

Ref: 1023/1/B

November 2007

PLOT B, WENTWORTH WAY, TANKERSLEY

Client: Gladman Developements Ltd

transport assessment

ashleyhelme associates



ASHLEY◆HELME

TRANSPORT ASSESSMENT

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Report Reference: 1023/1/B

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PLOT B,
WENTWORTH WAY, TANKERSLEY

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Chapter 1
Introduction

1.1 Ashley Helme Associates Ltd (AHA) are appointed by Gladman Developments Ltd to prepare a Transport Assessment (TA) for proposed development on land at Plot B, Wentworth Way, Tankersley, Barnsley (henceforth referred to as the Site). The location of the Site is indicated on Figure 1.1 in the context of the local highway network.

1.2 The planning application is for speculative multi-occupied employment use units. The development proposal is to provide warehousing units with a total floorspace of 29,364sm GFA.

1.3 The Site is presently vacant, and hence all of the traffic generated by the proposed development is assumed to be net additional traffic on the TA study network.

1.4 The transport policy context for the proposed development is outlined in Chapter 2. The principles of the access strategy are discussed in Chapter 2, and this provides the means to achieve transport policy objectives. It is fundamental to the approach of the applicant, as represented in the TA, that a holistic view is taken of the consideration of access to the proposed development by all modes of transport.

1.5 The issues addressed within the TA fall broadly into the following areas:

- Accessibility of the Site by non-car modes, and
- The vehicular traffic impact on the operational performance of the local highway network, assessed quantatively for the TA defined study network.

1.6 A TA study network of junctions is identified, (as indicated on Figure 1.2). The associated local highway network is described in Chapter 3. The proposed Site access arrangements are outline in Chapter 4.

1.7 The accessibility of the Site by choice of mode is considered in Chapters 5 (walk & cycle) and 6 (public transport).

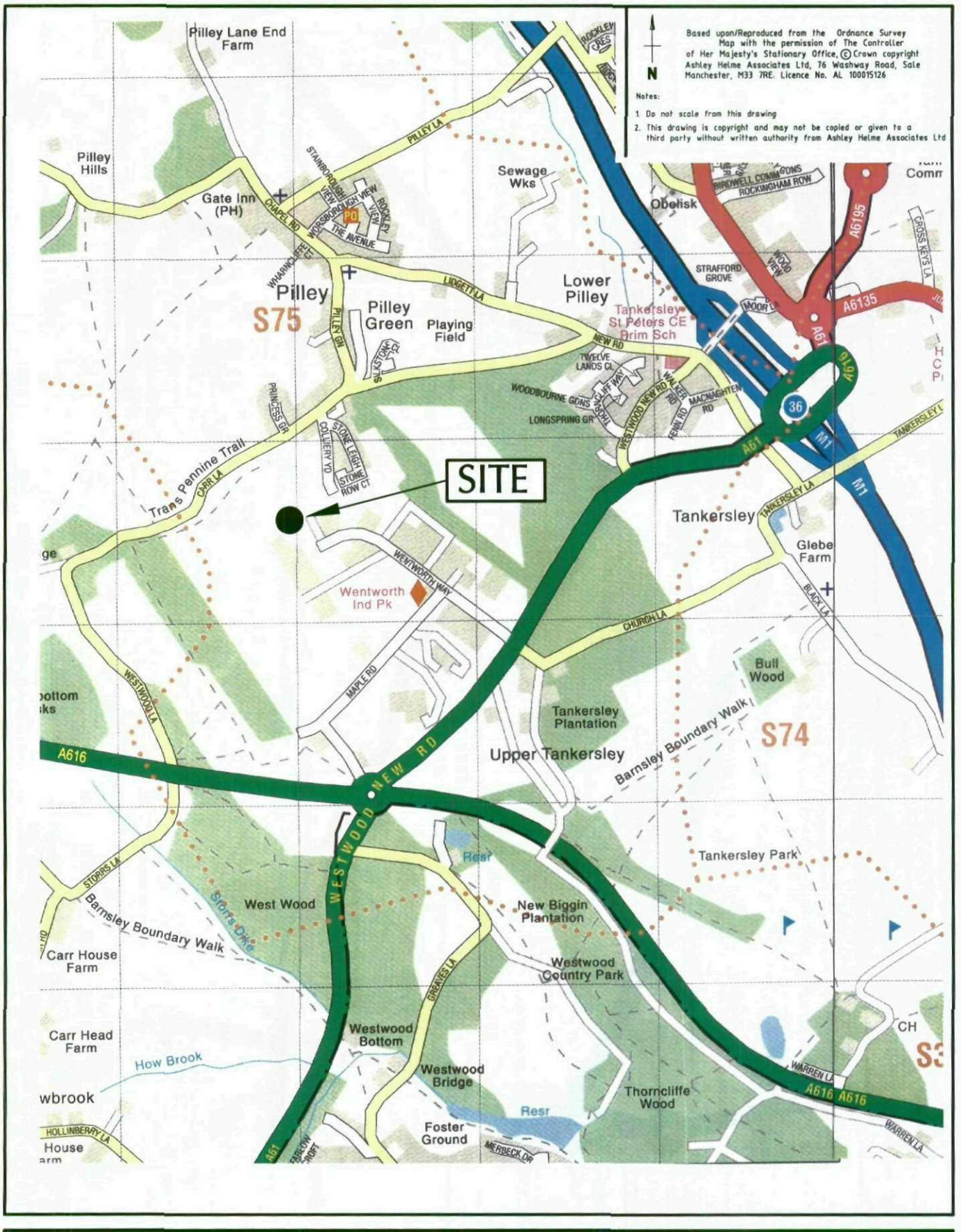
1.8 The parking proposals for the development are outlined in Chapter 7, and discussed in the context of the overall access strategy.

