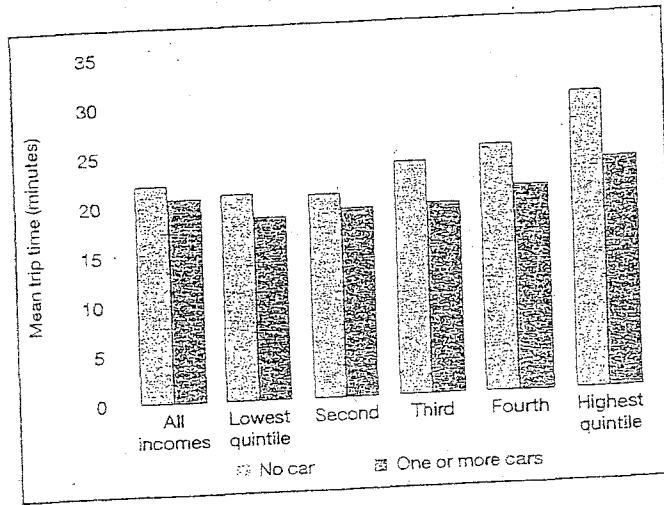
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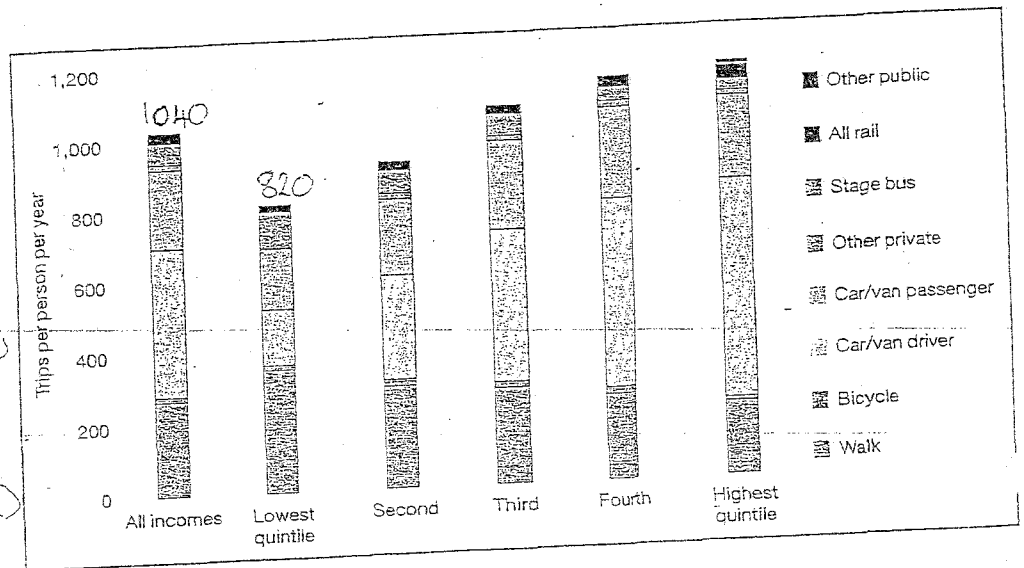


Chart 5.9c Trip time by income quintile and household car ownership: 1998/2000



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
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			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 | | NORFOLK |
| | | CHESTNUT COURT | | |
| | | NORWICH | | |
| | | Total Number of Households: | 39 ***** | |
| | | Survey Date: TUESDAY | 07/11/00 | Survey Type: MANUAL |
| 2 | NO-03-L-01 | HOUSES/FLATS, BELTON | | NORTH LINCOLNSHIRE |
| | | ASHTREE CLOSE | | |
| | | BELTON | | |
| | | Total Number of Households: | 79 ***** | |
| | | Survey Date: FRIDAY | 11/04/03 | Survey Type: MANUAL |
| 3 | WO-03-L-01 | NON-PRIVATE HOUSES/FLATS | | WORCESTERSHIRE |
| | | MARTINDALE CLOSE | | |
| | | 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

