

North Gawber, Barnsley
Transport Assessment

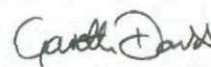
North Gawber, Barnsley
September 2008

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1 Introduction

1 Introduction

1.1

Background

Faber Maunsell has been commissioned by the Gladedale to prepare a Transport Assessment (TA) in support of a planning application for a proposed residential development in North Gawber, Barnsley.

The purpose of the assessment is to consider the transport implications of the proposed development. This assessment demonstrates the high level of accessibility by sustainable modes of transport making this consistent with national and local policy and how the trip generation from the site would not have a detrimental effect on the adjacent highway network.

The TA is in accordance with the current DfT Guidance on Transport Assessment which was issued in March 2007 and which replaced the IHT Guidelines for Traffic Impact Assessments published in 1994.

1.2

Structure of Report

This report has been based on the results of discussions with Barnsley Council.

The structure of the report is set out as follows:

- Chapter 2 describes in detail the site location and surrounding area;
- Chapter 3 examines the development proposals with regard to proposed means of access;
- Chapter 4 considers the development proposals with due regard to local and national policy;
- Chapter 5 considers the location of the site with due regard to the local sustainable transport infrastructure;
- Chapter 6 considers road safety;
- Chapter 7 reviews the base line conditions associated with the current highway network in terms of base traffic flows and traffic growth;
- Chapter 8 presents the detail associated with traffic generation / attraction derivation for the resultant site development and subsequently assigns this to the network in accordance with the defined distribution method;
- Chapter 9 considers the operational performance of the local highway network through approved DfT methods during differing scenarios; and
- Chapter 10 provides a conclusion to this Transport Assessment derived from the analysis presented in the above chapters.

2 Site Location & Surrounding Area

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2.1

Site Location

The North Gawber site is located in Mapplewell, Barnsley and is bordered by an Industrial estate to the north, Carr Green Lane to the east, Swallow Hill Road to the south and B6428 Spark Lane to the west.

The site area under consideration has an area of 6.21 hectares and was a former Colliery and is currently unoccupied. The location of the site is illustrated in **Figures 2.1**



Figure 2.1 Aerial View of Proposed Site

2.2

Existing Local Highway Network

The site is considered to be within Darton, which is defined as a Main Town and Service Centre providing a broad range of services and facilities.

Within Mapplewell, Blacker Road (B6131) is situated to the north of the site and is traffic calmed with a 20mph speed limit. Carr Green Lane is to the east of the site and is a residential road with a 30mph speed limit. Spark Lane (B6428) is located to the west of the site and has a 30mph speed limit at its junction with Blacker Road and a 40mph speed limit at its junction with Sparrow Hill Road.

Swallow Hill Road forms a continuation of Carr Green Lane to the south of the site and is rural in nature, with the carriageway narrowing to a single track approximately 160m north of its junction with Spark Lane.

Wakefield Road forms part of the A61 and accessed from the site via Bar Lane; it has a speed limit of 30mph.

The site is to be accessed via Carr Green Lane and the roads situated close to the site are predominantly residential, with the exception of the industrial estate located on Mapplewell Drive, to the north of the site.

The local highway network is illustrated in **Figure 2.2**.

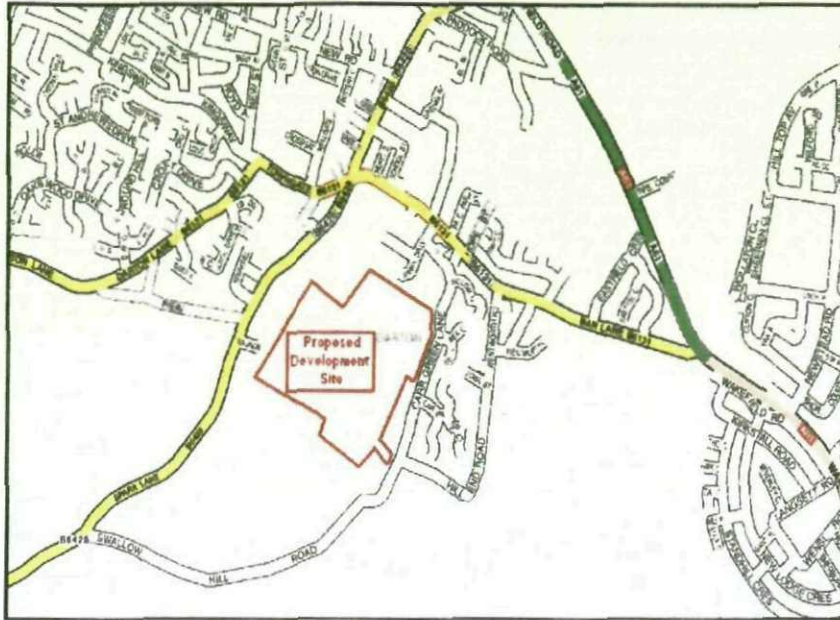


Figure 2.2 Road Layout of Surrounding Network

3 Development Proposals

3 Development Proposals

3.1

Development Details

The proposed development is for residential purposes and will comprise of a total of 600 residential dwellings, 549 private housing and 51 apartments. The conceptual proposals are detailed on the architects plan attached in **Appendix B** and **Table 3.1** below provides a schedule of the accommodation being proposed.

Table 3.1 Residential Unit Mix

Apartments	No. of Units	Proportion (%)
1 Bed	18	3%
2 Bed	33	6%
Private Housing		
1 Bed (mews)	9	2%
2 Bed	104	17%
3 Bed	218	36%
4 Bed	211	35%
5 Bed	7	1%
Total	600	100%

3.2

Site Access

Proposed site accesses will be taken via Carr Green Lane and Spark Lane in the form of priority-controlled junctions. The Carr Green Lane junction would cater for traffic to and from the east on Blacker Road and will be designed in order to provide access into and out of the proposed development from the north i.e. right-turn entrance and a left-out only exit. The proposed layout is shown in **Figure 3.1** and servicing of the development via this access has been designed to accommodate a service refuse vehicle as demonstrated in **Figure 3.2** and both figures are attached in **Appendix B**.

The Spark Lane site access would cater for traffic emanating from the South and West and provides a ghost-island right-turn priority-controlled junction off Spark Lane as shown in **Figure 3.3** and servicing of the development via this access has been designed to accommodate a service refuse vehicle as demonstrated in **Figure 3.4** and both these figures are attached in **Appendix B**.

3.3

Parking Provision

The parking allocation for the site will be set out as according to the housing types below, but in general terms this would equate to 1.5 spaces per dwelling.

- A House Types - 1 space;
- C House Types - 1-2 spaces
- All other house types - 2 spaces.

The Supplementary Planning Document (SPD) has been produced to supplement the adopted UDP and future LDF in accordance with both PPG12 and PPS12.

The car parking guidelines supplements policy T22 of the Council's UDP by setting out maximum standards for vehicle parking to all new development.

In the SPD, Table 1 for housing sets out a maximum of 1.5 spaces per dwelling being allowed in accordance with PPG3. The proposals therefore adhere to the parking standards as set out in the SPD.

4 Local & National Policy

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4.1

National Policy

In July 1998 the Government published its long awaited Integrated Transport White Paper 'A New Deal for Transport: Better for everyone'. The White Paper marked an important strengthening of the transport aspects of the planning system. It contained the proposals for the then new and revised planning policy guidance notes, in particular PPG13.

PPG13 was published in 2001 and emphasises the need to coordinate land use and transport policies more effectively. Both the White Paper and PPG13 are considered in more detail below.

Transport White Paper - 1998

In July 1998 the Government published its long awaited Integrated Transport White Paper 'A New Deal for Transport: Better for Everyone'. The White Paper marked an important strengthening of the transport aspects of the planning system. It also contained proposals for the then new and revised Planning Policy Guidance Notes, in particular Planning Policy Guidance Note 13 (PPG13).

The White Paper promotes developments that enable the choice of transport access to be maximised. It requires Local Authorities to draw up five-year transport plans known as Local Transport Plans (LTP). These plans are intended, amongst other aims, to co-ordinate and improve local transport, set out strategies for promoting walking, cycling and adoption of Travel Plans (TPs) to employment sites, schools and other destinations.

With regards to pedestrians, the White Paper recommends priority be given to walking by allocating more road space to pedestrians by provision of wider footways, providing more direct and convenient routes for walking and providing more pedestrian crossings at locations where people want to cross.

The White Paper also re-endorses the National Cycling Strategy, which was published in 1996. This strategy encouraged Local Authorities to establish local targets for increased cycle use. The national targets were to double the level of cycling between 1996 and 2002 (from 2% to 4%) and a further doubling again by the year 2012 (to 8%).

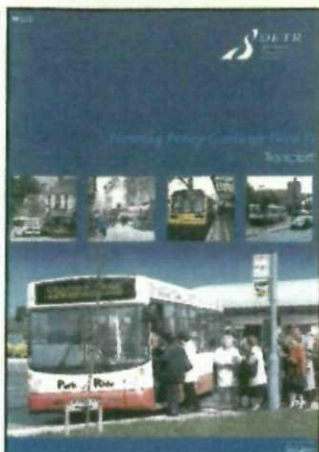
One of the provisions within the White Paper for cyclists is that Local Authorities will be required to increase provision of secure parking for cycles as well as providing more road space for cyclists and applying speed constraints.

The White Paper also envisages measures to provide for public transport to include bus shelters and timetable information, funding bus priority measures on the surrounding road network, and providing or supporting bus services to and from the site for customers and staff.

The White Paper seeks to improve public transport facilities so that they,

'become the focus of our efficient transport system that gets people to where they want to be, quickly and comfortably without having to rely on cars'

Planning Policy Guidance Note 13 – Transport



The revised Planning Policy Guidance Note, PPG13 was subsequently published in March 2001, emphasising the need to coordinate land use and transport policies more effectively; reinforcing the message that new developments must be located and designed in ways that reduce both the need to travel and the dependence on the private car.

This policy document contains objectives to integrate planning and transport and describes how transportation issues can be influenced by planning control. Key points of PPG13 are further detailed below.

The objectives of the Guidance are given as being to:

- Promote more sustainable transport choices;
- Promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and
- Reduce the need to travel especially by car'.

In order to deliver these objectives, the Guidance recommends suitable considerations that should be made when assessing proposed material trip generating developments, some of these considerations are:

- 'Actively manage the pattern of urban growth to make the fullest use of public transport, and focus major generators of travel demand in city, town and district centres and near major public transport interchanges;
- Locate day to day facilities which need to be near their clients in local centres so that they are accessible by walking and cycling;
- Ensure that development comprising jobs, shopping, leisure and services offers a realistic choice of access by public transport, walking, and cycling;
- Use parking policy, alongside other parking and transport measures, to promote sustainable transport choice and reduce reliance on the private car for work and other journeys'.

Furthermore, PPG13 states that:

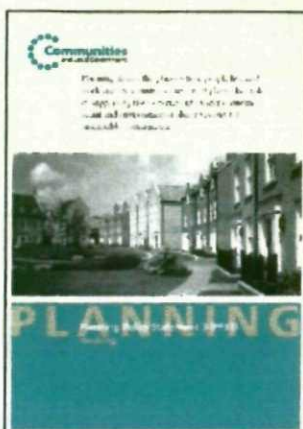
- 'Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2 kilometres. Walking also forms an often forgotten part of all longer journeys by public transport and car; and
- Cycling also has the potential to substitute for shorter car trips, particularly those under 5km, and to form part of longer journeys by public transport'.

Guidance on implementing planning policies states:

'Where clearly justified and in accordance with the usual statutory and policy tests, conditions may legitimately be used to require on-site transport measures and facilities as part of development or to prohibit development on the application site until an event occurs, including:

- Provision of secure cycle parking and changing facilities and safe pedestrian and cycle routes;
- Provision of facilities for public transport, such as bus stops and lay-bys;
- Specifying the number of parking spaces, and their size, including those for disabled people;
- The management and use of parking spaces, so that, for example, priority is given to certain categories of people, e.g. disabled people, people with children, visitors, or cars with more than one occupant;
- The removal of parking spaces (other than those for disabled people) after a specified period, or when access to the site is improved by public transport, walking and cycling (such as when a bus route is introduced to a site);
- New or improved junctions and road layouts'.

Planning Policy Statement 3 – Housing



Planning Policy Statement 3 (PPS3) sets out the national planning policy framework for delivering the Government's housing objectives. The Government's key housing policy goal is to ensure that everyone has the opportunity of living in a decent home, which they can afford, in a community where they want to live.

At the heart of this is creating places, streets and spaces which meet the needs of people, are visually attractive, safe, accessible, functional, inclusive, have their own distinctive identity and maintain and improve local character.

In support of its objective of creating mixed and sustainable communities, the Government's policy is to ensure that housing is developed in suitable locations which offer a range of community facilities with good access to jobs, key services and infrastructure.

It states that the location of proposed housing development should maximise accessibility to existing local community facilities, infrastructure, services, including public transport, and that a design-led approach be taken to the provision of car-parking space, that is well-integrated with a high quality public realm and streets that are pedestrian, cycle and vehicle friendly.

DfT Guidance on Transport Assessment

PPG Note13: Transport states that, where a new development is likely to have significant transport implications a TA should be prepared and submitted with a planning application for the development. It will then be used to determine whether the impact of the development on transport is acceptable.

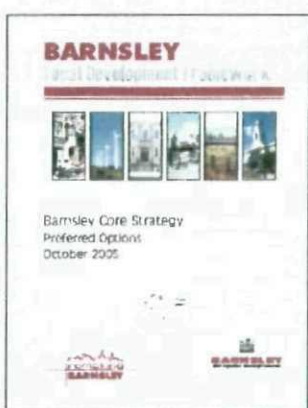
The previous guidance on the assessment of the transport implications of development proposals was the *Guidelines for Traffic Impact Assessment*, published by the Institution of Highways and Transportation (IHT) in 1994. Since the IHT guidelines were produced, there has been a significant change in Government policy and general guidance regarding improved sustainability in transport.

The current guidance brings up to date these changes in Government policy. It expands the scope of the guidance to cover the assessment of the potential implications of development proposals on the entire transport system, including the public transport system (buses, rail and trams), the Strategic Road Network, local highways and footways.

4.2

Local Policy

Local Development Framework



Due to the changes in the planning system Barnsley Metropolitan Borough Council (BMBC) is currently producing a Local Development Framework (LDF). The LDF will consist of the following documents and will replace the Unitary Development Plan (UDP) as the development plan for Barnsley.

- Core Strategy (Overall strategic and spatial planning framework);
- Policies;
- Housing and Employment sites;
- Town Centre Area Action Plan;
- Transport Proposals and Education Sites; and
- Supplementary Planning Documents.

The purpose of the Core Strategy sets out an approach for long-term development of Barnsley and sets out the principles that will influence how much development takes place, where it will be and what it will be like.

With regards to Housing the Core Strategy supports the development of Barnsley's towns and villages as attractive places to live for people to want to work in Barnsley. Under the Regional Spatial Strategy (2004) 810 houses are to be built each year from 1998 to 2016. The aim of the spatial strategy is to distribute new housing in the most beneficial and sustainable way.

Mapplewell which is located in the district of Darton is considered as a main town and service centre and the aim of the LDF is to:

- Support and develop good shops and services;
- Improve housing; and
- Providing better public-transport access to Barnsley Town Centre and other settlements

The LDF will achieve this by:

- Providing a medium level of new housing development on sustainable sites;
- Improving public transport links with Barnsley town centre; and
- Supporting Mapplewell district centre and Darton local centre by focusing retail, service and community facilities in the centres.

The proposed development on the former North Gawber Colliery off Carr Green Lane is one of the sites specifically set aside for housing development to meet the requirements as set out in the Barnsley Core Strategy. The 6.27 hectares HS18 site is designated for 250 homes for Phase 1 and the site must be developed in line with policies HS2 (phased release of housing sites), HS3 (pollution), HS4 (other development issues) and other relevant policies in Barnsley Policies, including H2 (uses on housing sites).

Policy HSP2: Phased Release of Housing Sites

This policy sets aside sites for housing that will be released for development in two phases. A total of 6,377 homes are to be built on allocated sites during the plan period, during Phase 1 the total number of homes to be built will be 3,922 and in Phase 2 there will be 2,455.

This Barnsley Policy document sets out the policies which help put into practice the Core Strategy. In the Housing section the introduction states new homes in the borough will be close to shops, local services and public transport and that they will be built within existing town centres and villages and strengthen local centres and where possible they will also mainly be on previously developed land and not on 'greenfield' sites.

In the Policy document – the following policies relate to the proposed development site at the former North Gawber Colliery:

Policy H1: Housing Type and Mixes

Residential developments on sites of 0.4 hectares and above must include a mix of house types. Planning permission would only be permitted where the percentage of one single house type is not more than 50% of the total number of homes proposed.

Paragraph 86 states: *Housing developments should provide a range of homes of different sizes and design to create a better social mix and a more varied community, offering a decent home for everyone. A variety of house types usually results in a more interesting overall design.*

The proposed development mix as shown in **Table 3.1** clearly demonstrates adherence to Policy H1.

Policy H5: Density of New Housing Development

Proposals for residential development on sites of 0.3 hectares or more must provide at least 40 homes for each hectare, except on sites:

- Within a good public-transport corridor where at least 45 homes for each hectare must be provided; and
- In Barnsley town centre, where at least 55 homes for each hectare must be provided.

Although there are good public transport facilities nearby, the site is not considered to be close to a major public-transport corridor and therefore the site in order to adhere to this policy must provide at least 40 homes per hectare. As the proposed development will accommodate for 251

homes on a 6.27 hectare this equates to 40.03 homes per hectare and therefore the proposals adhere to Policy H5.

Policy H7: Provide Affordable Homes in New Housing Developments

Proposals for residential development must provide affordable homes where:

- There is a local need for them; and
- The proposal provides 25 or more homes, or is on a site of 0.6 hectares or more in area, and is within a town or village of more than 3000 people; or
- The proposal provides 15 or more homes, or is on a site of 0.4 hectares or more in area, and is within a town or village of more than 3000 people.

The number of affordable homes to be provided must be at least 15% of the total number of homes proposed. Paragraph 105 states that:

There are four types of affordable homes:

- Social rented housing – (housing association);
- Low-cost private-market rented housing;
- Low-cost private-market owner-occupied; and
- Other private-market housing provided at a rate significantly below the market value.

It is proposed to provide 63 affordable homes which equates to 25% of the total proposed development of 251 homes and therefore the development proposals clearly adheres to Policy H7.

These 63 affordable homes would be split as 40% intermediate (25 homes) and 60% for rent (38 homes).

4.3

Summary

The overriding theme of national policy is that developments must be accessible by sustainable means of transport and accessible to all members of the local community.

Local policy echoes the sustainability sentiment of national policy and provides more detail.