1.9 A Travel Plan is proposed as part of the development and prepared in-house by the applicant Gladman Developments. It is prepared in accordance with the DfT Guidance (August 2002) and the principles of this are outlined in Chapter 8. A separate Travel Plan is submitted, complementary to the TA report.

1.10 The traffic impact of the proposed development on the local highway network is quantatively assessed at the TA study junctions. The estimation of the traffic flows and modelling of the highway network are described in Chapters 9 & 10 respectively.

1.11 Chapter 11 reviews the accident records at the TA study junctions and considers the likely impact of the development on the occurrence of accidents.

1.12 Chapter 12 presents the conclusions of the TA study.

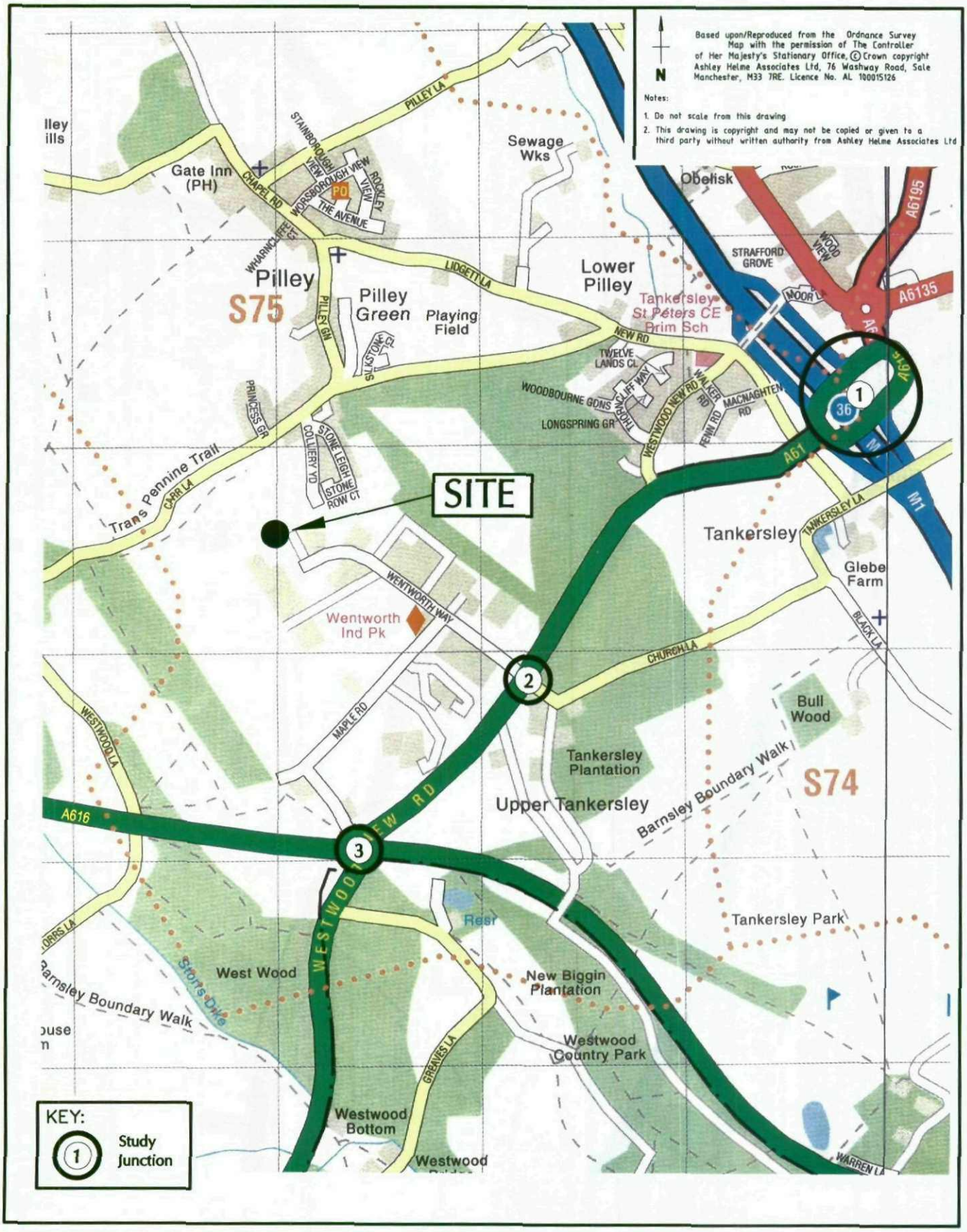


LOCATION PLAN

FIGURE 1.1

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1023_1.1



STUDY JUNCTION NETWORK

FIGURE 1.2

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Chapter 2

Policies & Principles of Access Strategy

2.1 A holistic approach is adopted for the desired access strategy. Due cognisance is taken of a range of relevant policy documents and considerations that represent national and local policies. These include:

- PPS 1 & PPG13,
- 2004 Transport White Paper 'The Future Of Transport: A Network for 2030,
- Barnsley UDP.

2.2 A general thrust of current national and local policies is to promote and deliver sustainable transport objectives, and this is a key factor in defining the access strategy for the proposed development.