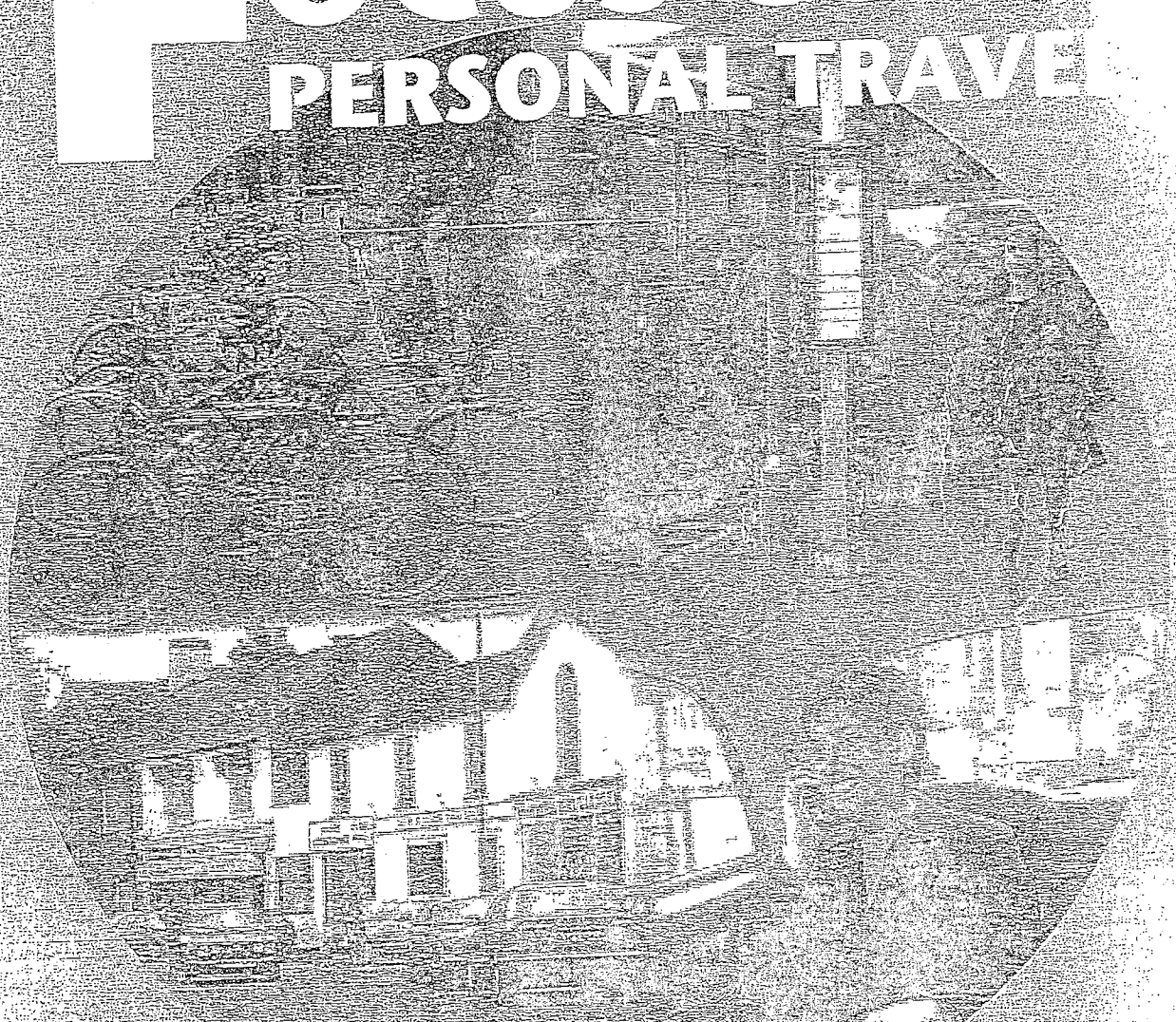


Annex D Extracts from NTS – Daily Profile by Trip Journey Purpose



DTLR
TRANSPORT
LOCAL GOVERNMENT
REGIONS

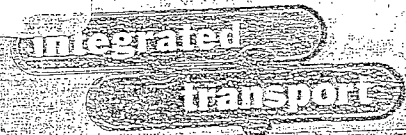
FOCUS ON PERSONAL TRAVEL



2001 EDITION

WSPD BASINGSTOKE
LIBRARY

C3



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

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Demographics	3
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Q1: Which city/town/village did you move to Cambourne from?	3
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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
Secondary	0.19	
Tertiary	0.20	Not on the site
Total	0.84	