The following chapters of this report will show that the proposed development is compliant with local and national policy in this respect.

5 Access by Sustainable Modes

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5.1 Introduction

This section examines whether the existing site has a good level of accessibility by sustainable modes of transport, and how the design of the proposed development will promote sustainable modes of travel and ultimately reduce the attractiveness and reliance on the private car.

5.2 Pedestrian Accessibility

The internal layout of the development will put the permeability of pedestrians at the forefront of design. Priority will be given to the movement of pedestrians and cyclists over motor vehicles.

An acceptable walking distance to work is generally considered to be 2km, PPG13 states that:

"Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips particularly under 2 kilometres".

A number of residential, employment, leisure and education opportunities are present within a 2km catchment of the site. It is also considered that walking to shopping facilities such as the Co-op can be accomplished within a 400m walking distance. As such the development site has an excellent walking catchment.

5.3 Public Rights of Way

Public rights of way information for the Mapplewell site was obtained from BMBC and the map below shows the routes within the proposed site, which suggests there maybe, undefined footpaths.

Further discussions will be undertaken post submission with consultation with BMBC and local residents.

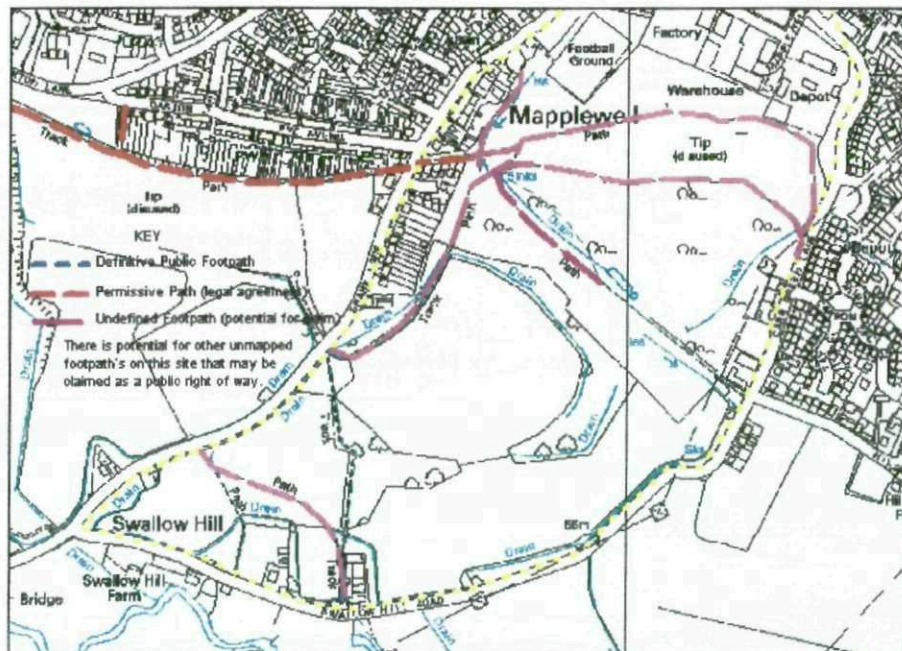


Figure 5.1 Public Rights of Way

5.4

Cycling

An acceptable cycle distance is considered to be up to 5km. PPG13 states:

"Cycling also has the potential to substitute for short car trips, particularly those under 5km and to form part of a longer journey by public transport"

Within 5km of the site the local cycle network provides direct access to various local amenities around Mapplewell which includes both the Darton train station (2km) and Barnsley train station (5km), offering the potential to bike-and-ride.

This presents a real opportunity for modal shift by encouraging residents of the development to cycle to work.

5.5

Public Transport

The proposed development is located within easy walking distance of bus stops which will serve a number of local and long-distance bus routes. Darton railway station is also within a similar short distance of the site. The accessibility offered by the bus and rail services is explained in further detail in the following sections:

Buses

Guidance published by the IHT 'Planning for Public Transport in Developments' (1999), recommends that the maximum walking distance to a bus stop should be 400 metres, approximately equating to a five minute walk.

'Destinations for bus passengers should be either side of the route in a corridor whose width involves walks of up to about 400m to the bus stop...'

The proposed development benefits from good accessibility by public transport with bus stops located on Blacker Road in both directions, immediately north of the site and these lie within 350metres of the heart of the development site, i.e. well within recommended maximum walking distances as illustrated in **Figure 5.2** below.

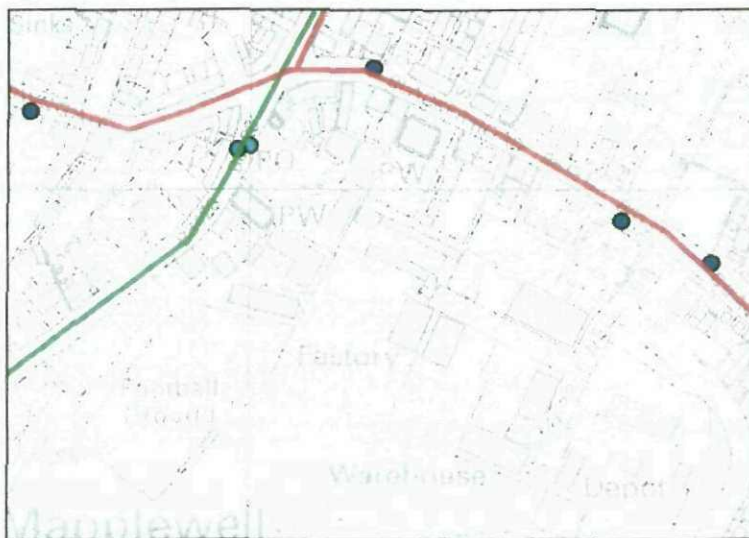


Figure 5.2 Location of Bus Stops Close to the Site

The above map shows two bus routes. The red line is Stagecoach service 1 (Barnsley - Staincross - Mapplewell) and the green line is Bates service 18 (Barnsley - Staincross circular) and one morning journey for Arriva service 444 (Leeds - Barnsley).

In addition to these there are other school services operated by Stagecoach that run in the area once a day. They are the 420 and 488 which serves Blacker Road and service nos. 485 and 490 which serve both Blacker Road and Spark Lane.

The routes and frequencies of the above services which use these stops are summarised in **Table 5.1** below. It can be seen that four of these services operate hourly or more frequently basic daytime service to a number of key surrounding residential areas, including Birmingham, Uttoxeter and Stafford.

Table 5.1 Summary of Bus Services on Blacker Road & Spark Lane

Bus Service	Route	Service Frequency (Buses/Hour)			
		Weekday AM Peak	Weekday PM Peak	Saturday	Sunday
1	Barnsley - Staincross - Mapplewell	5	5	5	1
18	Barnsley - Staincross (Circular)	1	1	1	0
Total		6	6	6	1

Trains

The nearest train station is Darton Railway station which is approximately 2km from the proposed development site; buses on Blacker Road provide a service to the station where there is a bus stop near the station. The station also provides free car parking spaces for 10 vehicles.

A further station is located in Barnsley which is approximately within 5km and this station provides 40 parking spaces along with cycling facilities and is considered within the 5km acceptable cycling distance.

The train station provides the Hallam service between Leeds and Sheffield with the following route: *Leeds - Woodlesford - Castleford - Wakefield Kirkgate - Darton - Barnsley - Meadowhall - Sheffield.*

The routes and frequencies of the above services during the day, late evening and Sunday is summarised in **Table 5.2** below.

Table 5.2 Summary of Train Services

Northern Operator Service Route	Monday to Saturday daytime	Late Evening	Sunday
Leeds - Castleford	30 mins	30 mins	60 mins
Leeds - Castleford - Wakefield Kirkgate - Barnsley - Sheffield	60 mins	60 mins	120 mins
Leeds - Wakefield Kirkgate - Barnsley - Sheffield (Express service)	60 mins	No service	120 mins

6 Road Safety

6 Road Safety

Personal injury collision data has been obtained for the surrounding highway network in the vicinity of the site and at each of the junctions where the development traffic is likely to have an impact over the five year period between January 2003 and December 2007 from Barnsley MBC. The collision records are summarised and included in **Appendix E** (see CD) along with illustrative plans.

In total for the five year period under consideration, there have been 13 personal injury collisions associated with the junctions where development traffic is likely to have an impact of which there was 1 serious and 12 slight collisions.

There are three junctions identified where collisions have occurred that are likely to be impacted upon by additional traffic, these are:

- Wakefield Road/Bar Lane;
- Blacker Road/Mapplewell Drive; and
- Blacker Road/Greenside/Spark Lane.

Table 6.1 below summarises the collision rates at the three locations, extracted from the collision data records.

Table 6.1 Summary of Accident Data

Junction	Number of Incidents	Severity		
		Slight	Serious	Fatal
Wakefield Road/Bar Lane	7	6	1	0
Blacker Road/Mapplewell Drive	2	2	0	0
Blacker Road/Greenside/ Spark Lane	6	6	0	0

Of the seven collisions that occurred at the Wakefield Road/Bar Lane junction, four were shunts, one was a right-turn collision and the remaining two were caused by vehicle on the wrong side of the road. The serious injury was caused by the right-turn collision.

Both collisions at the Blacker Road/Mapplewell Drive junction were caused by right-turning vehicles.

Of the six collisions at the Blacker Road/Greenside/Spark Lane junction and immediate approaches to this junction, one was a shunt on a parked vehicle on Spark Lane due to driver being dazzled by the sunlight and the remaining five involved pedestrians. One was caused by a car passing too close to a pedestrian accessing a vehicle and four involved pedestrians of which one was intoxicated, and two involved children one running onto Spark Lane and one tripping on Greenside.

As part of the proposals the Blacker Road/Greenside/Spark Lane junction is being upgraded to a signalised junction with uncontrolled crossings on the Spark Lane and Greenside approaches and a controlled pedestrian crossing facility across Blacker Road, which would enhance safety for pedestrians using this junction.

The location of the above accidents as detailed above and in **Table 6.1** are illustrated in **Figure 6.1** below which also indicates that no collisions have occurred within the vicinity of the proposed site entrances on Spark Lane and Carr Green Lane.

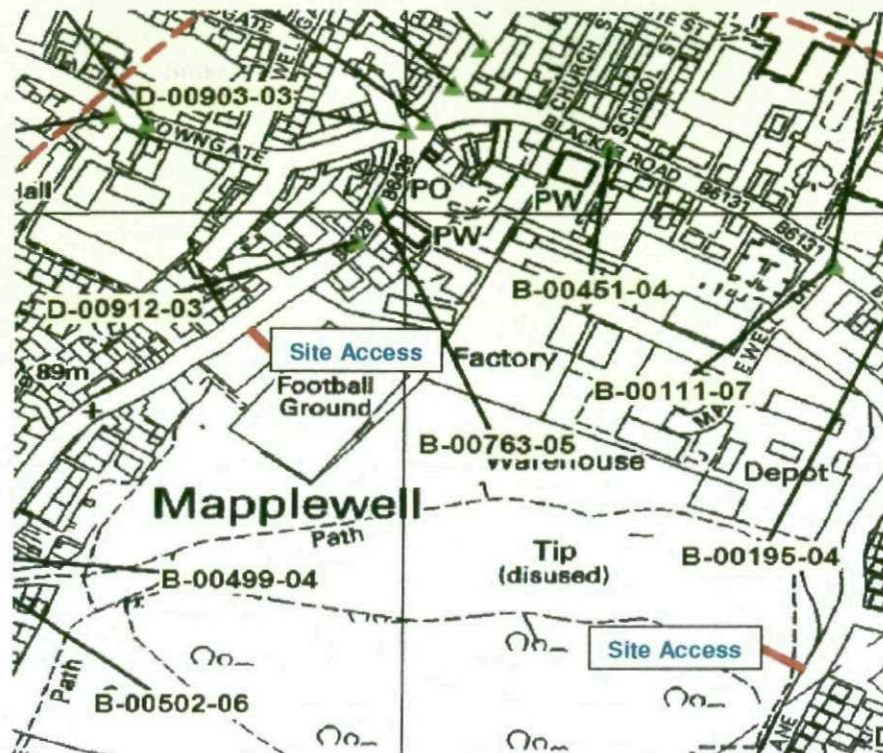


Figure 6.1 Location of the accidents in the vicinity of the site

Summary

Whilst all collisions are regrettable, based on the above information the proposed development is likely to have little or no impact on collision rates at these key junctions. There have been very few accidents within the study area over the five year period.

7 Baseline Conditions

7 Baseline Conditions

7.1

Traffic Flow Surveys.

Faber Maunsell has commissioned Andy Haxby Consultancy to undertake traffic surveys for the following junctions during the Weekday AM (0730 – 0930) and Weekday PM (1600 – 1830):

- Blacker Road/Mapplewell Road/Carr Green Lane – 22nd November 2007;
- Blacker Road/Mapplewell Road – 22nd November 2007;
- A61/Dearne Hall Road – 12th December 2007;
- A61 Wakefield Road/Bar Lane – 12th December 2007; and
- B6428 Greenside/B6131 Blacker Lane/B6131 Towngate – 18th March 2008.

In addition to the above junctions a survey traffic count data has been obtained from BMBC for the following junction which was carried out in 2007:

- Claycliffe Road/Barugh Lane – 23rd February 2007.

From this data the Weekday AM and PM highway peak hour periods have been established as 0800 - 0900 and 1645 - 1745 respectively. The peak hour flows for the junctions listed above are presented in Tables 7.1 to 7.6 below in vehicles.

Table 7.1 Blacker Rd/Mapplewell Rd/Co-op Access/Carr Green Lane - 2007 Survey Results

	Carr Green Lane		Mapplewell Road (S)		Co-op		Mapplewell Road (S)	
	AM	PM	AM	PM	AM	PM	AM	PM
Carr Green Lane			8	3	7	14	83	40
Mapplewell Road (S)	1	10			0	3	28	24
Co-op	2	12	2	5			51	119
Mapplewell Road (S)	37	39	23	19	58	106		

Table 7.2 Blacker Rd/ Mapplewell Road - 2007 Survey Results

	Blacker Road (East)		Mapplewell Road		Blacker Road (West)	
	AM	PM	AM	PM	AM	PM
Blacker Road (East)			41	74	384	421
Mapplewell Road	52	68			102	113
Blacker Road (West)	309	323	78	89		

Table 7.3 Bar Lane/A61 Wakefield Road - 2007 Survey Results

	A61 Wakefield Rd (S)		Bar Lane		A61 Wakefield Rd (N)	
	AM	PM	AM	PM	AM	PM
A61 Wakefield Rd (S)			342	458	638	541
Bar Lane	408	382			17	18
A61 Wakefield Rd (N)	598	644	14	27		

Table 7.4 Claycliffe Rd/Barugh Lane/A637 - 2007 Survey Results

	A637 Claycliffe Road		Barugh Lane		A637 Barnsley Road	
	AM	PM	AM	PM	AM	PM
A637 Claycliffe Road			250	281	954	552
Barugh Lane	38	24			300	319
A637 Barnsley Road	535	808	56	16		

Table 7.5 A637/Dearne Hall Road - 2007 Survey Results

	Dearne Hall Road		A637 South		A637 North	
	AM	PM	AM	PM	AM	PM
Dearne Hall Road			358	439	17	12
A637 South	400	308			704	539
A637 North	34	23	590	772		

Table 7.6 Blacker Lane/Towngate - 2008 Survey Results

	Blacker Road		Spark Lane		Towngate		Greenside	
	AM	PM	AM	PM	AM	PM	AM	PM
Blacker Road			121	135	249	316	102	72
Spark Lane	81	64			31	38	137	150
Towngate	237	236	76	41			101	245
Greenside	38	47	149	145	44	59		

The traffic flows for the peak survey periods growthed to 2008 opening year are illustrated as a network diagram in **Figure 9.1**, with the raw traffic survey data presented in **Appendix D**. (see CD).

7.2

Network Traffic Growth

It has been agreed during discussions with the Local Highway Authority that National Road Traffic Forecast (NRTF) central growth factors adjusted for the study area using TEMPRO would be appropriate to be applied to the traffic flow data, to growth the flows to the assessment years. Committed development is discussed in more detail in the following section.

For the purpose of this report it is assumed that the opening year of the development will be 2008. Traffic assessments will be undertaken in 2008 with a design year of 5 years hence (2013). **Table 7.7** below illustrates the growth factors used to growth the traffic to the base and assignment years. The associated calculations are presented in **Appendix C**.

Table 7.7 Growth Factors

Assessment Years Growth Factors	NRTF Central Growth offset against TEMPRO	
	AM Peak	PM Peak
2007 – 2008	1.018	1.017
2008 – 2013	1.112	1.111

8 Traffic Generation & Distribution

8 Traffic Generation & Distribution

8.1

Traffic Generation

In order to assess any potential impact that may result from the proposals on the adjacent highway network it is necessary to forecast the number of trips that may be attracted by the proposed residential development.

In order to assess the impact of traffic generated by the development on the local highway network, the Trip Rate Information Computer System (TRICS) 2008 database version A was used to establish the potential trip generations from the proposed development. Trip numbers have been identified for Weekday AM and PM peaks when traffic attraction is deemed to be at its highest.

As agreed with Barnsley Metropolitan Borough Council average trip rates were calculated from this data and the potential trip generations for the proposed residential development are shown in **Table 8.1** below. A copy of the TRICS output indicating how these trips were obtained is attached in **Appendix C**.

Table 8.1 Trip Rates and Trip Generation – Residential Development

		Peak Period			
		Trip Rate (Average)		Trips Generated	
		Arrs	Deps	Arrs	Deps
Weekday AM Peak (0800 – 0900)	Residential (Private Housing) – 549	0.153	0.458	84	251
	Residential (Apartments) – 51	0.036	0.263	2	13
		Total		86	264
Weekday PM Peak (1700 – 1800)	Residential (Private Housing) – 549	0.474	0.248	260	136
	Residential (Apartments) – 51	0.244	0.092	12	5
		Total		272	141

8.2

Trip Distribution

The traffic distribution has been determined by population census for wards surrounding the development and the following distribution has been derived for the local network, which is shown in **Figure 9.3** in **Appendix D**:

- A61 Barnsley Road: 30%;
- A61 Wakefield Road: 16%;
- Towngate: 35%;
- A637 Claycliffe 2%;
- Barugh Lane 15%; and
- A637 via M1: 2%.

It is assumed that all traffic emanating from the east would be arriving and departing via the Carr Green Lane site access and traffic emanating from the south and west would be arriving and departing via the Spark Lane site access.

9 Highway Impact

9 Highway Impact

9.1

Threshold Assessments

Threshold Assessments have undertaken on the surrounding network to determine the potential impact of the development.