2.3 **PPS1**

2.3.1 The government's commitment to sustainable development is emphasised in PPS1. This includes advice to local authorities to integrate their transport programmes and land use policies in ways that help:

- Reduce growth in the length and number of motorised journeys,
- Encourage alternative means of travel, which have less environmental impact, and hence
- Reduce reliance on the private car.

2.3.2 PPS1 further advises that the planning system should foster forms of development that encourage walking, cycling and public transport use.

2.3.3 The proposed development respects and reflects the PPS1 transport related objectives.

2.4 **PPG13**

2.4.1 Objectives of current national and local policies (refer PPG13, para 4) are to:

- Promote more sustainable transport choices,
- Promote accessibility to destinations (including jobs, shopping and leisure facilities) by public transport, walking and cycling, and
- Reduce the need to travel, especially by car.

2.4.2 More specifically, PPG13 sets out that it is Government policy to deliver the following sustainable objectives:

- Reductions in car usage (particularly single occupancy journeys) and increased use of public transport, walking and cycling, and
- Reduced traffic speeds and improved road safety and personal security particularly for pedestrians and cyclists.

This is further explicitly re-stated in the 2002 DfT/Office of the Deputy Prime Minister publication 'Using the planning process to secure travel plans: Best practice guide', (para 2.2).