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

Non Car		0.706	Mode Share of school trips
driver	0.118		
pass	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

Forfe 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
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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	BUCKINGHAMSHIRE	13300 sqm 591 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	CAMBRIDGESHIRE	118448 sqm 3685 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	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	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	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	STAFFORDSHIRE	4064 sqm 111 Parking Spaces 26.1 per sqm

Average

$$= \frac{(22.5 + 32.1 + 24.2 + 27.4 + 18.9 + 26.6)}{6}$$

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

$$= 26.95$$

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 1142
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 24.72 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

$$\frac{(22.5 + 32.1 + 24.72 + 27.4 + 18.9 + 36.6)}{6}$$

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

$$= 26.95$$

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
29 / *1.42*
0.12
Total 1.314

DEP
17:00-17:30
6 / *0.57*
0.06
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

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 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 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

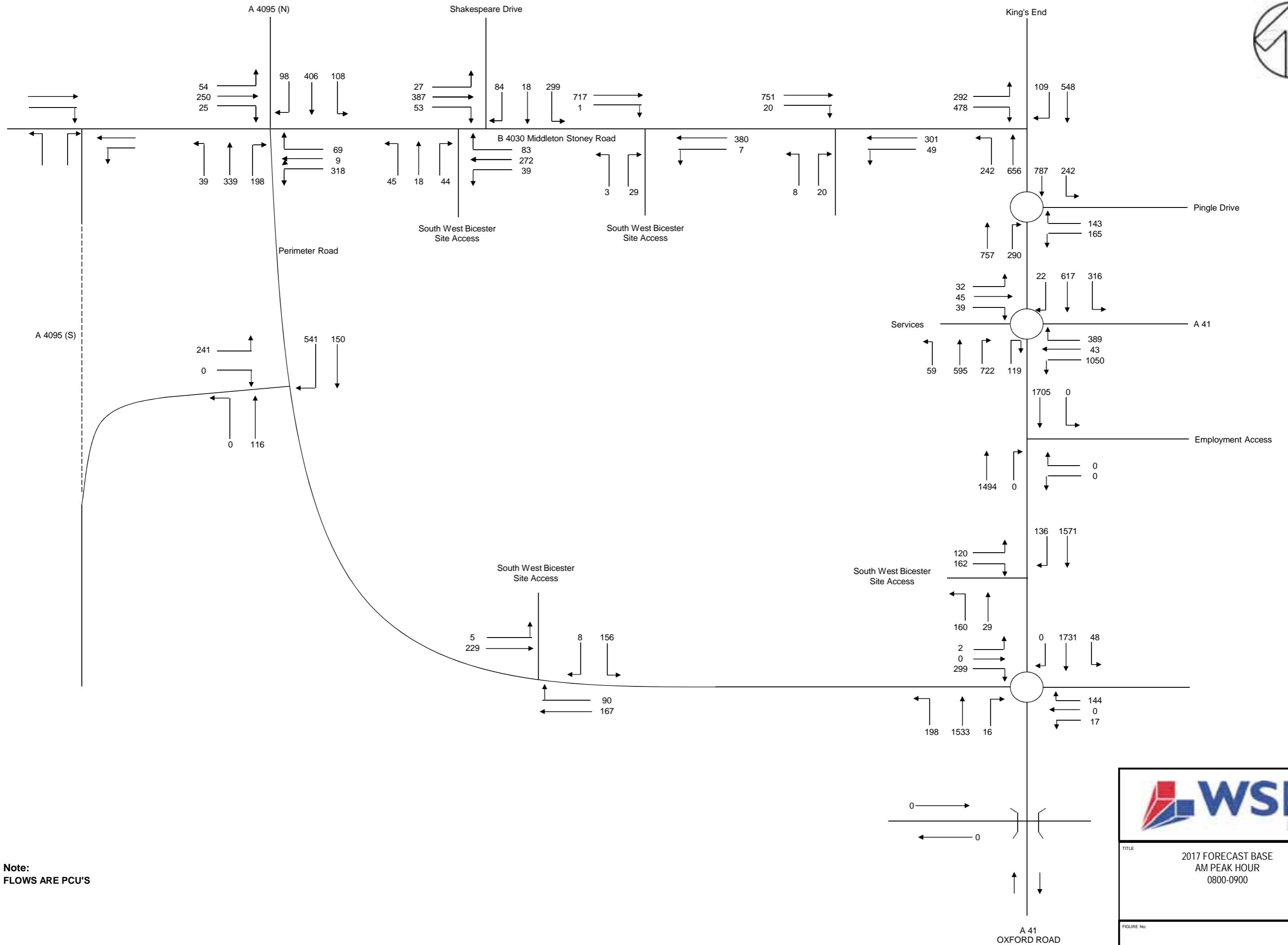
BOLD print indicates peak (busiest) period