The IHT guidelines for TA's states that junction assessments should be undertaken where the increase in any turning movement, at a junction, as a result of the development, increases by 5% or more at the anticipated year of development opening.

The IHT guidelines: Traffic Impact Assessment (1994) suggests further assessments should then be carried out where the Threshold Assessment shows:

- The traffic to and from the development exceeds 10% of the existing two-way traffic flow; or
- Traffic to and from the development exceeds 5% of the existing two-way traffic flow on the adjoining highway, where traffic congestion exists or will exist within the assessment period or in other sensitive locations.

The following junctions have been assessed in order to consider whether the impact of the development traffic is significant to warrant assessments at that junction based on the development traffic being assigned on to the local network in proportion to the existing traffic surveys:

- Blacker Road/Mapplewell Drive – priority controlled;
- A61 Wakefield Road/Bar Lane – signal controlled;
- A637 Claycliffe Road/Barugh Lane - mini roundabout;
- A637/Dearne Hall Road - priority controlled; and
- Greenside/Spark Lane – staggered priority-controlled

In order to provide a robust threshold assessment we have undertaken both scenarios in terms of impact on the junction and impact at each arm of a junction. The impact of each of the junctions assessed is shown in **Table 9.1** below:

Table 9.1 Percentage Impact at Junctions

Junction	Weekday AM Peak (0800-0900)			Weekday PM Peak (1645-1745)		
	2008 Base	2008 Base + Dev	Percentage Impact	2008 Base	2008 Base + Dev	Percentage Impact
Blacker Rd/Mapplewell Drive	984	1144	16%	1106	1296	17%
A61 Wakefield Rd/Bar Lane	2053	2215	8%	2105	2295	9%
A637 Claycliffe Rd/Barugh Lane	2171	2232	3%	2034	2104	3%
A637/Dearne Hall Road	2131	2197	3%	2139	2217	4%
Greenside/Spark Lane	1391	1420	2%	1574	1669	6%

Threshold assessments indicate that the percentage impact at each of the junction is below the 5% critical threshold at each of the junctions other than Greenside/Spark Lane, where there is a 6% impact in the PM peak, Blacker Road/Mapplewell Drive, where there is a 16% impact in the AM peak and a 17% impact in the PM peak and A61 Wakefield Road/Bar Lane, where there is a 8% impact in the AM peak and a 9% impact in the PM Peak.

Further assessments were undertaken at each of the junctions based on impact of the development on each of the arms; the results are shown below in **Tables 9.2 - 9.6**.

Table 9.2 Percentage Impact at Blacker Road/Mapplewell Drive

Arm	Weekday AM Peak (0800-0900)			Weekday PM Peak (1645-1745)		
	2008 Base	2008 Base + Dev	Percentage Impact	2008 Base	2008 Base + Dev	Percentage Impact
Blacker Road (West)	394	394	0%	419	419	0%
Blacker Road (East)	433	472	9%	503	628	25%
Mapplewell Drive	157	278	77%	184	249	35%

Table 9.3 Percentage Impact at Bar Lane/Wakefield Road

Arm	Weekday AM Peak (0800-0900)			Weekday PM Peak (1645-1745)		
	2008 Base	2008 Base + Dev	Percentage Impact	2008 Base	2008 Base + Dev	Percentage Impact
A61 Wakefield Rd (South)	997	1023	8%	1016	1097	8%
Bar Lane	432	555	28%	406	472	16%
A61 Wakefield Rd (North)	623	637	2%	682	726	6%

Table 9.4 Percentage Impact at Claycliffe Road/Barugh Lane

Arm	Weekday AM Peak (0800-0900)			Weekday PM Peak (1645-1745)		
	2008 Base	2008 Base + Dev	Percentage Impact	2008 Base	2008 Base + Dev	Percentage Impact
A637 Claycliffe Road	1226	1228	0%	847	853	1%
Barugh Lane	344	357	4%	348	389	12%
A637 Barnsley Road	602	647	7%	838	862	3%

Table 9.5 Percentage Impact at A637/Dearne Hall Road

Arm	Weekday AM Peak (0800-0900)			Weekday PM Peak (1645-1745)		
	2008 Base	2008 Base + Dev	Percentage Impact	2008 Base	2008 Base + Dev	Percentage Impact
Dearne Hall Road	459	509	11%	381	408	7%
A637 South	863	877	8%	1123	1169	4%
A637 North	809	811	0%	635	640	1%

Table 9.6 Percentage Impact at Greenside Road/Towngate

Arm	Weekday AM Peak (0800-0900)			Weekday PM Peak (1645-1745)		
	2008 Base	2008 Base + Dev	Percentage Impact	2008 Base	2008 Base + Dev	Percentage Impact
Blacker Rd (East)	480	480	0%	532	532	0%
Spark Lane	253	253	0%	257	257	0%
Towngate	421	451	7%	531	626	18%
Greenside	235	236	0%	255	255	0%

The above threshold assessments indicate that in addition to the proposed site accesses the following junctions would need to be assessed where there is an impact of greater than 5% these are:

- Blacker Road/Mapplewell Drive – priority controlled;
- A61 Wakefield Road/Bar Lane – signal controlled; and
- Greenside/Spark Lane – staggered priority-controlled.

Although the threshold assessments indicate there is an impact on the A637/ Dearne Hall Road and Claycliffe Road/ Barugh Lane junctions it is considered that the impact is minimal and that these junctions would therefore not warrant any highway improvements as our trip distribution based on the Census indicates that some 80% of trips would arrive either from the east or west on Blacker Road and Towngate respectively.

In addition to the above assessments, the site accesses (Carr Green Lane and Spark Lane) will be assessed in terms of capacity as well as the option of introducing signals and realigning the Greenside and Spark Lane approaches.

These junctions will be subjected to detailed junction analysis as part of the TA, in line with the parameters set out in this chapter.

9.2

Junction Assessments

Based on the Threshold assessments undertaken it has been demonstrated that the development proposals will not have an impact on two of the five junctions on the surrounding local network. Detailed assessments have been undertaken at the site accesses and the above listed junctions for the following scenarios and assessment years:

- Base assessments at year of opening (2008) and design year (2013); and
- Base assessments with proposed development (2008 & 2013).

Traffic flow spreadsheets have been produced to illustrate the different scenarios to be modelled, the following information is illustrated in each of the figures below and is attached in **Appendix D**:

- **Figure 9.1** illustrates the base traffic flows growthed to a 2008 opening year of assessment for the weekday AM and PM peak periods;
- **Figure 9.2** illustrates the base traffic flows growthed to a 2013 design year of assessment for the weekday AM and PM peak periods
- **Figure 9.3** illustrates the Trip Distribution;
- **Figure 9.4** illustrates Trips likely to be generated on the local highway network;
- **Figure 9.5** illustrates the 2008 base + development traffic for the weekday peak periods;
- **Figure 9.6** illustrates the 2013 base + development traffic for the weekday peak periods; and
- **Figure 9.7** illustrates the percentage impact of the development traffic on the local highway network during the opening year.

Site Access/ Carr Green Lane

The site access off Carr Green Lane will be in the form of a priority-controlled T- junction and therefore the junction has been assessed using the TRL software program PICADY, where RFC values between 0.00 and 0.85 are generally accepted as representing stable and acceptable operating conditions with values between 0.85 and unity represent variable operation (i.e. possible queues building up at the junction during the period).

The results of the PICADY assessment for the proposed site access for the Weekday AM and PM peak periods is shown in **Table 9.6** and copies of the outputs are attached in **Appendix F** (see CD).

Table 9.6 Site Access/Carr Green Lane - AM & PM PICADY Results

Scenario	Period	Carr Green Lane Right-Turn		Site Access Left-Turn	
		Max RFC	Max Queue (vehs)	Max RFC	Max Queue (vehs)
2008 Base with Development	Weekday AM Peak	0.08	0	0.19	0
	Weekday PM Peak	0.26	0	0.10	0
2013 Base with Development	Weekday AM Peak	0.08	0	0.20	0
	Weekday PM Peak	0.26	0	0.10	0

The results show that maximum RFC on the local highway network is estimated to be 0.26 with no queuing vehicle on the Carr Green Lane right-turn approach during the 2013 Weekday PM peak design year with development traffic.

From this assessment, it can be concluded that that the development will not have a material impact on the highway network.

Blacker Road/Mapplewell Drive

The junction is currently a priority-controlled T-junction with a right-turn ghost island for traffic arriving from the west.

The results of the PICADY assessment for the junction for a weekday AM and PM assessment during the design year was undertaken and is shown in **Table 9.7** and copies of the outputs are attached in **Appendix F** (see CD).

Table 9.7 Blacker Road/Mapplewell Drive - Weekday AM & PM PICADY Results

Scenario	Period	Mapplewell Drive Right-Turn		Blacker Road (West) Right-Turn	
		Max RFC	Max Queue (vehs)	Max RFC	Max Queue (vehs)
2013 Base	Weekday AM Peak	0.21	0	0.19	0
	Weekday PM Peak	0.28	0	0.22	0
2013 Base with Development	Weekday AM Peak	0.63	2	0.20	0
	Weekday PM Peak	0.53	1	0.23	0

The results show that maximum RFC on the local highway network is estimated to be 0.63 with a queue of 2 vehicle on the Mapplewell Drive right-turn approach during the 2013 Weekday AM peak design year with development traffic and during the Weekday PM peak design year with development traffic the maximum RFC is estimated to be 0.53 with a queue of 1 vehicle on the same right-turn approach.

Spark Lane Site Access

The proposed junction for the access to the development site is to be a priority controlled T-junction which has been modelled using PICADY for the weekday AM and PM peaks for the 2008 opening year with development traffic and the 2013 proposed open year with development traffic. **Table 9.8** summarises the PICADY outputs.

Table 9.8 Site Access/Spark Lane - Weekday AM & PM PICADY Results

Scenario	Period	Spark Lane Right-Turn		Site Access	
		Max RFC	Max Queue (vehs)	Max RFC	Max Queue (vehs)
2008 Base with Development	Weekday AM Peak	0.03	0	0.41	1
	Weekday PM Peak	0.11	0	0.23	0
2013 Base with Development	Weekday AM Peak	0.03	0	0.43	1
	Weekday PM Peak	0.11	0	0.24	0

Blacker Road/ Spark Lane/Greenside

This junction is currently a staggered left-right priority-controlled junction with priority being given to Blacker Road - Towngate traffic. Trips generated by the proposed development would have an impact at this junction and it was therefore proposed that this junction be modified to signal control.

The highway improvements as set out for the Blacker Road/ Spark Lane junction would be able to accommodate the additional trips that would be generated.

The proposed junction has therefore been modelled on **Figure 3.3** in the TA using LINSIG for the 2013 design year, with and without the estimated development traffic and the results of the assessments are shown in **Table 9.9** below and full LINSIG outputs are included in **Appendix F** (see CD).

Table 9.9 Blacker Road/ Spark Lane/ Greenside – Weekday AM & PM LINSIG Results

Scenario		Towngate		Greenside		Blacker Lane		Spark Lane	
		Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue
2013 Base	Weekday AM Peak	72%	11	75%	8	70%	12	73%	8
	Weekday PM Peak	82%	15	82%	9	75%	14	78%	8
2013 Base with Development	Weekday AM Peak	81%	12	80%	6	66%	11	77%	7
	Weekday PM Peak	91%	19	96%	8	63%	16	92%	8

The LINSIG assessment shows that the maximum degree of saturation during the AM peak is 81% along the Towngate approach for the 2013 design year with development traffic with an associated mean maximum queue of 12 vehicles. For the PM peak the degree of saturation is estimated at 96% with an associated mean maximum queue of 16 vehicles for the Blacker Lane approach.

Bar Lane/ A61 Wakefield Road

This junction is currently a priority-controlled junction and is being upgraded to a signalised controlled junction by BMBC.

The results of the assessments for this junction are presented in **Table 9.10** (2008/2013 AM and PM Peak with development) below and full LINSIG outputs are included in **Appendix F** (see CD). The proposed junction layout plan (**Figure 9.9**) is attached in **Appendix B**.

Table 12 A61 Wakefield Road/ Bar Lane – Weekday AM & PM LINSIG Results

Scenario	Period	Cycle Time	A61 Wakefield Road N/Bound Left Slip		Bar Lane Left & Right		A61 Wakefield Road S/Bound Right	
			Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue
2008 Base With Development	Weekday AM Peak	90	53%	1	70%	12	18%	1
	Weekday PM Peak	90	78%	2	75%	12	22%	1
2013 Base With Development	Weekday AM Peak	90	57%	1	75%	14	24%	1
	Weekday PM Peak	90	84%	3	78%	13	27%	2

The results of the 2013 Base plus full development during the AM peak period show that the junction is operating with a maximum degree of saturation of 75% with an associated queue of 14 pcus on the Bar Lane approach. During the PM peak period the results show that the junction is operating within its practical capacity with a maximum degree of saturation of 84% with an associated queue of 3 pcus on the Wakefield Road Northbound Left Slip.

9.3

Summary of Junction Assessments

With the majority of trips likely to be arriving and departing from the east and west on Blacker Road and Towngate i.e. 81%, it was considered that the Blacker Road/ Towngate/ Spark Lane junction would need to be modified from priority to signal-controlled which would involve re-alignment of the Greenside and Spark Lane approaches, uncontrolled crossings on these approaches and a controlled pedestrian facility across Blacker Road.

The Blacker Road/ Mapplewell priority junction can be retained rather than modifying it to a signal-controlled junction as previously considered.

The Council may request improvements for the A637 junctions; however we consider that the highway improvements being proposed for the Towngate/ Spark Lane junction which would carry the brunt of the generated traffic of the development is sufficient for the surrounding network and would be of more benefit to the community. In addition there is restriction in the availability of adopted highway for any highway improvements at the A637 junctions.

Finally it should be noted that this assessment has been based on pro-rating the development mix and therefore we have a split of 549 private housing and 51 apartments. The trip rate for private housing is much greater than apartments and therefore a further increase in apartments would result in a reduction of trips on the local highway network.

The results of the assessments demonstrate that the impact of the development on the local highway network can be accommodated at each of the junctions other than that of Blacker Road /Spark Lane/Greenside. The operational assessments of the junctions show that the junctions operate within their capacity in the AM and PM peak periods in 2013 and are therefore

considered to be acceptable given the assessment year and the robust methodology adopted in these assessments.

The Blacker Road/Spark Lane/Greenside junction however is currently operating at or close to capacity along each of the approaches, particularly along the Spark Lane and Greenside approaches, without the proposed development traffic from the North Gawber site. Therefore, any additional traffic has a detrimental impact. The estimated growth in base traffic between 2008 and 2013 increased the RFC to 1.19 with a queue of 30 vehicles during the PM peak along the Spark Lane approach. With the additional development traffic the RFC increases to 1.29 with a queue of 39 vehicles.

There are a number of possible causes for this. As the junction is formed on a bend, visibility is low (around 17m to the left and 37m to the right) for traffic joining Blacker Road from the minor approaches of Greenside and Spark Lane and so it is difficult for high volumes of vehicles to manoeuvre safely from the minor approaches onto Blacker Road.

Any additional traffic along Blacker Road reduces the number of gaps for traffic to turn into and any additional traffic on the minor approaches mean more gaps are required. Additionally, there is a zebra crossing across the centre of the junction which is likely to cause further delay due to pedestrian demands.

Due to the alignment of the junction, and the wide footway along the east side of the Spark Lane approach, there is scope to upgrade this to a signalised junction with uncontrolled crossing facilities on the Spark Lane and Greenside approaches and a controlled pedestrian facility across Blacker Road as detailed above.

By introducing signals at this junction and realigning the north and south approaches, the maximum degree of saturation is reduced to 96% with a queue of 19 vehicles along the Towngate approach during the PM peak during the proposed design year with development traffic.

10 Conclusion

10 Conclusion

10.1

Conclusion

This report has given consideration to the transportation elements of the proposed residential development at North Gawber, Mapplewell, Barnsley. The proposals will provide 600 residential dwellings and access is to be provided via two priority-controlled junctions off Carr Green Lane and Spark Lane.

This report details the findings of Faber Maunsell on the acceptability of the proposed development in terms of parking, traffic impact on the adjacent highway network, sustainability and transport planning policy requirements.

The level of car parking proposed is considered to be within adopted parking standards and will promote the use of public transport by deterring car ownership.

Threshold assessments were undertaken to establish those junctions that would be deemed likely to be impacted by the development and these junctions were assessed for the opening and design years. It was found that traffic being generated from the proposed development onto these junctions would be able to accommodate these development trips with the exception of the Spark Lane/Towngate/Blacker Road junction which is to be modified to a signal-controlled junction, which would involve re-alignment of the Greensite and Spark Lane approaches.

Consideration of the location of the site has identified the site to be sustainable with residents and having easy access to public transport which serves a wide selection of destinations as well as having a number of local amenities within an easy walking and cycling distance.

A consideration of local and national transport policies has found the site to be compliant with policy guidelines.

Faber Maunsell therefore believe there are no overriding reason preventing the planning authority from recognising that the proposals will not have a material impact on the surrounding highway network and the site is also sustainable and therefore the proposals are acceptable in transport terms.