2.4.3 PPG13 recognises that the car will continue to have an important role within the overall transport framework. However, as part of the effort to secure the objectives of the guidance, local authorities are encouraged to actively manage the pattern of urban growth, and PPG13 states that, when considering planning applications, local authorities should:

"• *Ensure that development comprising jobs, shopping, leisure and services offers a realistic choice of access by public transport, walking and cycling...*" (para 6).

2.4.4 Government policy for development parking provision is presented in PPG13, which states that local authorities should:

"• *use parking policies, alongside other planning and transport measures to promote sustainable transport choices and reduce reliance on the car for work and other journeys*" (para 6).

2.5 **2004 WHITE PAPER**

2.5.1 The 2004 Transport White Paper 'The Future of Transport: A Network for 2030' sets out that:

"There is huge potential for levels of walking and cycling to increase. More than forty percent of trips are under two miles and a quarter of car journeys are less than two miles. While there will always be some short trips for which a car is the most convenient choice (carrying heavy shopping, for example), many of these short journeys could be done on foot or by bike." (para 6.1),

"Our aim for the next 20 to 30 years is to increase walking and cycling." (para 6.3),

"• *Nearly two-thirds of all public transport journeys in England are by bus. In many areas, and for many journeys, they are the only public transport alternative to using a car. Buses are a powerful tool in tackling the problems caused by congestion, allowing more people to make the same journey while generating less traffic."* (para 5.1),

"Over the last century increasing access to cars, particularly for traditional bus users such as older people and women, had contributed to a decline in bus patronage. The historic decline was reinforced by planning policies which disburse travel patterns..." (para 5.2).

2.5.2 All of the above emphasise the continuing commitment of Government to supporting patterns of development that are consistent with good accessibility by non-car modes.

2.6 **LOCAL POLICIES**

The adopted Unitary Development Plan (UDP) and the Local Transport Plan (LTP) include a common theme of aiming to promote sustainable transport. The access strategy for the proposed development is consistent with this.

2.7 PRINCIPLES OF THE ACCESS STRATEGY

2.7.1 The access strategy for the development provides the means to achieve the identified policy objectives by optimising the opportunity for access to/from the Site by non-car modes. This is in accordance with local and national policies.

2.7.2 The accessibility of the Site for those travelling on foot and cycle is established (Chapter 5). The proposed development takes account of the needs of the mobility impaired, in accordance with statutory requirements and good practice.

2.7.3 Wentworth Industrial Park is an established employment location. The existing bus service provision that enables journeys to/from Wentworth Industrial Park (and hence the application Site) is established and the suitability of this appraised, in the context of local and national policies.

2.7.4 A reduced reliance on private cars is promoted in local and national policies (eg PPG13). PPG13 identifies that the desired reduced reliance on private cars is assisted by using parking policies to promote sustainable transport choices. A balanced approach to the development car parking proposals is outlined in Chapter 7.

2.7.5 A Travel Plan will support the development and the achievement of the sustainable travel objectives. The DfT/Office of the Deputy Prime Minister publication 'Using the planning process to secure travel plans: Best Practice Guide' 2002 and the accompanying DfT publications are adopted as the basis for development of the Travel Plan (prepared by the applicant and submitted as a complementary document to the TA).

2.8 SUMMARY

In summary, the development proposal respects and promotes the principles of transport sustainability, and is consistent with national and local transport policy objectives.

Chapter 3

Highway Network

3.1 The Site comprises an area of land to the north of the A616 and west of A61 Westwood New Road, as indicated on Figure 1.1, and lies within the area generally referred to as the Wentworth Industrial Park. The application Site is on land at the Wentworth Industrial Park.

3.2 Traffic generated by the proposed development will pass through the following junctions that comprise the TA study network of junctions:

TA Ref	JUNCTION	CONTROL
1	M1 J36:	roundabout,
2	A61 Westwood New Road/Wentworth Way:	priority,
3	A616/A61 Westwood New Road:	roundabout.