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

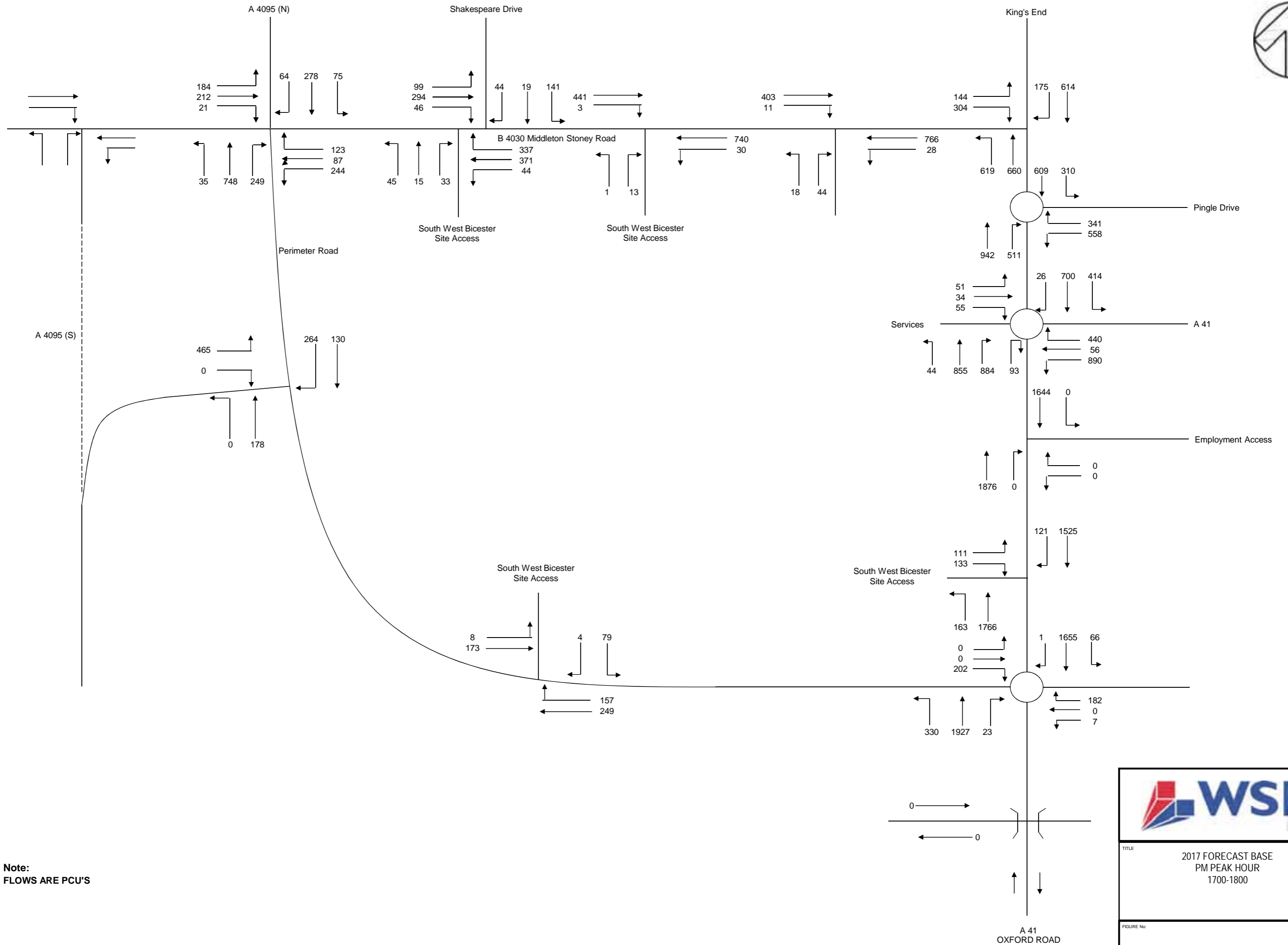


Note:
FLOW ARE PCU'S



TITLE