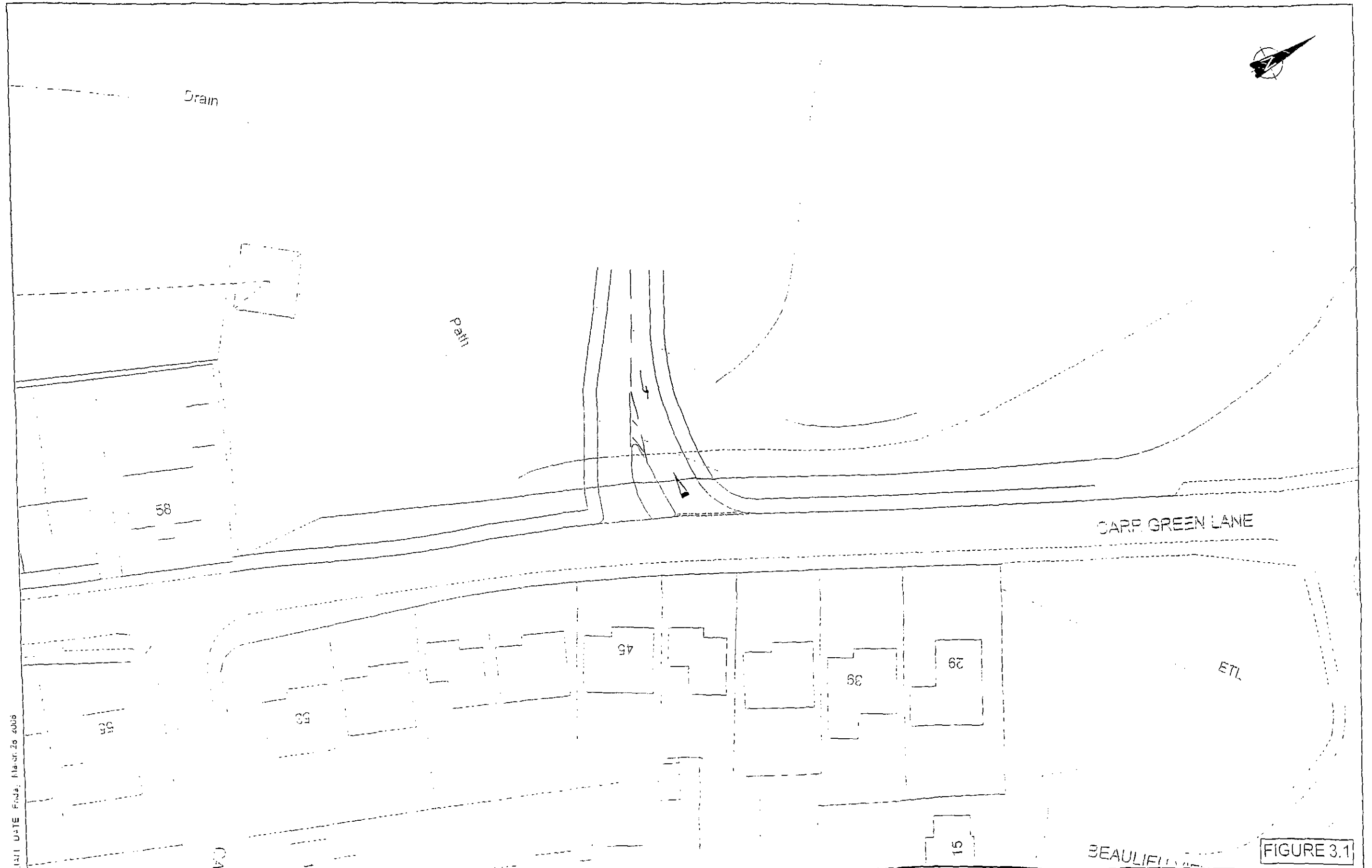
Appendix A

Appendix A – Traffic Flow Data

On CD

Appendix B

Appendix B - Figures



PLOTTER: L&B WILLIAMS DATE: March 26 2008

Client: GLADEDALE (SOUTH YORKSHIRE)	Title: SITE ACCESS LAYOUT	FABER MAUNSELL AECOM 5th Floor, 2 City Walk, LEEDS, LS11 0AR Tel: +44 (0) 113 391 6800 Fax: +44 (0) 113 391 6899 www.fabermaunsell.com	Design: RF	CAD: WJ	City
Project: NORTH GAWBER SITE ACCESS			Check'd: DC	App'd: DC	
			Date: 29.01.08	Scale: 1:500	
			No. 54633-P5 - Sheet 2		Rev. --

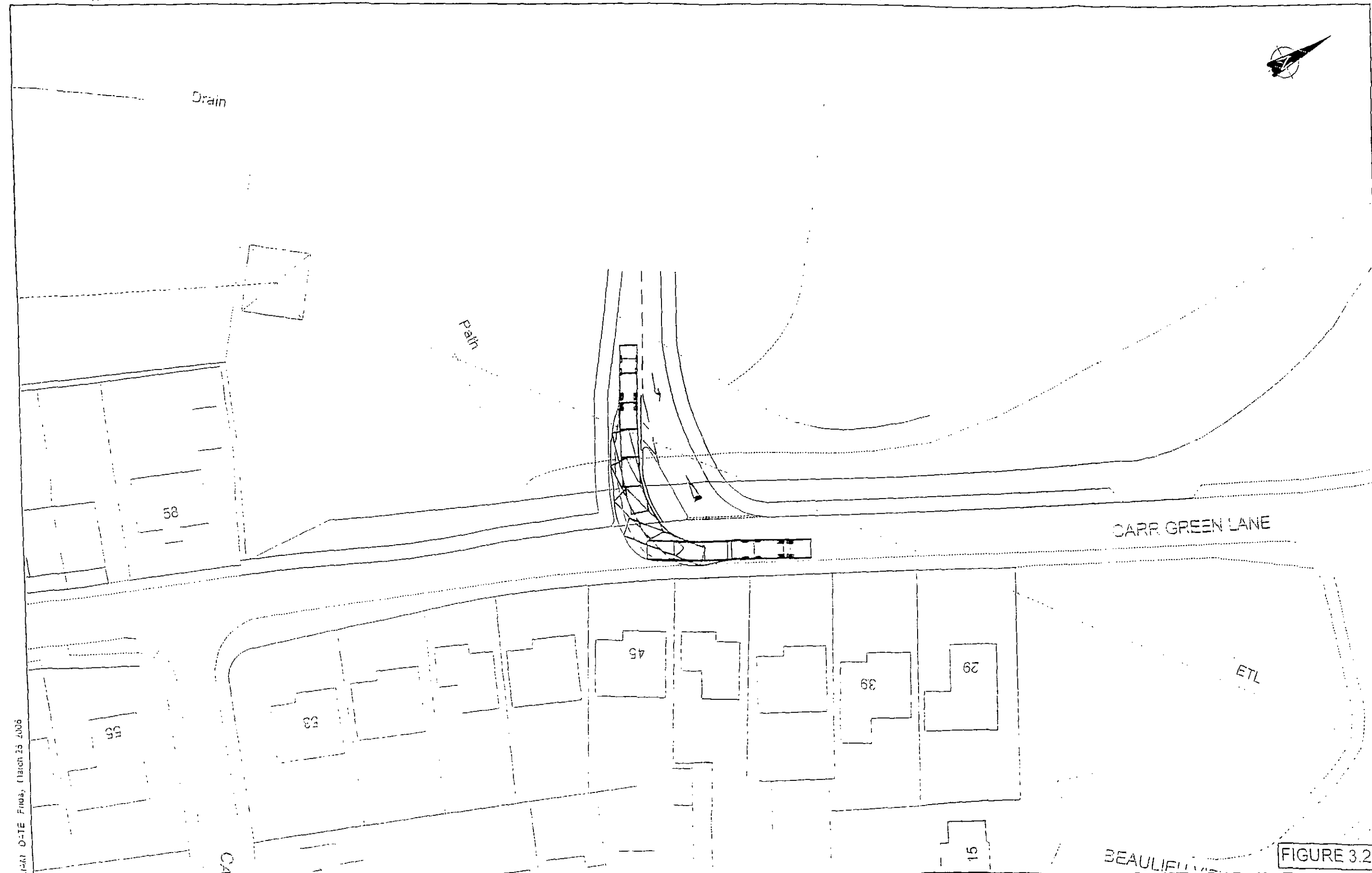


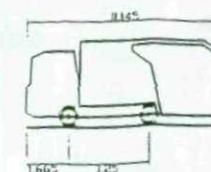
FIGURE 3.2

PLOTTED BY L. & B. WILLIAMS DATE PLOTTED, 11 March 2008

Client: GLADEDALE (SOUTH YORKSHIRE)	Title: SERVICE VEHICLE ACCESS	FABER MAUNSELL AECOM 5th Floor, 2 City Walk, LEEDS, LS11 2AR Tel: +44 (0) 113 391 6800 Fax: +44 (0) 113 391 6899 www.fabermaunsell.com	Design: RF	CAD: WJ	cm
Project: NORTH GAWBER SITE ACCESS			Chk'd: DC	App'd: DC	
			Date: 29.01.08	Scale: 1:500	
			No. 54633-P5 - Sheet 1		Rev: --

[illegible]

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.



Phoenix 2-09N (with Elite 2 4x2 Chassis)	
Overall Length	8.145m
Overall Width	2.220m
Overall Body Height	5.753m
Mini Body Ground Clearance	0.358m
Track Width	2.200m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	6.800m

LAYOUTS ARE INDICATIVE AND SUBJECT
TO CAPACITY ASSESSMENTS AND
DETAILED DESIGN

2.4 x 4.2m VISIBILITY SPY IN
ACCORDANCE WITH MANUAL FOR
STREETS

2.4 x 4.3m VISIBILITY SPY IN
ACCORDANCE WITH MANUAL FOR
DEVELOPER

Football Ground

GLADEDALE
(SOUTH YORKSHIRE)

NORTH GAWBER
SITE ACCESS

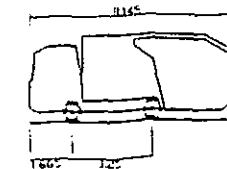
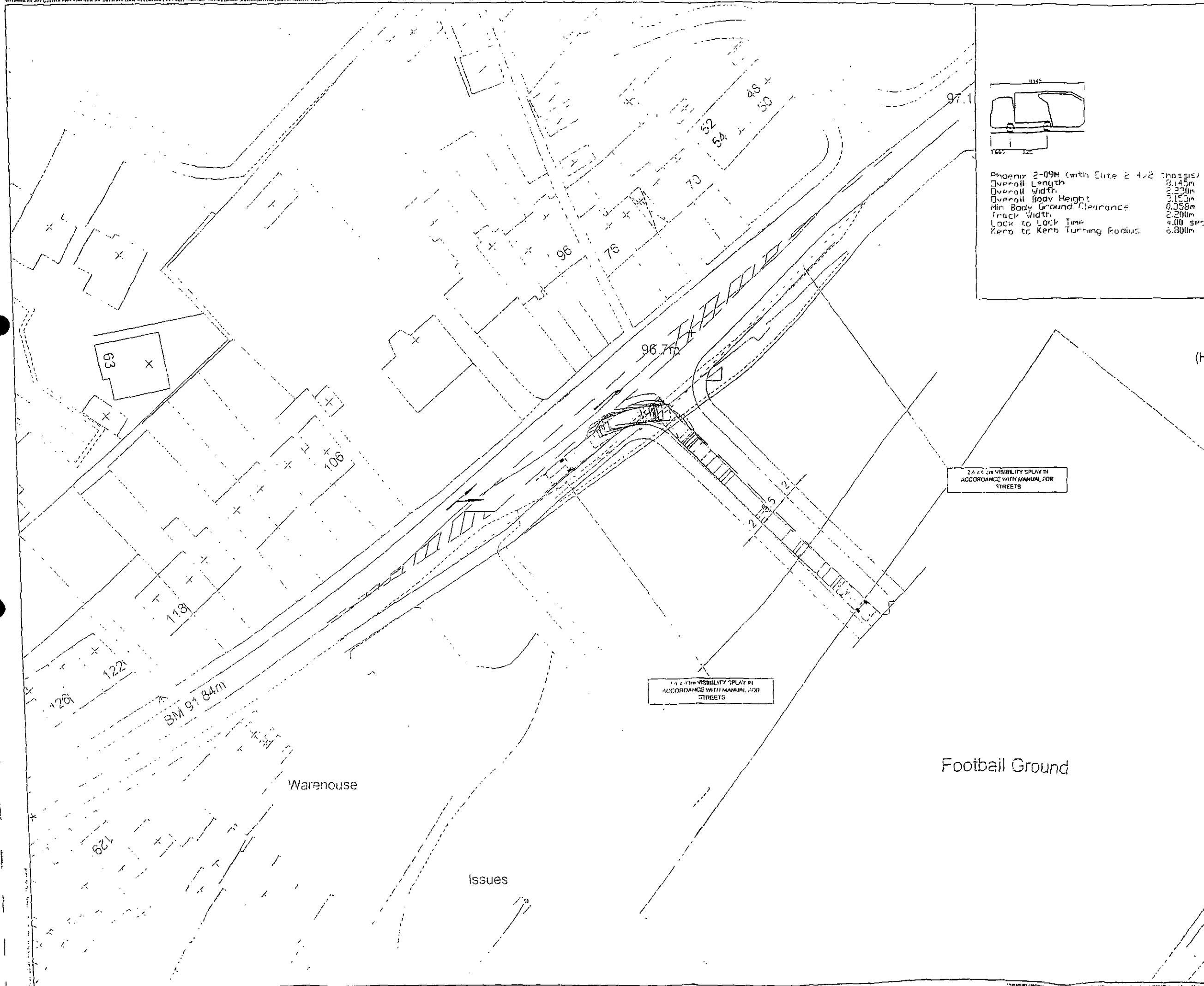
OPTION 3
PROPOSED ACCESS ROAD
USING WAREHOUSE
SITE ACCESS

Destin: RF	CMB: RM
Cat: RF	Exp: RG
Date: 17.01.2008	Loc: 1259 km A1 1509 km

FABER MAUNSELL

5th Floor
2 City Walk
LEEDS LS11 9AJ
Tel: +44 (0) 113 291 81
Fax: +44 (0) 113 291 81
www.fedimass.com

No. 54633/P/3



Phoenix 2-09M (with Elite 2 4x2 chassis)
Overall Length 8.145m
Overall Width 2.230m
Overall Body Height 2.15m
Min Body Ground Clearance 0.358m
Track Width 2.200m
Lock to Lock Time 4.00 sec
Kerb to Kerb Turning Radius 6.800m

NOTES

LAYOUTS ARE INDICATIVE AND SUBJECT TO CAPACITY ASSESSMENTS AND DETAILED DESIGN

GLADEDALE (SOUTH YORKSHIRE)

NORTH GAWBER SITE ACCESS

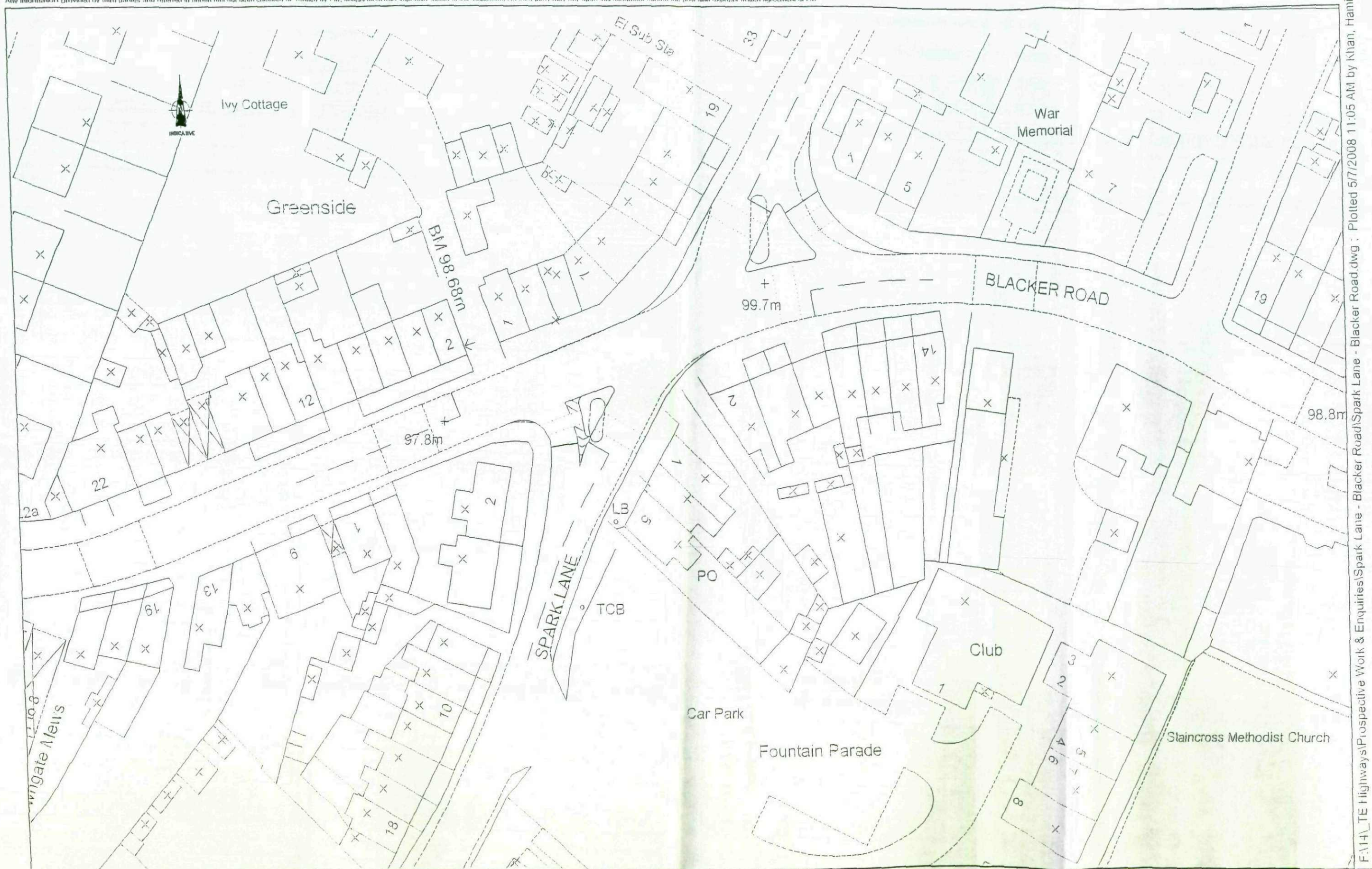
OPTION 3
PROPOSED ACCESS ROAD
USING WAREHOUSE
SITE ACCESS

Client: MR
Date: 13.01.2008
Scale: 1:250 (A1) 1:500 (A2)