3.3 The TA Junction 1 is the M1 J36. This is a large roundabout, and includes the M1 on- and off-slip roads. The southbound off-slip road is traffic signal controlled, with all other Junction 1 arms working under roundabout control arrangements. The existing layout of Junction 1 is indicated on Drg No 1023/03.

3.4 The TA Junction 2 is a 4 arm crossroads junction, operating under priority control. The existing junction layout is indicated on Drg No 1023/02. This provides access to the existing Wentworth Industrial Park.

3.5 The TA Junction 1 is a 5 arm roundabout. The existing junction layout is indicated on Drg No 1023/01.

3.6 The TA Junctions 1 & 3 form part of the trunk road network and thus the highway authority for these is the Highways Agency (HA). The Council is the highway authority for TA Junction 2.

Chapter 4

Proposed Site Access Arrangements

4.1 As indicated on Figure 1.1, the Site is located to the west of TA Junction 2. All vehicular access to the proposed development on the Site is via the existing access arrangements to/from Wentworth Industrial Park, via Junction 2.

Chapter 5

Walk, Cycle & Mobility Impaired

5.1 **WALK**

5.1.1 The IHT provides guidance about journeys made on foot. It does not provide a definitive view of distances, but does suggest a preferred maximum distance of 2000m for walk commuting trips. A 400m distance corresponds to a walk time of 5 minutes, based upon typical normal walking speed. Figure 5.1 presents the 5, 10 and 25 minute walk time isochrones for the Site, (ie reflecting 400m, 800m and 2000m distances).

5.1.2 Review of Figure 5.1 indicates the residential area (and hence population) within a 25 minute walk (2000m) of the Site. This encompasses Tankersley northwest of the Site and also includes the residential area of Pilley Green (north of the Site). Thus, there is opportunity for employees of the proposed development to live nearby and walk to work.

5.1.3 The proposed development Site is located within an established employment area with pedestrian linkages to the surrounding area.

5.1.4 As well as the footways alongside existing roads, there is an extensive network of public footpaths in the locale of the Site. This includes a public footpath that provides a pedestrian route from the northern end of Wentworth Way to the southern end of Colliery Yard, and the pedestrian route linking to Carr Lane. From Carr Lane there is a pedestrian route to the east to Tankersley and to the north to Pilley Green. This provides a pedestrian Link between the Site and residential areas, as well as a range of amenities, including for example a post office and public house.

5.2 CYCLE

5.2.1 Figure 5.2 indicates the 10 and 20 minute cycle isochrones for the Site. This comprises a substantial residential area to the northeast and south of the Site. This provides good opportunity for employees to travel to work at the Site by cycle.

5.2.2 PPG13 provides guidance about cycle parking to be provided in developments, stating for example:

"... the amount of good quality cycle parking in developments should be increased to promote more cycle use" (para 49),

and that local authorities should:

"• *require convenient safe and secure cycle parking in development at least at levels consistent with the cycle strategy in the local transport plan"* (para 51).

5.2.3 In order to further promote cycling to work, covered cycle parking is to be provided for each unit as part of the development.

5.3 MOBILITY IMPAIRED

5.3.1 Good accessibility of the proposed development is especially important for the mobility impaired. PPG13 confirms that:

"The Government wants to promote public transport that is accessible to disabled people and a pedestrian environment that enables them to make use of it. However, for some disabled people there is no substitute for the private car. Local authorities, developers and transport providers should work together to seek to meet the accessibility needs of disabled people in all developments by:

- *taking account of their needs, in terms of access arrangements and parking spaces, in location and parking policies. In particular, policies to reduce level of parking must ensure that there are adequate numbers of suitably designed parking spaces for disabled people;*

- *giving attention to the needs of disabled people in the design, layout, physical conditions and inter-relationship of uses ...*
- *ensuring developments, including transport infrastructure, are accessible to and usable by disabled people – as motorists, public transport users and pedestrians – through decisions on location, design and layout."* (para 31).