 2017 FORECAST BASE
 AM PEAK HOUR
 0800-0900

FIGURE No:

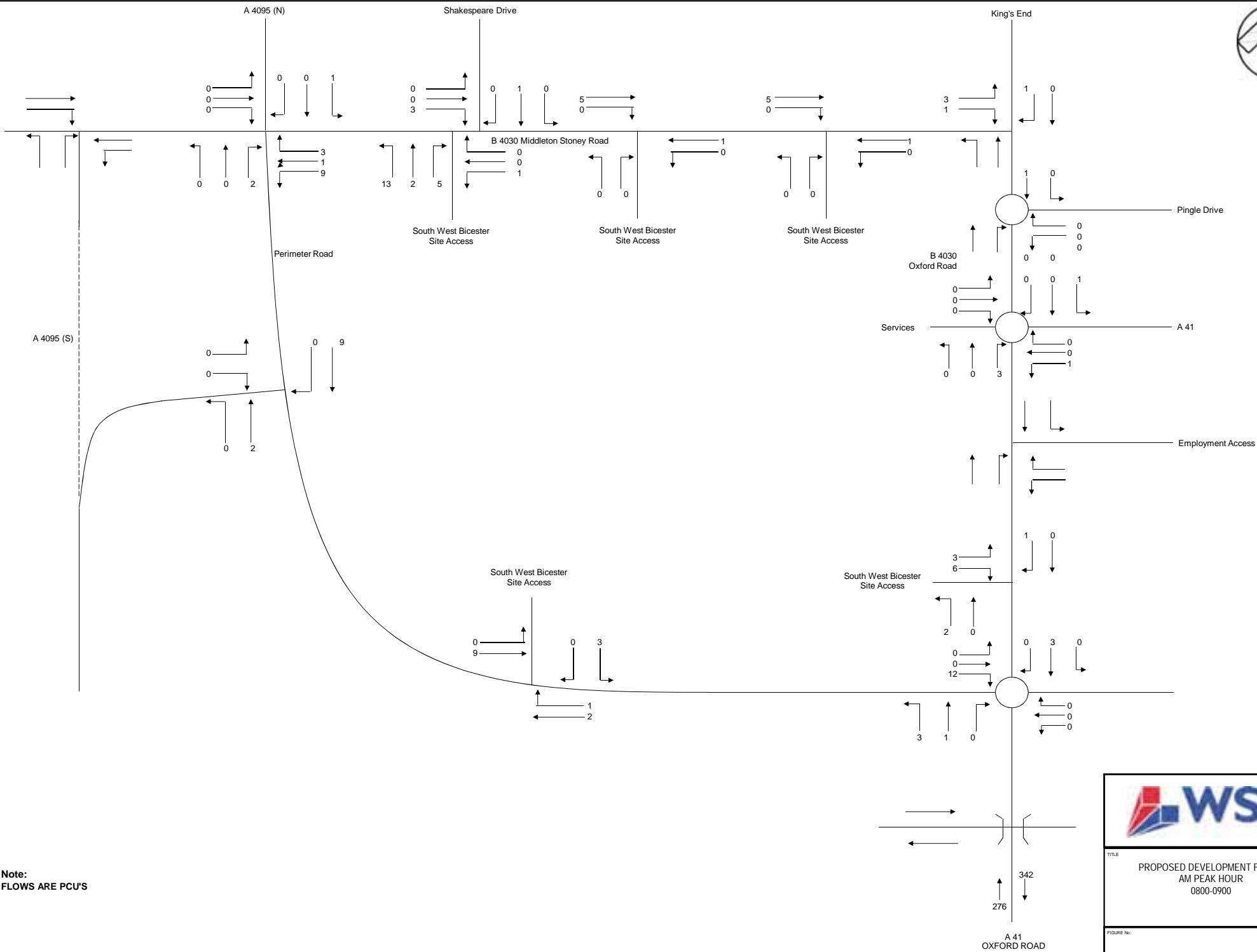
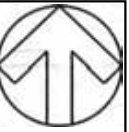