FABER MAUNSELL

Project: 54833/P13

No. 54833/P13

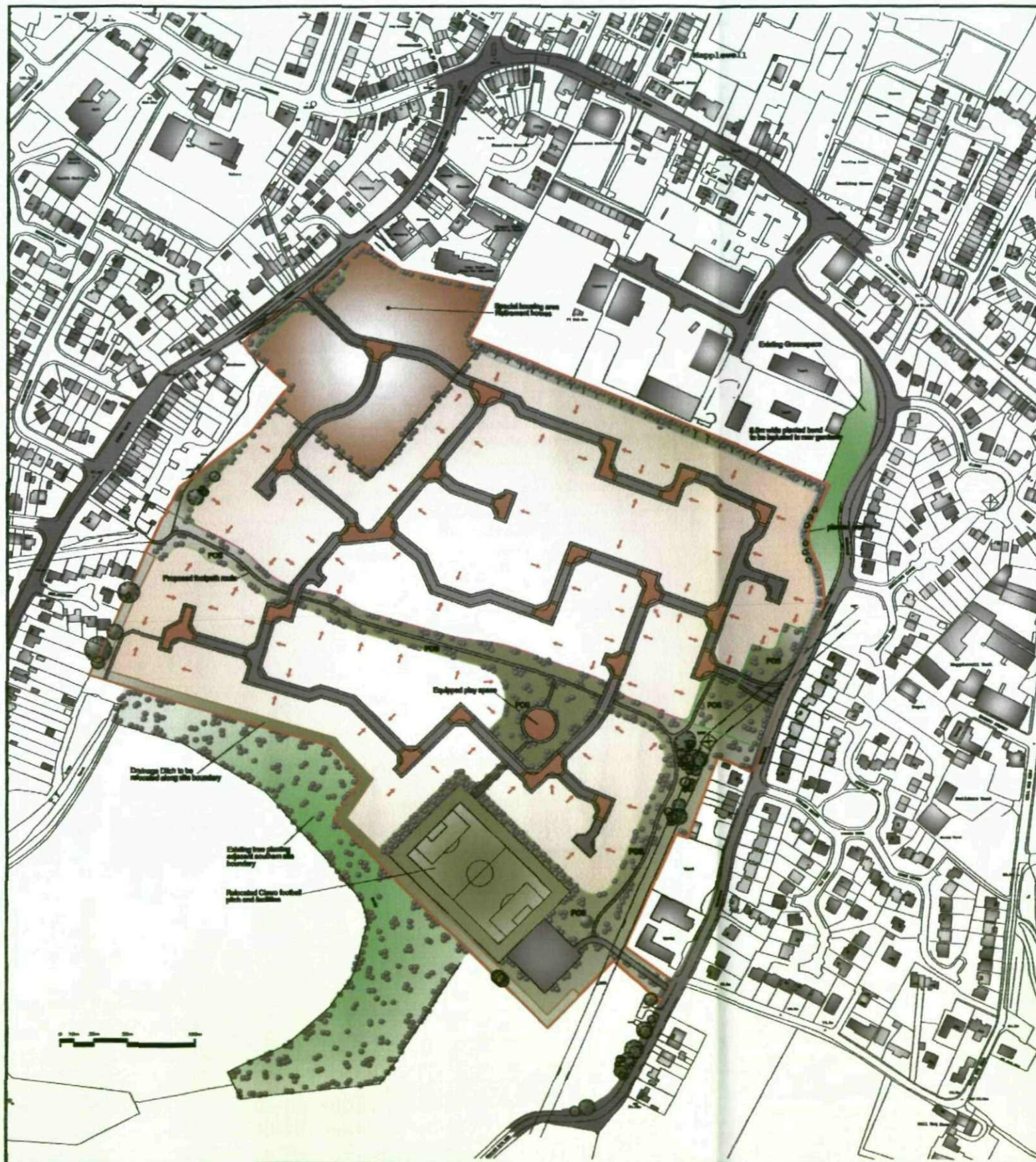


Client:	GLADEDALE SOUTH YORKSHIRE	Title:	PROPOSED MAPPLEWELL SPARK LANE/ BLACKER ROAD SIGNALISED JUNCTION	FABER MAUNSELL AECOM		Design:	N.Y	CAD:	H.K	cm
Project:	NORTH GAWBER BARNSELY			Faber Maunsell Lynnfield House, Church Street, ALTRINCHAM, WA14 4DZ	Tel: +44 (0) 161 927 8200 Fax: +44 (0) 161 927 8499 www.fabermaunsell.com	Chk'd:	N.Y	App'd:	N.A	
						Date:	06.05.2008	Scale:	1:500 @ A3	
						FIGURE 9.8				
										A3

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Cart Green Lane, Mapplewell, Barnsley - CONCEPT PLAN



- OVERALL GROSS AREA - 17.38 Ha
- PRINCIPAL OUTLOOK OF DWELLING
- FOOTBALL PITCH - 3.79 Ha (21.8% OF GROSS AREA)
- INDICATIVE TREE PLANTING



Scale - 1:1250
September 2008



Grubbs (North) Building Ltd
Architects
1000
West Point, Bally Carr Park
Barnsley
Tel: 01226 254000

Appendix C

Appendix C – TRICS/ Distribution/ Traffic Growth

NORTH GAWBER - CENSUS DISTRIBUTION

Origin Ward Code	Origin ward Name	Origin ward Area	Destination Ward Code	Destination Ward Name	Destination Ward Area	Total People	% People	Route 1	%	Journey %	Route 2	%	Journey %
00CCFG	Darton	Barnsley	00BLFH	Daubill	Bolton	3	0.0%	A628 (EB) - A61 (I)	50%	0.0%	A628 (EB) - Bt	50%	0.0%
00CCFG	Darton	Barnsley	00BNFK	Central	Manchester	3	0.0%	A628 (EB) - A61 (I)	50%	0.0%	A628 (EB) - Bt	50%	0.0%
00CCFG	Darton	Barnsley	00BSFJ	Edgely	Stockport	3	0.0%	A628 (EB) - A61 (I)	50%	0.0%	A628 (EB) - Bt	50%	0.0%
00CCFG	Darton	Barnsley	00BUFT	Tablot	Trafford	3	0.0%	A628 (EB) - A61 (I)	50%	0.0%	A628 (EB) - Bt	50%	0.0%
00CCFG	Darton	Barnsley	00CCFA	Ardley	Barnsley	118	1.9%	B6132 - A61 (NB)	100%	1.9%			0.0%
00CCFG	Darton	Barnsley	00CCFB	Athersley	Barnsley	103	1.6%	B6131 (EB) - Carr	100%	1.6%			0.0%
00CCFG	Darton	Barnsley	00CCFC	Brierley	Barnsley	27	0.4%	A628 (WB) - A633	100%	0.4%			0.0%
00CCFG	Darton	Barnsley	00CCFD	Central	Barnsley	753	11.9%	A61 (NB) - B6131	100%	11.9%			0.0%
00CCFG	Darton	Barnsley	00CCFE	Cudworth	Barnsley	20	0.3%	A628 (WB) - A633	100%	0.3%			0.0%
00CCFG	Darton	Barnsley	00CCFF	Darfield	Barnsley	8	0.1%	A635 (WB) - A633	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CCFG	Darton	Barnsley	1580	24.9%	B6131 (EB) - Carr	100%	24.9%			0.0%
00CCFG	Darton	Barnsley	00CCFH	Deane South	Barnsley	18	0.3%	A635 (WB) - A633	100%	0.3%			0.0%
00CCFG	Darton	Barnsley	00CCFJ	Deane Thurnscoe	Barnsley	21	0.3%	A635 (WB) - A633	100%	0.3%			0.0%
00CCFG	Darton	Barnsley	00CCFK	Dodworth	Barnsley	225	3.5%	A628 (EB) - A61 (I)	50%	1.8%	A628 (EB) - Bt	50%	1.8%
00CCFG	Darton	Barnsley	00CCFL	Hoyland East	Barnsley	10	0.2%	A61 (NB) - B6131	50%	0.1%	A61 (NB) - A6	50%	0.1%
00CCFG	Darton	Barnsley	00CCFM	Hoyland West	Barnsley	24	0.4%	A61 (NB) - B6131	50%	0.2%	A61 (NB) - A6	50%	0.2%
00CCFG	Darton	Barnsley	00CCFN	Monk Bretton	Barnsley	126	2.0%	A61 (NB) - B6131	50%	1.0%	A61 (NB) - A6	50%	1.0%
00CCFG	Darton	Barnsley	00CCFP	North West	Barnsley	173	2.7%	A61 (NB) - B6131	50%	1.4%	A61 (NB) - A6	50%	1.4%
00CCFG	Darton	Barnsley	00CCFQ	park	Barnsley	45	0.7%	A628 (EB) - A61 (I)	50%	0.4%	A628 (EB) - Bt	50%	0.4%
00CCFG	Darton	Barnsley	00CCFR	Penistone East	Barnsley	110	1.7%	A628 (EB) - A61 (I)	50%	0.9%	A628 (EB) - Bt	50%	0.9%
00CCFG	Darton	Barnsley	00CCFS	Penistone West	Barnsley	44	0.7%	A628 (EB) - A61 (I)	50%	0.3%	A628 (EB) - Bt	50%	0.3%
00CCFG	Darton	Barnsley	00CCFT	Royston	Barnsley	192	3.0%	A6428 - Swallow T	50%	1.5%	A6428 - B6131	50%	1.5%
00CCFG	Darton	Barnsley	00CCFU	South West	Barnsley	348	5.5%	A6428 - Swallow T	50%	2.7%	A6428 - B6131	50%	2.7%
00CCFG	Darton	Barnsley	00CCFW	Wombwell north	Barnsley	54	0.9%	A633 (NB) - A61 (I)	100%	0.9%			0.0%
00CCFG	Darton	Barnsley	00CCFX	Wombwell South	Barnsley	37	0.6%	A633 (NB) - A61 (I)	100%	0.6%			0.0%
00CCFG	Darton	Barnsley	00CCFY	Worsbrough	Barnsley	36	0.6%	A61 (NB) - B6131	100%	0.6%			0.0%
00CCFG	Darton	Barnsley	00CEFA	Adwick	Doncaster	3	0.0%	A635 (WB) - A633	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CEFD	Balby	Doncaster	3	0.0%	A630 (WB) - A633	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CEFF	Bentley Central	Doncaster	3	0.0%	A635 (WB) - A633	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CEFH	Central	Doncaster	6	0.1%	A635 (WB) - A633	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CEFL	Hatfield	Doncaster	3	0.0%	A630 (WB) - A633	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CEFM	Intke	Doncaster	6	0.1%	A630 (WB) - A633	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CEFN	Mexborough	Doncaster	10	0.2%	A633 (NB) - A61 (I)	100%	0.2%			0.0%
00CCFG	Darton	Barnsley	00CEFP	Richmond	Doncaster	7	0.1%	A635 (WB) - A633	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CEFW	Town Field	Doncaster	8	0.1%	A635 (WB) - A633	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CEFX	Wheatley	Doncaster	7	0.1%	A635 (WB) - A633	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CFFC	Boston	Rotherham	17	0.3%	A628 (NB) - A6131	100%	0.3%			0.0%
00CCFG	Darton	Barnsley	00CFFD	Wickersley	Rotherham	10	0.2%	A633 (NB) - A61 (I)	100%	0.2%			0.0%
00CCFG	Darton	Barnsley	00CFFE	Brampton, Melton & W/worth	Rotherham	11	0.2%	A61 (NB) - B6131	100%	0.2%			0.0%
00CCFG	Darton	Barnsley	00CFFH	Central	Rotherham	37	0.6%	A633 (NB) - A61 (I)	100%	0.6%			0.0%
00CCFG	Darton	Barnsley	00CFFJ	Thrybergh	Rotherham	3	0.0%	A633 (NB) - A61 (I)	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CFFK	Greasbrough	Rotherham	3	0.0%	A633 (NB) - A61 (I)	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CFFL	Herringthorpe	Rotherham	12	0.2%	A633 (NB) - A61 (I)	100%	0.2%			0.0%
00CCFG	Darton	Barnsley	00CFFQ	perk	Rotherham	6	0.1%	A633 (NB) - A61 (I)	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CFFS	Rewmarks West	Rotherham	7	0.1%	A633 (NB) - A61 (I)	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CFFT	St Johns	Rotherham	6	0.1%	A634 (WB) - A631	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CFFU	Swinton	Rotherham	3	0.0%	A633 (NB) - A61 (I)	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CFFW	Thorpe Hesley	Rotherham	3	0.0%	A61 (NB) - B6131	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CFFY	Wath	Rotherham	37	0.6%	A633 (NB) - A61 (I)	100%	0.6%			0.0%

00CCFG	Darton	Barnsley	00CGFA	Beauchief	Sheffield	6	0.1% M1 (NB) - A637 (S	50%	0.0% M1 (NB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00CGFC	Brightside	Sheffield	9	0.1% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CGFD	Broomhill	Sheffield	7	0.1% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CGFE	Burngreave	Sheffield	34	0.5% M1 (NB) - A637 (S	50%	0.3% M1 (NB) - A61	50%	0.3%
00CCFG	Darton	Barnsley	00CGFF	Castle	Sheffield	14	0.2% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CGFG	Chaple Green	Sheffield	9	0.1% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CGFH	Darnall	Sheffield	55	0.9% M1 (NB) - A637 (S	50%	0.4% M1 (NB) - A61	50%	0.4%
00CCFG	Darton	Barnsley	00CGFL	Firth park	Sheffield	9	0.1% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CGFQ	Hillsborough	Sheffield	6	0.1% M1 (NB) - A637 (S	50%	0.0% M1 (NB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00CGFS	Manor	Sheffield	7	0.1% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CGFT	Mosborough	Sheffield	6	0.1% M1 (NB) - A637 (S	50%	0.0% M1 (NB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00CGFU	Nether Edge	Sheffield	3	0.0% M1 (NB) - A637 (S	50%	0.0% M1 (NB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00CGFW	Nether Shire	Sheffield	3	0.0% M1 (NB) - A637 (S	50%	0.0% M1 (NB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00CGFX	Netherthorpe	Sheffield	50	0.8% M1 (NB) - A637 (S	50%	0.4% M1 (NB) - A61	50%	0.4%
00CCFG	Darton	Barnsley	00CGFZ	Owlerton	Sheffield	22	0.3% M1 (NB) - A637 (S	50%	0.2% M1 (NB) - A61	50%	0.2%
00CCFG	Darton	Barnsley	00CGGB	Sharrow	Sheffield	35	0.6% M1 (NB) - A637 (S	50%	0.3% M1 (NB) - A61	50%	0.3%
00CCFG	Darton	Barnsley	00CGGD	South Wortley	Sheffield	9	0.1% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CGGE	Stocksbridge	Sheffield	19	0.3% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CGGF	Walkley	Sheffield	9	0.1% M1 (NB) - A637 (S	50%	0.1% M1 (NB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00CXFE	Bowling	Bradford	9	0.1% A650 - M621 (EB)	50%	0.1% A650 - M621 (EB)	50%	0.1%
00CCFG	Darton	Barnsley	00CXFK	Great Horton	Bradford	3	0.0% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CXFM	Idle	Bradford	3	0.0% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CXFQ	Kieghtly South	Bradford	3	0.0% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CXFT	Odsal	Bradford	3	0.0% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CXFX	Shipley East	Bradford	3	0.0% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CXGB	Tong	Bradford	6	0.1% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CXGC	Undercliffe	Bradford	6	0.1% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CXGD	University	Bradford	17	0.3% A650 - M621 (EB)	50%	0.1% A650 - M621 (EB)	50%	0.1%
00CCFG	Darton	Barnsley	00CXGF	Worth Valley	Bradford	3	0.0% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CXGG	Wyke	Bradford	3	0.0% A650 - M621 (EB)	50%	0.0% A650 - M621 (EB)	50%	0.0%
00CCFG	Darton	Barnsley	00CYFA	Brighouse	Calderdale	6	0.1% M62 (EB) - M621 (	50%	0.0% M62 (EB) - M6	50%	0.0%
00CCFG	Darton	Barnsley	00CYFC	Elland	Calderdale	3	0.0% M62 (EB) - M621 (	50%	0.0% M62 (EB) - M6	50%	0.0%
00CCFG	Darton	Barnsley	00CYFE	Hipperholme & Lightcliffe	Calderdale	3	0.0% M62 (EB) - M621 (	50%	0.0% M62 (EB) - M6	50%	0.0%
00CCFG	Darton	Barnsley	00CYFF	Ilkley	Calderdale	3	0.0% M62 (EB) - M621 (	50%	0.0% M62 (EB) - M6	50%	0.0%
00CCFG	Darton	Barnsley	00CYFK	Ovenden	Calderdale	3	0.0% M62 (EB) - M621 (	50%	0.0% M62 (EB) - M6	50%	0.0%
00CCFG	Darton	Barnsley	00CYFS	Town Field	Calderdale	10	0.2% M62 (EB) - M621 (	50%	0.1% M62 (EB) - M6	50%	0.1%
00CCFG	Darton	Barnsley	00CZFB	Batley East	Kirklees	3	0.0% A644 (M1 (SB) - A	50%	0.0% A644 - M1 (SB)	50%	0.0%
00CCFG	Darton	Barnsley	00CZFC	Batley West	Kirklees	3	0.0% A644 (M1 (SB) - A	50%	0.0% A644 - M1 (SB)	50%	0.0%
00CCFG	Darton	Barnsley	00CZFD	Birleby	Kirklees	3	0.0% A644 (M1 (SB) - A	50%	0.0% A644 - M1 (SB)	50%	0.0%
00CCFG	Darton	Barnsley	00CZFE	Birstall and Birkenshaw	Kirklees	18	0.3% M62 (EB) - M621 (	50%	0.1% M62 (EB) - M6	50%	0.1%
00CCFG	Darton	Barnsley	00CZFF	Cleckheaton	Kirklees	3	0.0% M62 (EB) - M621 (	50%	0.0% M62 (EB) - M6	50%	0.0%
00CCFG	Darton	Barnsley	00CZFH	Corsland Moor	Kirklees	3	0.0% A642 (EB) - A637	100%	0.0%		0.0%
00CCFG	Darton	Barnsley	00CZFJ	Dalton	Kirklees	12	0.2% A642 (EB) - A637	100%	0.2%		0.0%
00CCFG	Darton	Barnsley	00CZFK	Deighton	Kirklees	23	0.4% A642 (EB) - A637	100%	0.4%		0.0%
00CCFG	Darton	Barnsley	00CZFL	Denby Dale	Kirklees	94	1.5% A635 (EB) - A637	100%	1.5%		0.0%
00CCFG	Darton	Barnsley	00CZFM	Dewsbury East	Kirklees	24	0.4% A638 (EB) - M1 (S	50%	0.2% A638 (EB) - M	50%	0.2%
00CCFG	Darton	Barnsley	00CZFN	Dewsbury West	Kirklees	9	0.1% A638 (EB) - M1 (S	50%	0.1% A638 (EB) - M	50%	0.1%
00CCFG	Darton	Barnsley	00CZFP	Golcar	Kirklees	3	0.0% A62 (EB) - A642 (E	100%	0.0%		0.0%
00CCFG	Darton	Barnsley	00CZFQ	heckmondwick	Kirklees	7	0.1% A638 (EB) - M1 (S	100%	0.1%		0.0%