Note:
FLOW ARE PCU'S




TITLE
 2017 FORECAST BASE
 PM PEAK HOUR
 1700-1800

FIGURE No:

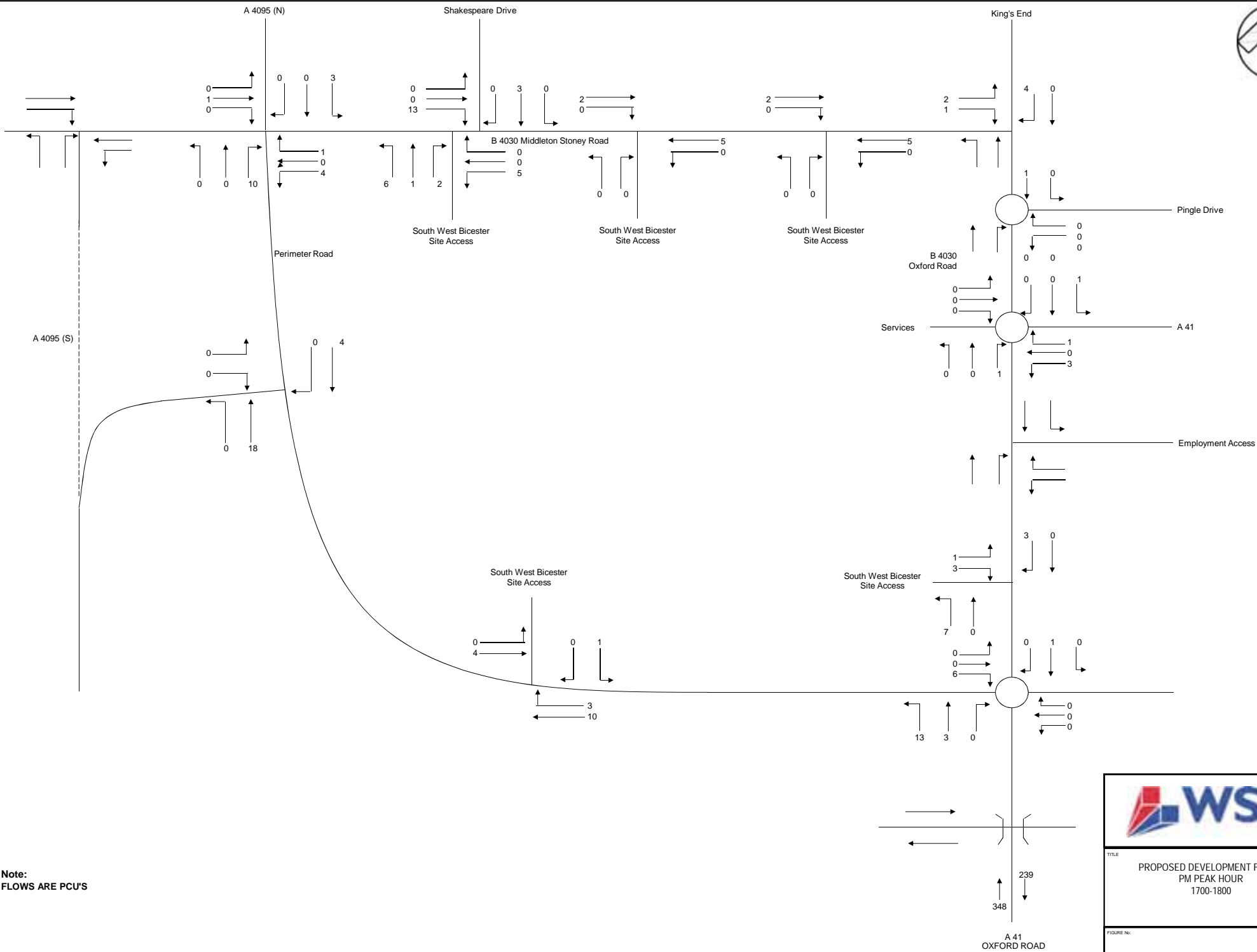
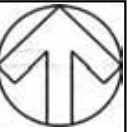