00CCFG	Darton	Barnsley	00CZFR	Holme Valley North	Kirklees	3	0.0%	A635 (EB) - A637	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CZFS	Holme Valley South	Kirklees	3	0.0%	A635 (EB) - A637	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00CZFT	Kirkburton	Kirklees	9	0.1%	A635 (EB) - A637	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CZFU	Lindley	Kirklees	9	0.1%	A640 (EB) - A642	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CZFW	Mirfield	Kirklees	3	0.0%	A644 (EB) - A638	50%	0.0%	A644 (EB) - A638	50%	0.0%
00CCFG	Darton	Barnsley	00CZFX	Newsome	Kirklees	32	0.5%	A642 (EB) - A637	100%	0.5%			0.0%
00CCFG	Darton	Barnsley	00CZFY	Paddock	Kirklees	6	0.1%	A642 (EB) - A637	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CZFZ	Spennithorne	Kirklees	6	0.1%	A638 (EB) - M1 (S)	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00CZGA	Thornhill	Kirklees	6	0.1%	A642 (EB) - A637	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00DAFB	Armley	Leeds	10	0.2%	A647 (EB) - A61 (S)	50%	0.1%	A647 (EB) - M1	50%	0.1%
00CCFG	Darton	Barnsley	00DAFC	Barwick and Kippax	Leeds	3	0.0%	A642 (SB) - M1 (S)	100%	0.0%			0.0%
00CCFG	Darton	Barnsley	00DAFD	Beeston	Leeds	23	0.4%	M1 (SB) - A61 (S)	50%	0.2%	M1 (SB) - A61	50%	0.2%
00CCFG	Darton	Barnsley	00DAFF	Burmantofts	Leeds	4	0.1%	A64 (WB) - A61 (S)	50%	0.0%	M1 (SB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00DAFH	City and Holbeck	Leeds	192	3.0%	A61 (SB) - B6131	50%	1.5%	M1 (SB) - A61	50%	1.5%
00CCFG	Darton	Barnsley	00DAFJ	Cookridge	Leeds	3	0.0%	A660 (SB) - A61 (S)	50%	0.0%	A61 (SB) - M1	50%	0.0%
00CCFG	Darton	Barnsley	00DAFK	Garforth and Swillington	Leeds	13	0.2%	A660 (SB) - A61 (S)	50%	0.1%	M1 (SB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00DAFL	Halton	Leeds	3	0.0%	A61 (SB) - B6131	50%	0.0%	M1 (SB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00DAFM	harehills	Leeds	3	0.0%	A61 (SB) - B6131	50%	0.0%	M1 (SB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00DAFN	Headingley	Leeds	6	0.1%	A61 (SB) - B6131	50%	0.0%	M1 (SB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00DAFQ	Hunslett	Leeds	18	0.3%	A61 (SB) - B6131	50%	0.1%	M1 (SB) - A61	50%	0.1%
00CCFG	Darton	Barnsley	00DAFR	Kirkstall	Leeds	3	0.0%	A61 (SB) - B6131	50%	0.0%	M1 (SB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00DAFS	Middleton	Leeds	3	0.0%	A61 (SB) - B6131	50%	0.0%	M1 (SB) - A61	50%	0.0%
00CCFG	Darton	Barnsley	00DAFU	Morley North	Leeds	38	0.6%	M621 (EB) - M1 (S)	50%	0.3%	A61 (SB) - B61	50%	0.3%
00CCFG	Darton	Barnsley	00DAFW	Morley South	Leeds	17	0.3%	M621 (EB) - M1 (S)	50%	0.1%	A61 (SB) - B61	50%	0.1%
00CCFG	Darton	Barnsley	00DAFY	Otley and Wharfedale	Leeds	3	0.0%	A6110 (SB) - M1 (S)	50%	0.0%	A6110 (SB) - M1	50%	0.0%
00CCFG	Darton	Barnsley	00DAFZ	Pudsey north	Leeds	16	0.3%	A6110 (SB) - M1 (S)	50%	0.1%	A6110 (SB) - M1	50%	0.1%
00CCFG	Darton	Barnsley	00DAGA	Pudsey South	Leeds	3	0.0%	A6110 (SB) - M1 (S)	50%	0.0%	A6110 (SB) - M1	50%	0.0%
00CCFG	Darton	Barnsley	00DAGB	Richmondhill	Leeds	21	0.3%	A61 (SB) - B6131	100%	0.3%			0.0%
00CCFG	Darton	Barnsley	00DAGC	Rothwell	Leeds	9	0.1%	A642 (SB) - A61 (S)	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00DAGD	Ropundhay	Leeds	6	0.1%	A58 (SB) - A61 (S)	50%	0.0%	A58 (SB) - M1	50%	0.0%
00CCFG	Darton	Barnsley	00DAGE	Seacroft	Leeds	3	0.0%	A645 (SB) - A61 (S)	50%	0.0%	A645 (SB) - M1	50%	0.0%
00CCFG	Darton	Barnsley	00DAGF	University	Leeds	51	0.8%	M1 (SB) - A61 (S)	50%	0.4%	A61 (SB) - B61	50%	0.4%
00CCFG	Darton	Barnsley	00DAGH	Wetherby	Leeds	3	0.0%	A58 (SB) - A61 (S)	50%	0.0%	A58 (SB) - M1	50%	0.0%
00CCFG	Darton	Barnsley	00DAGJ	Whimoor	Leeds	3	0.0%	A58 (SB) - A61 (S)	50%	0.0%	A58 (SB) - M1	50%	0.0%
00CCFG	Darton	Barnsley	00DAGK	Wortley	Leeds	3	0.0%	M621 (EB) - M1 (S)	50%	0.0%	A61 (SB) - B61	50%	0.0%
00CCFG	Darton	Barnsley	00DBFA	Castleford Ferry Fryston	Wakefield	4	0.1%	A655 (EB) - A61 (S)	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00DBFB	Castleford Glasshoughton	Wakefield	10	0.2%	A655 (EB) - A61 (S)	100%	0.2%			0.0%
00CCFG	Darton	Barnsley	00DBFC	Castleford Whitwood	Wakefield	42	0.7%	A655 (EB) - A61 (S)	100%	0.7%			0.0%
00CCFG	Darton	Barnsley	00DBFD	Crofton & Ackworth	Wakefield	16	0.3%	B6428 (WB) - Swa	50%	0.1%	B64228 (WB)	50%	0.1%
00CCFG	Darton	Barnsley	00DBFE	Featherstone	Wakefield	17	0.3%	B6428 (WB) - Swa	50%	0.1%	B64228 (WB)	50%	0.1%
00CCFG	Darton	Barnsley	00DBFF	Hemsworth	Wakefield	20	0.3%	B6428 (WB) - Swa	50%	0.2%	B64228 (WB)	50%	0.2%
00CCFG	Darton	Barnsley	00DBFG	Horbury	Wakefield	21	0.3%	M1 (SB) - A61 (S)	100%	0.3%			0.0%
00CCFG	Darton	Barnsley	00DBFH	Knottingley	Wakefield	6	0.1%	A654 (WB) - B642	100%	0.1%			0.0%
00CCFG	Darton	Barnsley	00DBFJ	Normanton and Sharston	Wakefield	3	0.0%	B123 (SB) - B642	100%	0.0%			0.0%

00CCFG	Darton	Barnsley	00DBFK	Osset	Wakefield	29	0.5%	M1 (SB) - A61 (SB)	100%	0.5%		0.0%	
00CCFG	Darton	Barnsley	00DBFL	Pontefract north	Wakefield	33	0.5%	A654 (WB) - B642	100%	0.5%		0.0%	
00CCFG	Darton	Barnsley	00DBFM	Pontefract South	Wakefield	3	0.0%	A654 (WB) - B642	100%	0.0%		0.0%	
00CCFG	Darton	Barnsley	00DBFN	South Elmsall	Wakefield	8	0.1%	A638 (WB) - B642	100%	0.1%		0.0%	
00CCFG	Darton	Barnsley	00DBFP	South Kirkby	Wakefield	16	0.3%	A638 (WB) - B642	100%	0.3%		0.0%	
00CCFG	Darton	Barnsley	00DBFQ	Stanley and Altofts	Wakefield	36	0.6%	A61 (SB) - B6131	50%	0.3%	M1 (SB) - A63	50%	0.3%
00CCFG	Darton	Barnsley	00DBFR	Stanley and Wrenthorpe	Wakefield	48	0.8%	A61 (SB) - B6131	50%	0.4%	M1 (SB) - A63	50%	0.4%
00CCFG	Darton	Barnsley	00DBFS	Wakefield Central	Wakefield	101	1.6%	A61 (SB) - B6131	50%	0.8%	M1 (SB) - A63	50%	0.8%
00CCFG	Darton	Barnsley	00DBFT	Wakefield North	Wakefield	102	1.6%	A61 (SB) - B6131	50%	0.8%	M1 (SB) - A63	50%	0.8%
00CCFG	Darton	Barnsley	00DBFU	Wakefield East	Wakefield	91	1.4%	A61 (SB) - B6131	50%	0.7%	M1 (SB) - A63	50%	0.7%
00CCFG	Darton	Barnsley	00DBFW	Wakefield Rural	Wakefield	118	1.9%	A61 (SB) - B6131	50%	0.9%	M1 (SB) - A63	50%	0.9%
00CCFG	Darton	Barnsley	00DBFX	Wakefield South	Wakefield	71	1.1%	A61 (SB) - B6131	50%	0.6%	M1 (SB) - A63	50%	0.6%
00CCFG	Darton	Barnsley	00FANK	Marfleet	Kingston-up	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	00FANL	Myton	Kingston-up	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	00FBNH	Cottingham	East Riding	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	00FBNK	Dale	East Riding	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	00FBNP	Goole South	East Riding	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	00FBNZ	Marshland	East Riding	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	00FDMW	Barton	North Lincoln	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	00FFNZ	Osballdwike	York	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UBGQ	Skipton North	Craven	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UBGU	Upper Wharfedale	Craven	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UDHA	Low Harrogate	Harrogate	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UDHC	Marston Moor	Harrogate	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UDHE	Newby	Harrogate	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UDHQ	Rossett	Harrogate	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UDHR	Saltergate	Harrogate	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UEHC	Scotton	Richmondsh	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UHGR	Camblesforth	Selby	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UHGS	Cawood and Winstow	Selby	19	0.3%	A63 (WB) - A1 (SB)	100%	0.3%		0.0%	
00CCFG	Darton	Barnsley	36UHGU	Fairburn and Bortherton	Selby	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UHGY	Monk Fryston	Selby	9	0.1%	A63 (WB) - A1 (SB)	100%	0.1%		0.0%	
00CCFG	Darton	Barnsley	36UHHA	Riccal with Escrick	Selby	7	0.1%	A63 (WB) - A1 (SB)	100%	0.1%		0.0%	
00CCFG	Darton	Barnsley	36UHHD	Selby South	Selby	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UHHF	Sherburn in Elmet	Selby	6	0.1%	A63 (WB) - A1 (SB)	100%	0.1%		0.0%	
00CCFG	Darton	Barnsley	36UHHH	Tadcaster West	Selby	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	36UHHJ	Whitley	Selby	6	0.1%	A63 (WB) - A1 (SB)	100%	0.1%		0.0%	
00CCFG	Darton	Barnsley	37UBFU	Hucknall	Ashfield	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	37UBFY	Kirkby	Ashfield	3	0.0%			0.0%		0.0%	
00CCFG	Darton	Barnsley	37UDGC	Beeston Rylands	Broxholme	3	0.0%			0.0%		0.0%	
						6347	100.0%						

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED

VEHICLES

Selected regions and areas:

06	WEST MIDLANDS	
	WM WEST MIDLANDS	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
	WY WEST YORKSHIRE	1 days

Main parameter selection:

Parameter: Number of households
Range: 12 to 30 (units:)

Date Range: 01/01/99 to 13/09/06

Selected survey days:

Monday	1 days
Tuesday	1 days
Wednesday	1 days
Friday	1 days

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	1
Neighbourhood Centre (PPS6 Local Centre)	2

Selected Location Sub Categories:

Retail Zone	2
Built-Up Zone	1
No Sub Category	1

Optional parameter selection:

Use Class:

C3	4 days
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Population within 1 mile:

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

Optional parameter selection (Cont.):

Population within 5 miles:

5,001 to 25,000	1 days
125,001 to 250,000	3 days

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	2 days

Travel Plan:

Not Known	2 days
No	2 days

LIST OF SITES relevant to selection parameters

- | | | | |
|---|-----------------------------|-------------------------------------|------------------------|
| 1 | NY-03-C-01 | BLOCKS OF FLATS, NTHALLERTON | NORTH YORKSHIRE |
| | BOROUGHBRIDGE ROAD | | |
| | ROMANBY | | |
| | NORTHALLERTON | | |
| | Total Number of households: | 30 | |
| | Survey date: MONDAY | 22/09/03 | Survey Type: MANUAL |
| 2 | WM-03-C-01 | FLATS, BIRMINGHAM | WEST MIDLANDS |
| | WAKE GREEN ROAD | | |
| | MOSELEY | | |
| | BIRMINGHAM | | |
| | Total Number of households: | 26 | |
| | Survey date: FRIDAY | 16/06/00 | Survey Type: MANUAL |
| 3 | WM-03-C-02 | FLATS, BIRMINGHAM | WEST MIDLANDS |
| | WAKE GREEN ROAD | | |
| | MOSELEY | | |
| | BIRMINGHAM | | |
| | Total Number of households: | 24 | |
| | Survey date: TUESDAY | 14/11/00 | Survey Type: MANUAL |
| 4 | WY-03-C-02 | BLOCK OF FLATS, HUDDERSFIELD | WEST YORKSHIRE |
| | KINGS MILL LANE | | |
| | ASPLEY | | |
| | HUDDERSFIELD | | |
| | Total Number of households: | 12 | |
| | Survey date: WEDNESDAY | 13/09/06 | Survey Type: MANUAL |

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
VEHICLES

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	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	4	23	0.022	4	23	0.152	4	23	0.174
08:00 - 09:00	4	23	0.054	4	23	0.239	4	23	0.293
09:00 - 10:00	4	23	0.076	4	23	0.109	4	23	0.185
10:00 - 11:00	4	23	0.109	4	23	0.087	4	23	0.196
11:00 - 12:00	4	23	0.054	4	23	0.076	4	23	0.130
12:00 - 13:00	4	23	0.141	4	23	0.109	4	23	0.250
13:00 - 14:00	4	23	0.087	4	23	0.098	4	23	0.185
14:00 - 15:00	4	23	0.087	4	23	0.087	4	23	0.174
15:00 - 16:00	4	23	0.152	4	23	0.152	4	23	0.304
16:00 - 17:00	4	23	0.141	4	23	0.054	4	23	0.195
17:00 - 18:00	4	23	0.228	4	23	0.109	4	23	0.337
18:00 - 19:00	4	23	0.174	4	23	0.098	4	23	0.272
19:00 - 20:00	2	25	0.160	2	25	0.140	2	25	0.300
20:00 - 21:00	2	25	0.100	2	25	0.100	2	25	0.200
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			1.585			1.610			3.195

Parameter summary

Trip rate parameter range selected: 12 - 30 (units:)
 Survey date range: 01/01/99 - 13/09/06
 Number of weekdays (Monday-Friday): 4
 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 : A - HOUSES PRIVATELY OWNED

VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	SF SUFFOLK	2 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	2 days
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	ST STAFFORDSHIRE	1 days
	WO WORCESTERSHIRE	3 days
08	NORTH WEST	
	GM GREATER MANCHESTER	2 days
	LC LANCASHIRE	1 days
09	NORTH	
	TV TEES VALLEY	1 days
10	WALES	
	CF CARDIFF	1 days

Main parameter selection:

Parameter: Number of households
Range: 100 to 247 (units:)

Date Range: 01/01/99 to 24/05/07

Selected survey days:

Monday	2 days
Tuesday	3 days
Wednesday	1 days
Thursday	6 days
Friday	3 days

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	10

Selected Location Sub Categories:

Retail Zone	9
Out of Town	1
No Sub Category	5

Optional parameter selection:

Use Class:

C3 15 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	7 days
20,001 to 25,000	2 days
25,001 to 50,000	3 days

Population within 5 miles:

50,001 to 75,000	1 days
75,001 to 100,000	5 days
100,001 to 125,000	2 days
125,001 to 250,000	4 days
250,001 to 500,000	1 days
500,001 or More	2 days

Car ownership within 5 miles:

0.6 to 1.0	9 days
1.1 to 1.5	6 days

Travel Plan:

Not Known	6 days
No	9 days

LIST OF SITES relevant to selection parameters

- | | | | |
|---|--|---------------------------------------|---------------------------|
| 1 | CA-03-A-01 | SEMI D./TERRACED, CAMBRIDGE | CAMBRIDGESHIRE |
| | FALLOWFIELD
CHESTERTON
CAMBRIDGE | | |
| | Total Number of households: 124 | | |
| | Survey date: TUESDAY 06/02/01 | | |
| | Survey Type: MANUAL | | |
| 2 | CF-03-A-01 | MIXED HOUSES, CARDIFF | CARDIFF |
| | VIRGIL STREET
NINIAN PARK
CARDIFF | | |
| | Total Number of households: 222 | | |
| | Survey date: THURSDAY 17/10/02 | | |
| | Survey Type: MANUAL | | |
| 3 | GM-03-A-07 | SEMI DETACHED, MANCHESTER | GREATER MANCHESTER |
| | MILFORD DRIVE
LEVENSHULME
MANCHESTER | | |
| | Total Number of households: 138 | | |
| | Survey date: FRIDAY 09/11/01 | | |
| | Survey Type: MANUAL | | |
| 4 | GM-03-A-08 | SEMI DETACHED, STOCKPORT | GREATER MANCHESTER |
| | ELM TREE ROAD
LOWER BREDBURY
STOCKPORT | | |
| | Total Number of households: 247 | | |
| | Survey date: FRIDAY 12/10/01 | | |
| | Survey Type: MANUAL | | |
| 5 | LC-03-A-29 | DETACHED/SEMI D., BLACKBURN | LANCASHIRE |
| | REVIDGE ROAD
FOUR LANE ENDS
BLACKBURN | | |
| | Total Number of households: 185 | | |
| | Survey date: THURSDAY 10/06/04 | | |
| | Survey Type: MANUAL | | |
| 6 | LN-03-A-01 | MIXED HOUSES, LINCOLN | LINCOLNSHIRE |
| | BRANT ROAD
BRACEBRIDGE
LINCOLN | | |
| | Total Number of households: 150 | | |
| | Survey date: TUESDAY 15/05/07 | | |
| | Survey Type: MANUAL | | |
| 7 | LN-03-A-02 | MIXED HOUSES, LINCOLN | LINCOLNSHIRE |
| | HYKEHAM ROAD

LINCOLN | | |
| | Total Number of households: 186 | | |
| | Survey date: MONDAY 14/05/07 | | |
| | Survey Type: MANUAL | | |
| 8 | NT-03-A-03 | SEMI DETACHED, KIRKBY-IN-ASHFD | NOTTINGHAMSHIRE |
| | B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD | | |
| | Total Number of households: 166 | | |
| | Survey date: WEDNESDAY 28/06/06 | | |
| | Survey Type: MANUAL | | |

LIST OF SITES relevant to selection parameters (Cont.)

- | | | | |
|----|---|-------------------------------------|-----------------------|
| 9 | SF-03-A-02 | SEMI DET./TERRACED, IPSWICH | SUFFOLK |
| | STOKE PARK DRIVE
MAIDENHALL
IPSWICH | | |
| | Total Number of households: | 230 | |
| | Survey date: THURSDAY | 24/05/07 | Survey Type: MANUAL |
| 10 | SF-03-A-03 | MIXED HOUSES, BURY ST EDMDS | SUFFOLK |
| | BARTON HILL
FORNHAM ST MARTIN
BURY ST EDMUNDS | | |
| | Total Number of households: | 101 | |
| | Survey date: MONDAY | 15/05/06 | Survey Type: MANUAL |
| 11 | ST-03-A-03 | MIXED HOUSES, STAFFORD | STAFFORDSHIRE |
| | QUEENSVILLE | | |
| | STAFFORD | | |
| | Total Number of households: | 224 | |
| | Survey date: TUESDAY | 04/07/00 | Survey Type: MANUAL |
| 12 | TV-03-A-01 | MIXED HOUSES/FLATS, HARTLEPL | TEES VALLEY |
| | POWLETT ROAD | | |
| | HARTLEPOOL | | |
| | Total Number of households: | 225 | |
| | Survey date: THURSDAY | 14/04/05 | Survey Type: MANUAL |
| 13 | WO-03-A-03 | DETACHED, KIDDERMINSTER | WORCESTERSHIRE |
| | BLAKEBROOK
BLAKEBROOK
KIDDERMINSTER | | |
| | Total Number of households: | 138 | |
| | Survey date: FRIDAY | 05/05/06 | Survey Type: MANUAL |
| 14 | WO-03-A-05 | TERRACED/DET., BROMSGROVE | WORCESTERSHIRE |
| | ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE | | |
| | Total Number of households: | 215 | |
| | Survey date: THURSDAY | 23/05/02 | Survey Type: MANUAL |
| 15 | WO-03-A-06 | DET./TERRACED, BROMSGROVE | WORCESTERSHIRE |
| | ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE | | |
| | Total Number of households: | 232 | |
| | Survey date: THURSDAY | 30/06/05 | Survey Type: MANUAL |

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES

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	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	15	186	0.081	15	186	0.300	15	186	0.381
08:00 - 09:00	15	186	0.155	15	186	0.470	15	186	0.625
09:00 - 10:00	15	186	0.167	15	186	0.235	15	186	0.402
10:00 - 11:00	15	186	0.149	15	186	0.182	15	186	0.331
11:00 - 12:00	15	186	0.184	15	186	0.178	15	186	0.362
12:00 - 13:00	15	186	0.202	15	186	0.196	15	186	0.398
13:00 - 14:00	15	186	0.189	15	186	0.176	15	186	0.365
14:00 - 15:00	15	186	0.198	15	186	0.181	15	186	0.379
15:00 - 16:00	15	186	0.304	15	186	0.216	15	186	0.520
16:00 - 17:00	15	186	0.341	15	186	0.210	15	186	0.551
17:00 - 18:00	15	186	0.458	15	186	0.257	15	186	0.715
18:00 - 19:00	15	186	0.330	15	186	0.276	15	186	0.606
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			2.758						5.635

Parameter summary

Trip rate parameter range selected: 100 - 247 (units:)
 Survey date range: 01/01/99 - 24/05/07
 Number of weekdays (Monday-Friday): 15
 Number of Saturdays: 0
 Number of Sundays: 0
 Optional parameters used in selection: NO
 Surveys manually removed from selection: 0

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

Ranking Type: TOTALS Time Range: 08:00-09:00

85th/15th Percentile Survey Not Highlighted

Rank	Site Ref	Description	Area	HHOLDS	Day	Date	Arrivals	Departures	Totals	Travel Plan
3 **	1 ST-03-A-03	MIXED HOUSES, STAFFORD	STAFFORDSHIRE	224	Tuesday	04/07/2000	0.165	0.638	0.803	
	2 WO-03-A-03	DETACHED, KIDDERMINSTER	WORCESTERSHIRE	138	Friday	05/05/2006	0.203	0.543	0.746	
	SF-03-A-02	SEMI DET./TERRACED, IPSWICH	SUFFOLK	230	Thursday	24/05/2007	0.243	0.491	0.734	
	4 SF-03-A-03	MIXED HOUSES, BURY ST EDMDS	SUFFOLK	101	Monday	15/05/2006	0.109	0.554	0.663	
	5 CF-03-A-01	MIXED HOUSES, CARDIFF	CARDIFF	222	Thursday	17/10/2002	0.167	0.491	0.658	
	6 WO-03-A-05	TERRACED/DET., BROMSGROVE	WORCESTERSHIRE	215	Thursday	23/05/2002	0.14	0.516	0.656	
	7 LC-03-A-29	DETACHED/SEMI D., BLACKBURN	LANCASHIRE	185	Thursday	10/06/2004	0.13	0.524	0.654	
	8 LN-03-A-01	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	150	Tuesday	15/05/2007	0.187	0.44	0.627	
	9 GM-03-A-07	SEMI DETACHED, MANCHESTER	GREATER MANCHESTER	138	Friday	09/11/2001	0.196	0.42	0.616	
	10 LN-03-A-02	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	186	Monday	14/05/2007	0.183	0.425	0.608	
	11 TV-03-A-01	MIXED HOUSES/FLATS, HARTLEPL	TEES VALLEY	225	Thursday	14/04/2005	0.138	0.458	0.596	
	12 CA-03-A-01	SEMI D./TERRACED, CAMBRIDGE	CAMBRIDGESHIRE	124	Tuesday	06/02/2001	0.153	0.395	0.548	
13 **	WO-03-A-06	DET./TERRACED, BROMSGROVE	WORCESTERSHIRE	232	Thursday	30/06/2005	0.099	0.448	0.547	
	14 GM-03-A-08	SEMI DETACHED, STOCKPORT	GREATER MANCHESTER	247	Friday	12/10/2001	0.113	0.377	0.49	
	15 NT-03-A-03	SEMI DETACHED, KIRKBY-IN-ASHFD	NOTTINGHAMSHIRE	166	Wednesda	28/06/2006	0.108	0.313	0.421	
							0.153	0.458		

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

Ranking Type: TOTALS Time Range: 17:00-18:00

85th/15th Percentile Survey Not Highlighted

Rank	Site Ref	Description	Area	HHOLDS	Day	Date	Arrivals	Departures	Totals	Travel Plan
3 **	1 LC-03-A-29	DETACHED/SEMI D., BLACKBURN	LANCASHIRE	185	Thursday	10/06/2004	0.551	0.346	0.897	
	2 WO-03-A-03	DETACHED, KIDDERMINSTER	WORCESTERSHIRE	138	Friday	05/05/2006	0.558	0.319	0.877	
	ST-03-A-03	MIXED HOUSES, STAFFORD	STAFFORDSHIRE	224	Tuesday	04/07/2000	0.531	0.335	0.866	
	4 LN-03-A-02	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	186	Monday	14/05/2007	0.495	0.355	0.85	
	5 SF-03-A-03	MIXED HOUSES, BURY ST EDMDS	SUFFOLK	101	Monday	15/05/2006	0.525	0.228	0.753	
	6 SF-03-A-02	SEMI DET./TERRACED, IPSWICH	SUFFOLK	230	Thursday	24/05/2007	0.478	0.248	0.726	
	7 NT-03-A-03	SEMI DETACHED, KIRKBY-IN-ASHFD	NOTTINGHAMSHIRE	166	Wednesda	28/06/2006	0.398	0.307	0.705	
	8 CF-03-A-01	MIXED HOUSES, CARDIFF	CARDIFF	222	Thursday	17/10/2002	0.509	0.185	0.694	
	9 WO-03-A-05	TERRACED/DET., BROMSGROVE	WORCESTERSHIRE	215	Thursday	23/05/2002	0.474	0.214	0.688	
	10 GM-03-A-08	SEMI DETACHED, STOCKPORT	GREATER MANCHESTER	247	Friday	12/10/2001	0.429	0.259	0.688	
	11 LN-03-A-01	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	150	Tuesday	15/05/2007	0.413	0.213	0.626	
	12 TV-03-A-01	MIXED HOUSES/FLATS, HARTLEPL	TEES VALLEY	225	Thursday	14/04/2005	0.409	0.209	0.618	
13 **	GM-03-A-07	SEMI DETACHED, MANCHESTER	GREATER MANCHESTER	138	Friday	09/11/2001	0.341	0.261	0.602	
	14 WO-03-A-06	DET./TERRACED, BROMSGROVE	WORCESTERSHIRE	232	Thursday	30/06/2005	0.414	0.185	0.599	
	15 CA-03-A-01	SEMI D./TERRACED, CAMBRIDGE	CAMBRIDGESHIRE	124	Tuesday	06/02/2001	0.315	0.218	0.533	
							0.474	0.248		

RANK ORDER for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Ranking Type: TOTALS Time Range: 08:00-09:00

85th/15th Percentile Survey Not Highlighted

Rank	Site Ref	Description	Area	HHOLDS	Day	Date	Arrivals	Departures	Totals	Travel Plan
1	WM-03-C-02	FLATS, BIRMINGHAM	WEST MIDLANDS	24	Tuesday	14/11/2000	0.125	0.375	0.5	
2	WY-03-C-02	BLOCK OF FLATS, HUDDERSFIELD	WEST YORKSHIRE	12	Wednesda	13/09/2006	0	0.333	0.333	
3	WM-03-C-01	FLATS, BIRMINGHAM	WEST MIDLANDS	26	Friday	16/06/2000	0.038	0.192	0.23	
4	NY-03-C-01	BLOCKS OF FLATS, NTHALLERTON	NORTH YORKSHIRE	30	Monday	22/09/2003	0.033	0.133	0.166	
							0.0355	0.2625		

RANK ORDER for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Ranking Type: TOTALS Time Range: 17:00-18:00

85th/15th Percentile Survey Not Highlighted

Rank	Site Ref	Description	Area	HHOLDS	Day	Date	Arrivals	Departures	Totals	Travel Plan
1	WY-03-C-02	BLOCK OF FLATS, HUDDERSFIELD	WEST YORKSHIRE	12	Wednesda	13/09/2006	0.333	0.25	0.583	
2	WM-03-C-02	FLATS, BIRMINGHAM	WEST MIDLANDS	24	Tuesday	14/11/2000	0.375	0.083	0.458	
3	NY-03-C-01	BLOCKS OF FLATS, NTHALLERTON	NORTH YORKSHIRE	30	Monday	22/09/2003	0.133	0.1	0.233	
4	WM-03-C-01	FLATS, BIRMINGHAM	WEST MIDLANDS	26	Friday	16/06/2000	0.154	0.077	0.231	
							0.2435	0.0915		

Residential						
Private	549	AM	Arrs	Deps	84	251
		PM	0.153	0.458		
			0.474	0.248	260	136
Apartments	51	AM	Arrs	Deps	2	13
		PM	0.0355	0.2625		
			0.2435	0.0915	12	5
			AM		PM	
			Arrs	Deps	Arrs	Deps
Private			84	251	260	136
Apart			2	13	12	5
			86	265	273	141

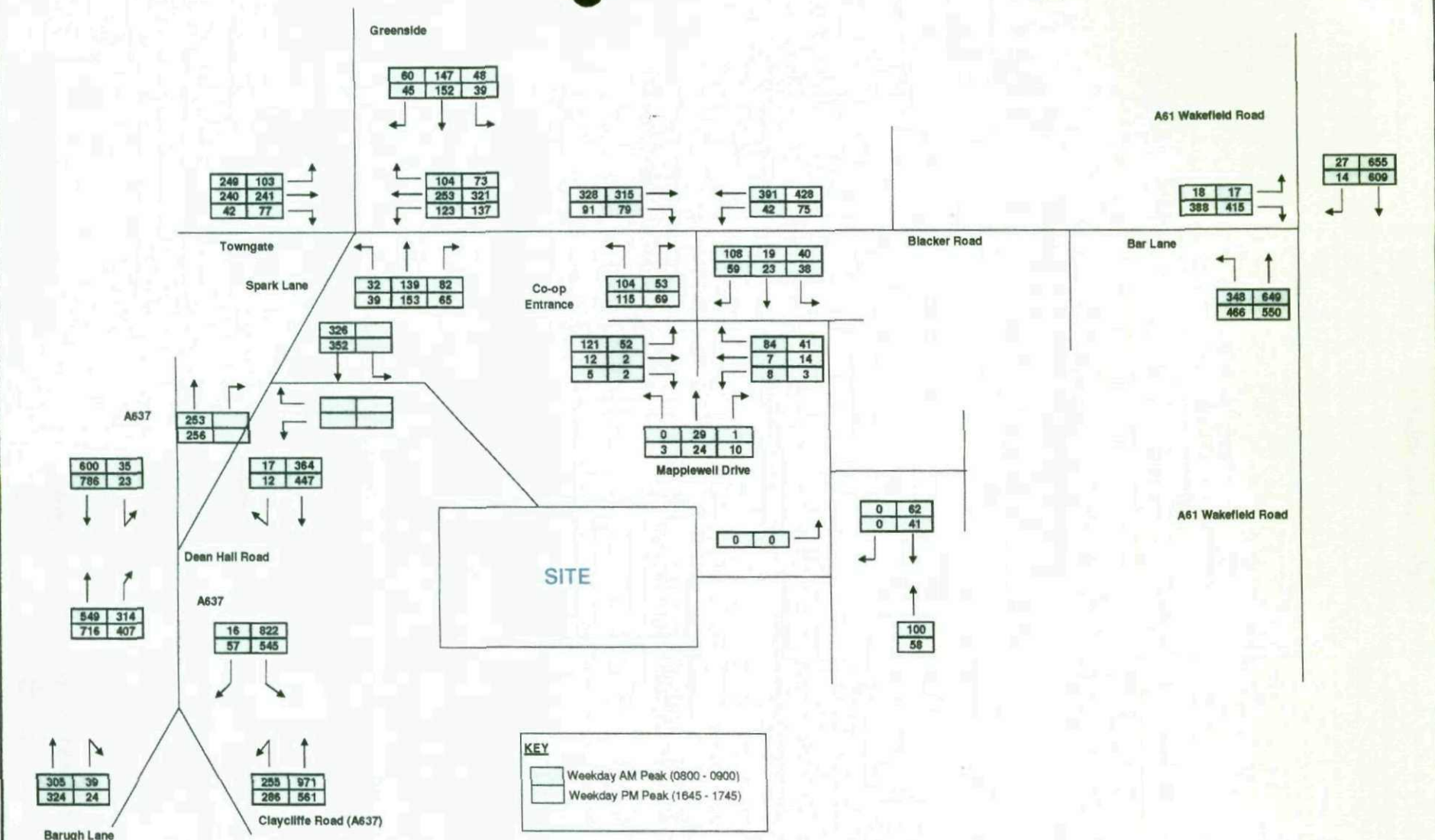
Growth Rates

To 2008	AM			PM		
	Depart	Arrive	Average	Depart	Arrive	Average
NRTF Central	1.015	1.015	1.015	1.015	1.015	1.015
Tempo:						
GB Average Weekday	1.011	1.011	1.011	1.011	1.011	1.011
Barnsley	1.014	1.013	1.014	1.013	1.013	1.013
Growth:						
Barnsley	1.018	1.017	1.018	1.017	1.017	1.017

To 2013	AM			PM		
	Depart	Arrive	Average	Depart	Arrive	Average
NRTF Central	1.094	1.094	1.094	1.094	1.094	1.094
Tempo:						
GB Average Weekday	1.060	1.060	1.060	1.060	1.060	1.060
Barnsley	1.081	1.074	1.078	1.074	1.078	1.076
Growth:						
Barnsley	1.116	1.108	1.112	1.108	1.113	1.111

To 2018	AM			PM		
	Depart	Arrive	Average	Depart	Arrive	Average
NRTF Central	1.171	1.171	1.171	1.171	1.171	1.171
Tempo:						
GB Average Weekday	1.101	1.101	1.101	1.101	1.101	1.101
Barnsley	1.136	1.127	1.132	1.127	1.133	1.130
Growth:						
Barnsley	1.208	1.199	1.203	1.199	1.205	1.202

Appendix D



Client: Gladedale (South Yorkshire) Ltd	Title: Base 2008	FABER MAUNSELL AECOM Lynnfield House, Church Street, ALTRINCHAM, WA14 4DZ Tel: +44 (0) 161 927 8200 Fax: +44 (0) 161 927 8200 www.fabermaunsell.com	Design: NBR	CAD: N/A
Project: North Gawber			Chkd: NY	App'd: NA
			Date: 20/03/2008	Scale: NTS
		Figure 9.1		
			Rev:- A	