Note:
FLOW ARE PCU'S



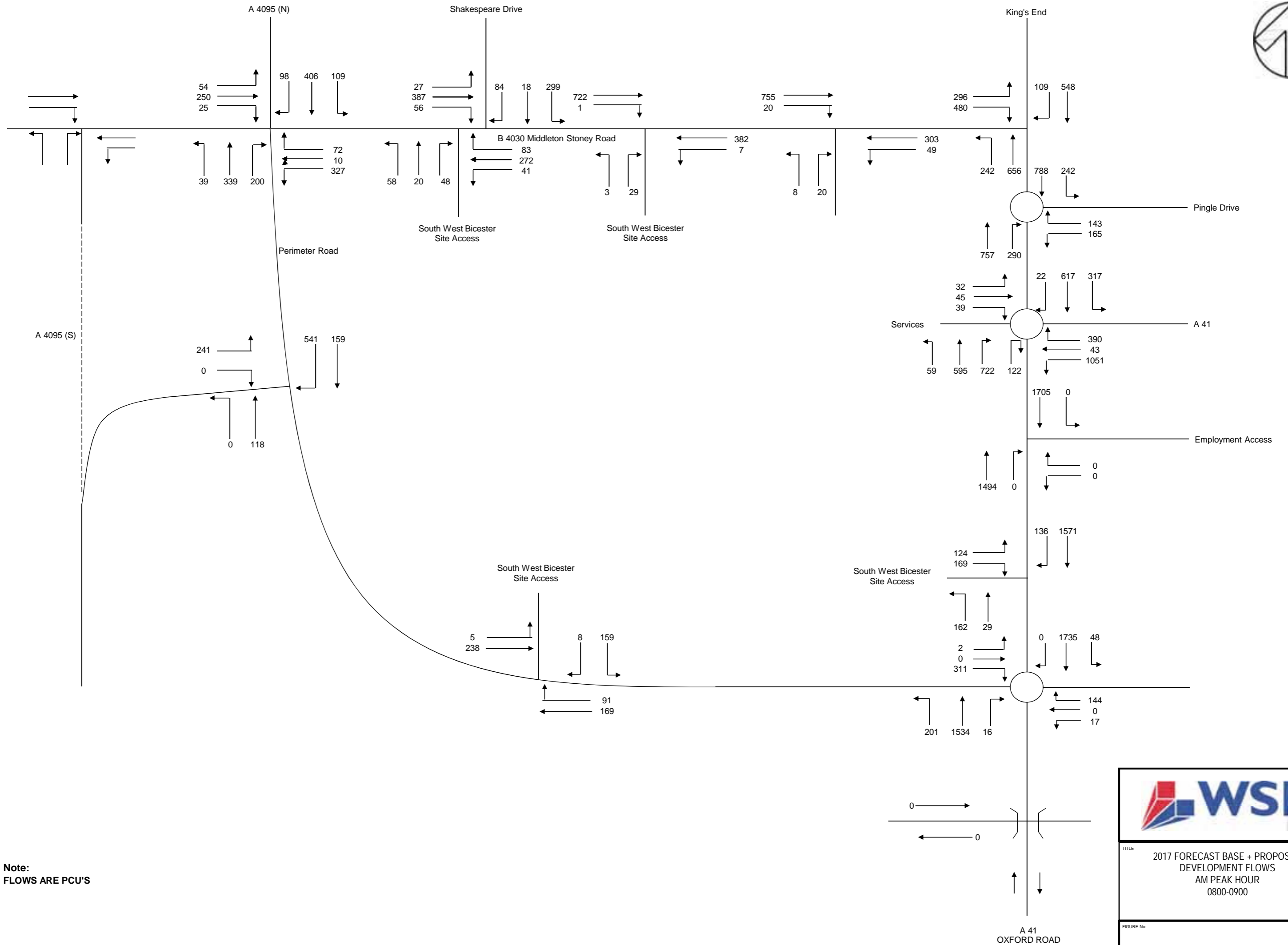
TITLE
 PROPOSED DEVELOPMENT FLOWS
 AM PEAK HOUR
 0800-0900