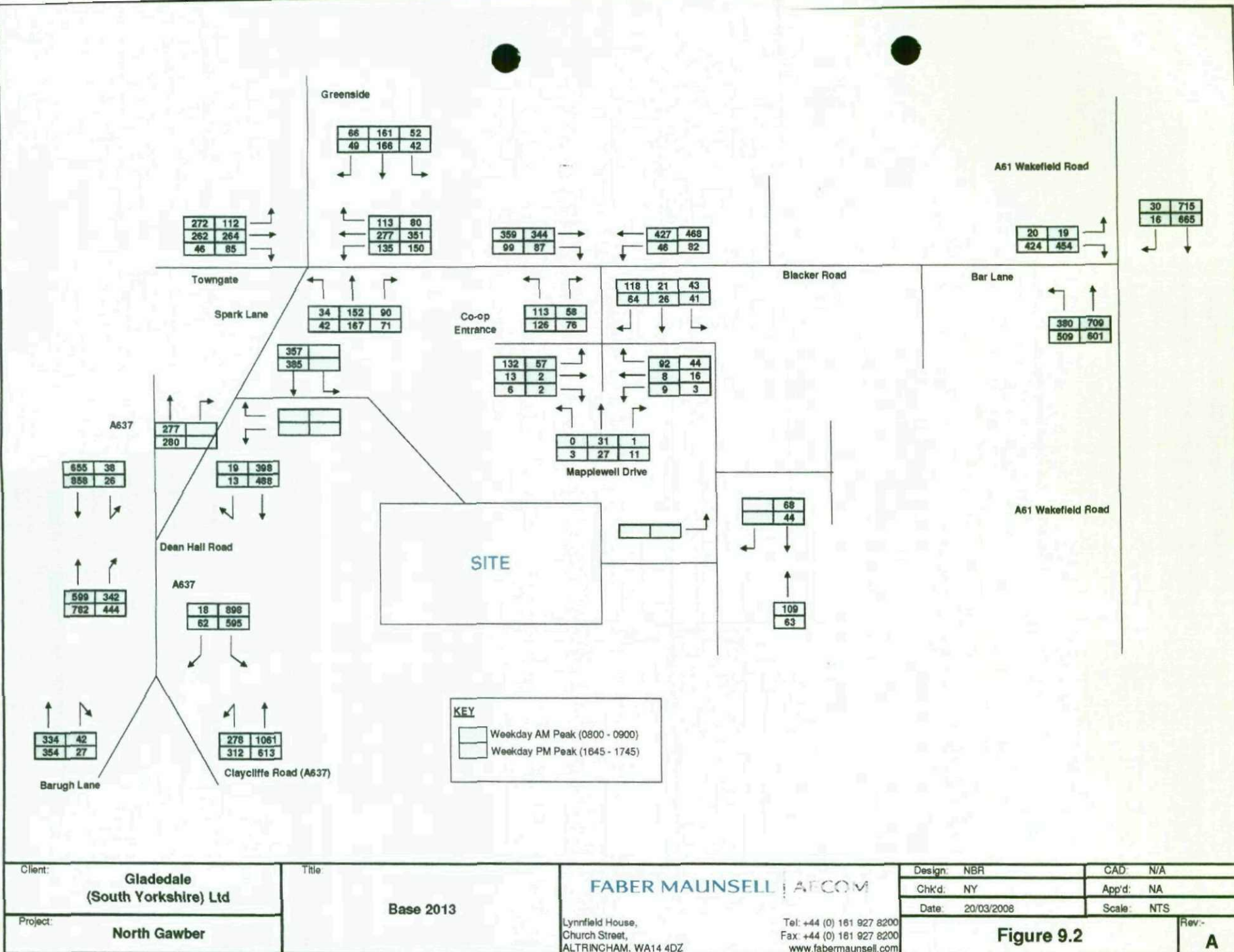
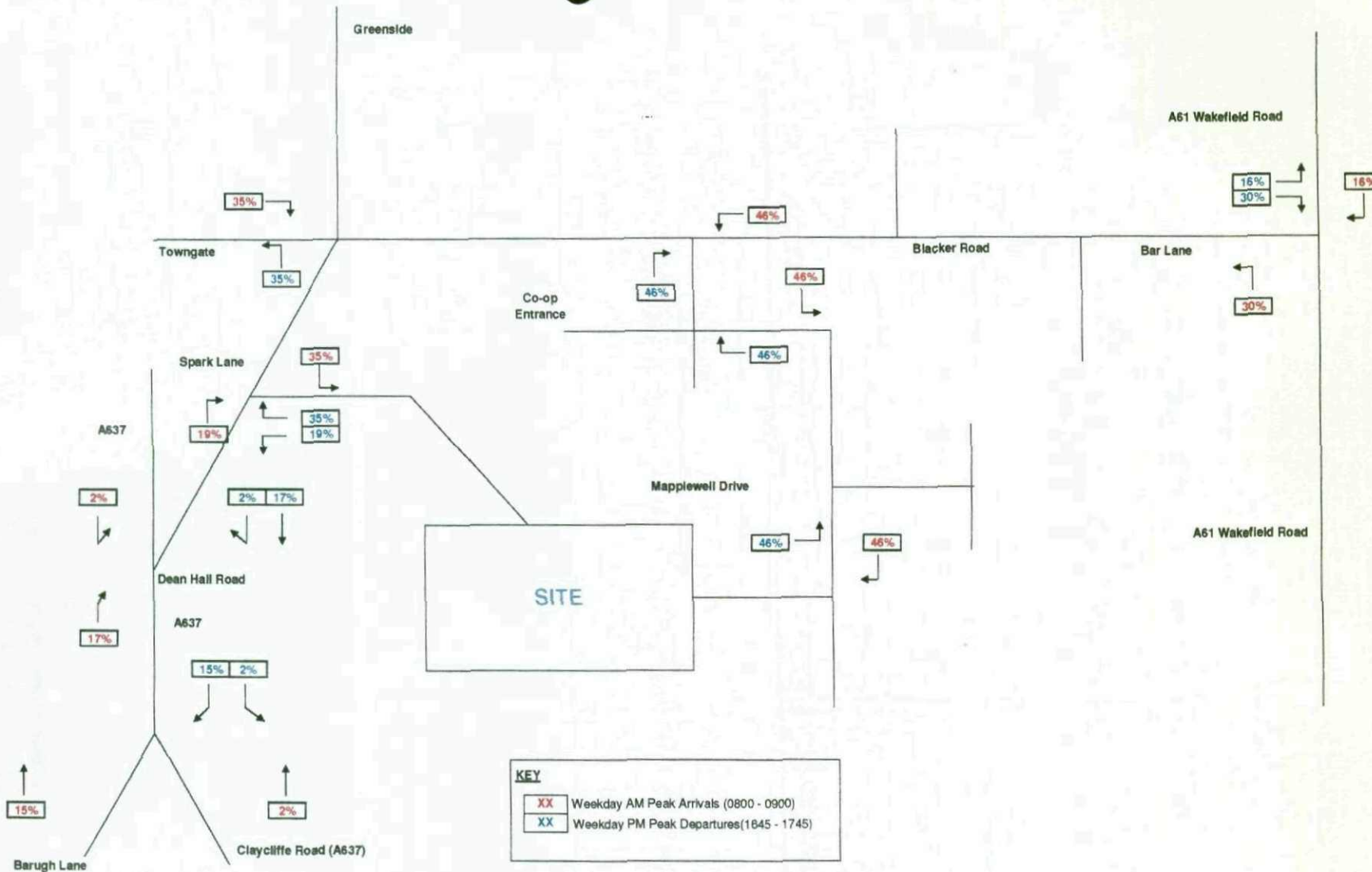


Figure 9.2

A



Client: **Gladedale
(South Yorkshire) Ltd**

Project: **North Gawber**

Title: **Trip Distribution**

FABER MAUNSELL | AECOM

Lynnfield House,
Church Street,
ALTRINCHAM, WA14 4DZ

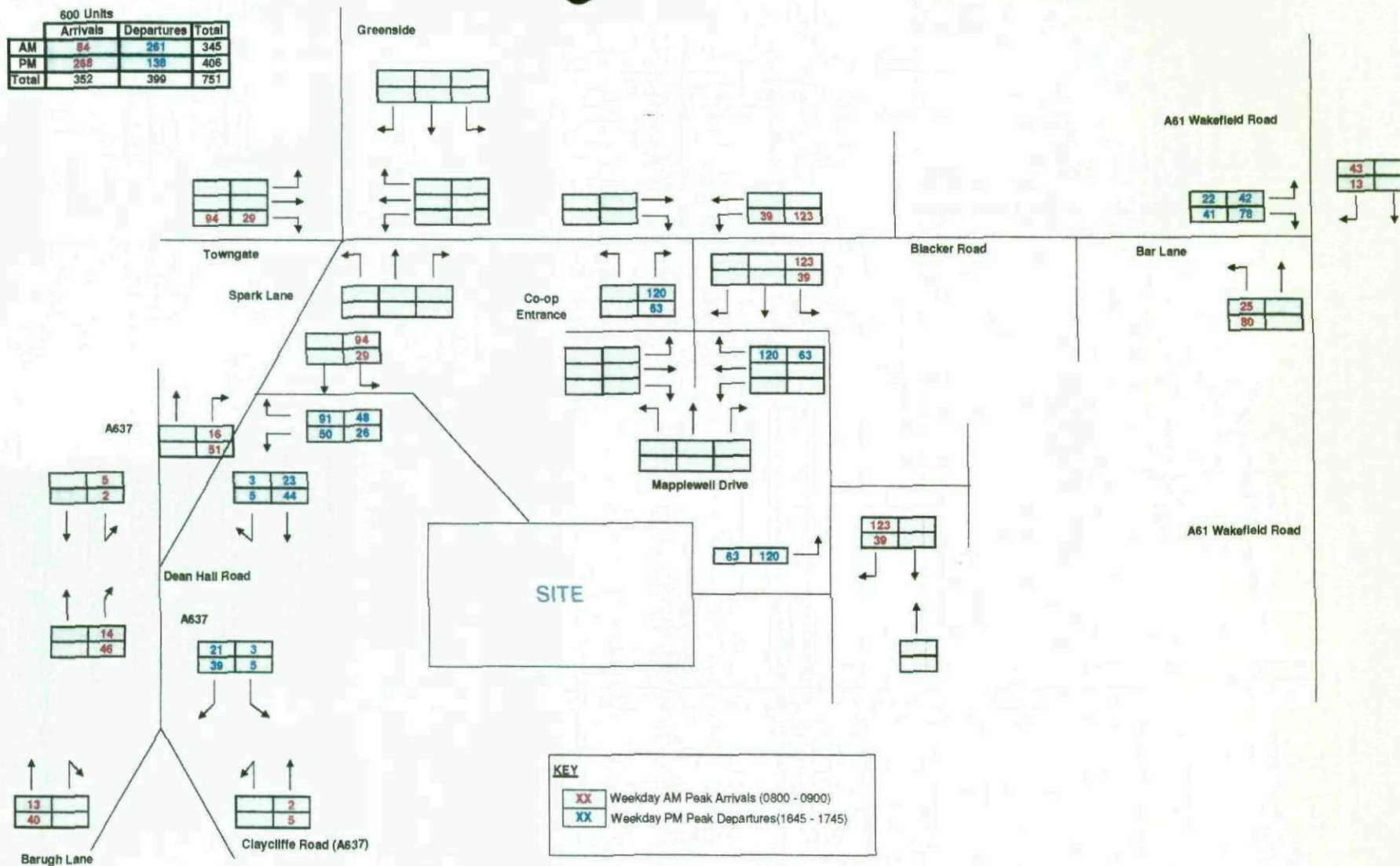
Tel: +44 (0) 161 927 8200
Fax: +44 (0) 161 927 8200
www.fabermaunsell.com

Design: NBR	CAD: N/A
Chk'd: NY	App'd: NA
Date: 20/03/2008	Scale: NTS

Figure 9.3

Rev: **B**

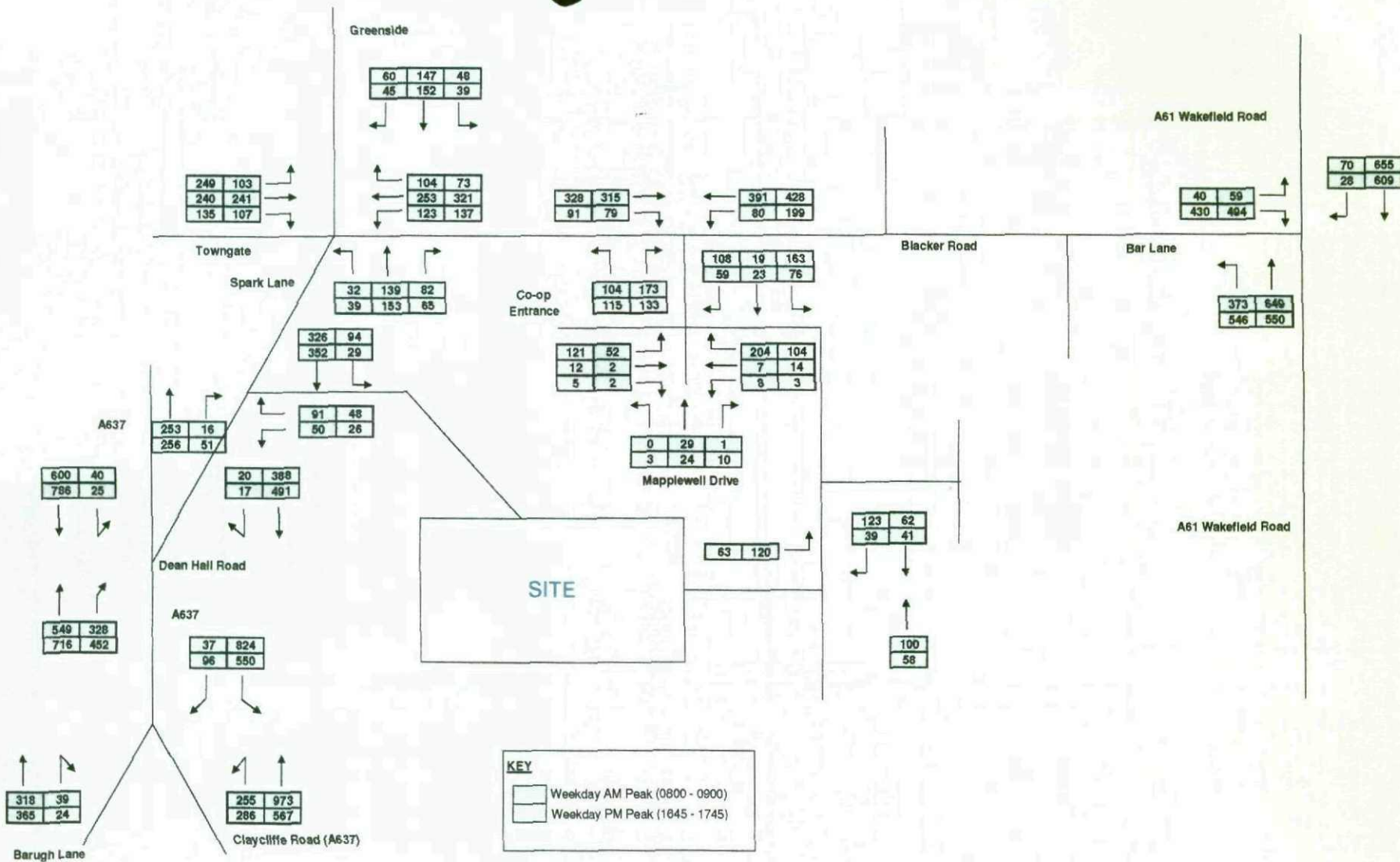
600 Units			
	Arrivals	Departures	Total
AM	84	261	345
PM	266	138	406
Total	352	399	751



Client:	Gladedale (South Yorkshire) Ltd	Title:	Trip Generation 600 Units	FABER MAUNSELL AFCON	Lynnfield House, Church Street, ALTRINCHAM, WA14 4DZ	Tel: +44 (0) 161 927 8200 Fax: +44 (0) 161 927 8200 www.fabermaunsell.com	Design: NBR	CAD: N/A
Project:	North Gawber						Chk'd: NY	App'd: NA
							Date: 20/03/2008	Scale: NTS
Figure 9.4							Rev: A	

Lynnfield House,
Church Street,
ALTRINCHAM, WA14 4DZ

Tel: +44 (0) 161 927 8200
Fax: +44 (0) 161 927 8200
www.fabermaunsell.com



Client: **Gladedale
(South Yorkshire) Ltd**

Project: **North Gawber**

Title: **Base + Development 2008
(600)**

FABER MAUNSELL | AECOM

Lynnfield House,
Church Street,
ALTRINCHAM, WA14 4DZ

Tel: +44 (0) 161 927 8200
Fax: +44 (0) 161 927 8200
www.fabermaunsell.com

Design: NBR	CAD: N/A
Chkd: NY	App'd: NA
Date: 20/03/2008	Scale: NTS

Figure 9.5

Rev: **A**

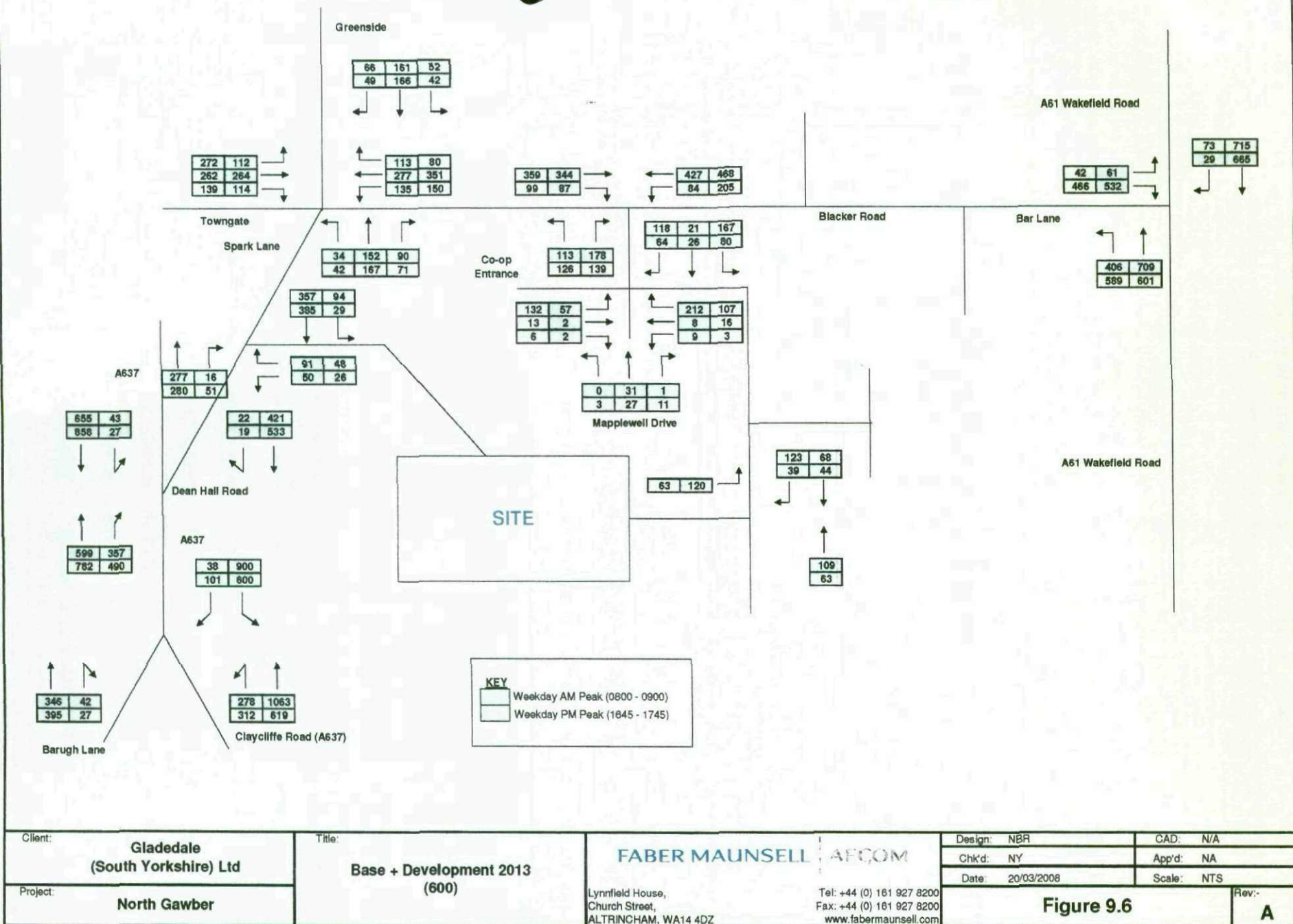


Figure 9.6

A

Appendix D

Appendix D – Traffic Flow Spreadsheets

On CD

Appendix E

Appendix E - Accident Data

On CD

Appendix F

Appendix F - Junction Assessments

On CD