FIGURE NO:




Note:
FLOW ARE PCU'S

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

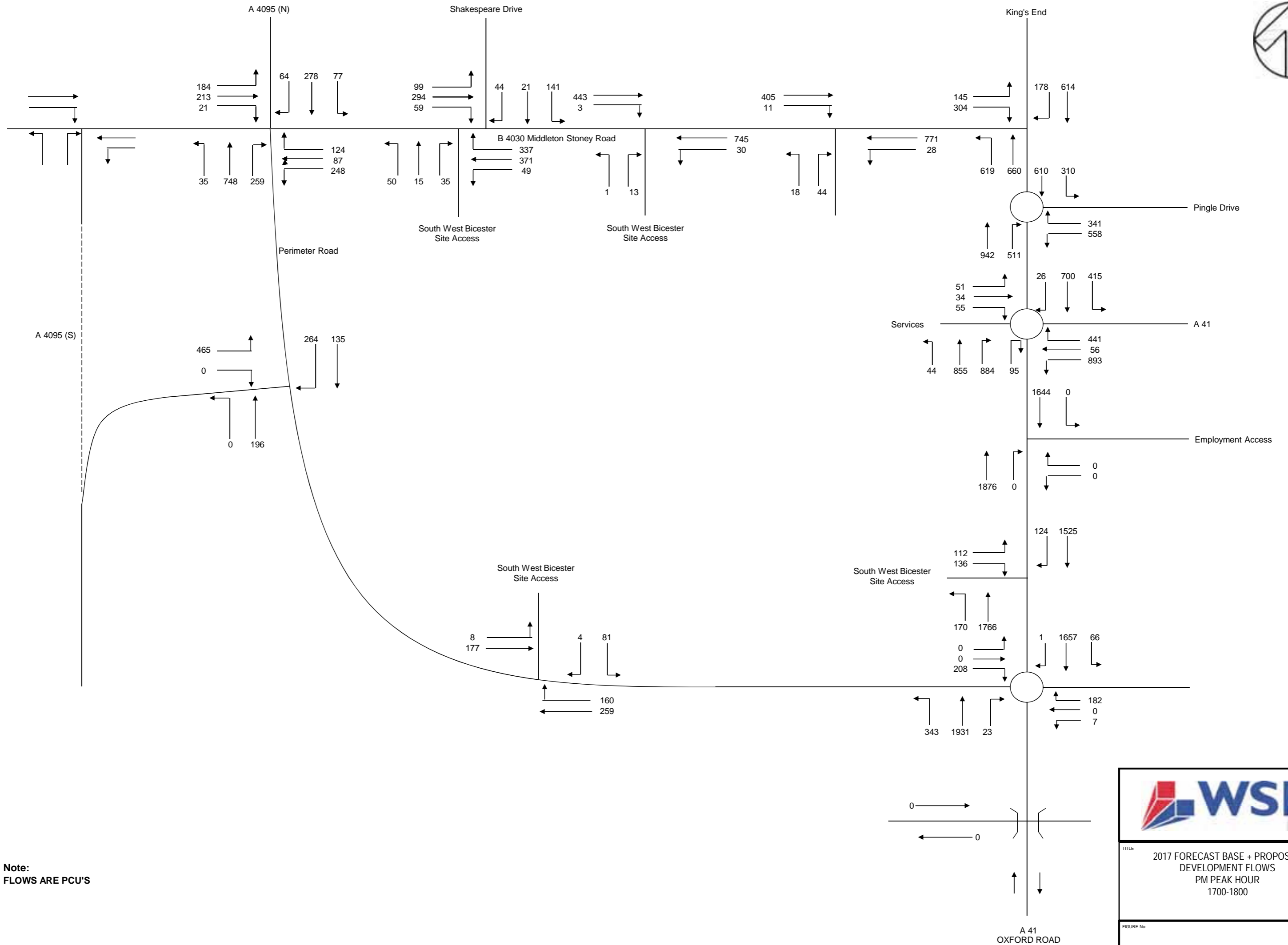


Note:
FLOW ARE PCU'S




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:

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