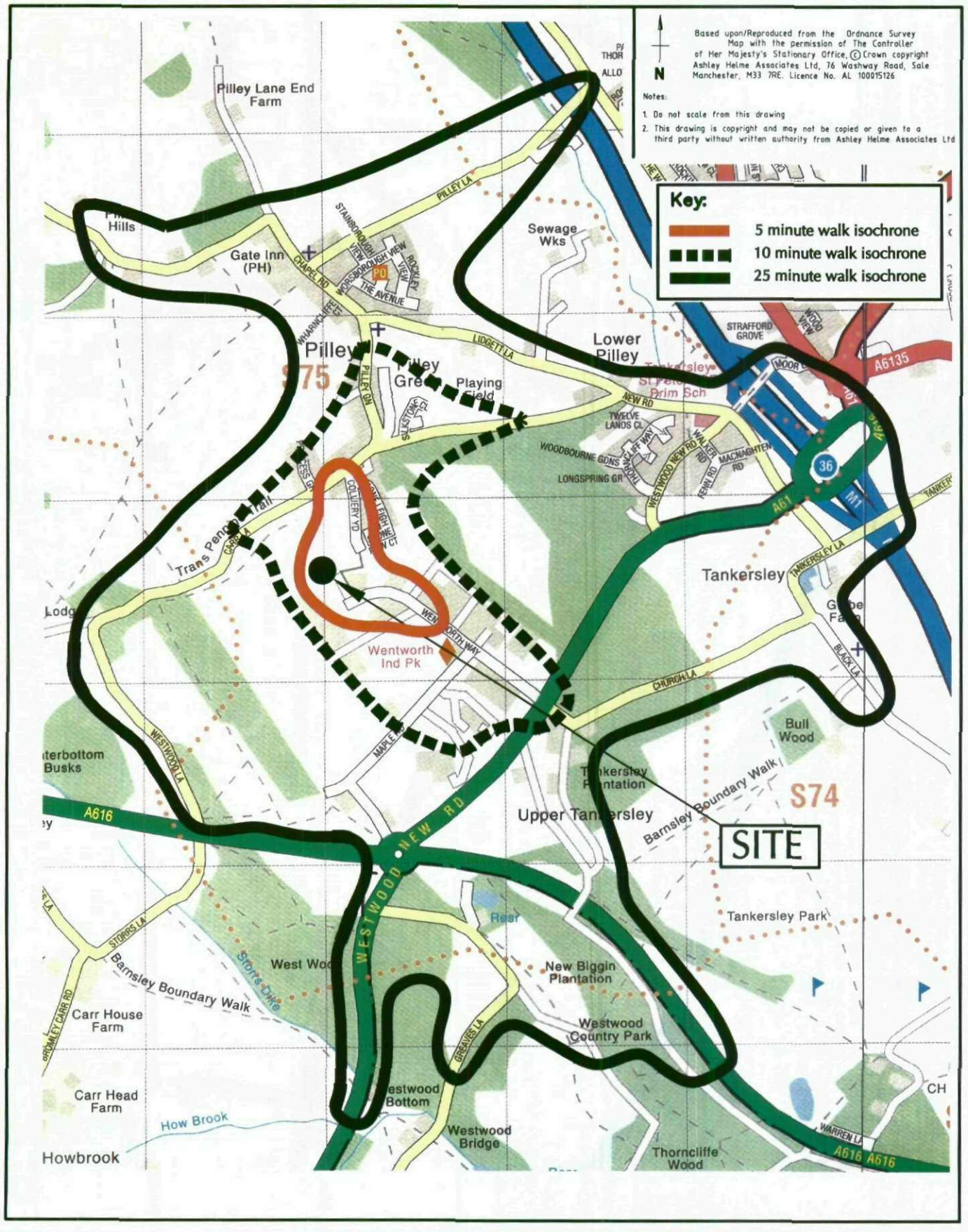
PPG13 identifies that further advice on these matters is available in government publications, for example 'Guidance on the Use of Tactile Paving Surfaces' (1999) and 'Traffic Advisory Leaflet 5/95, Parking for Disabled People'.

5.3.2 The development car parking includes 11 spaces designated for disabled parking, with the spaces located near each of the building unit entrances.

5.3.3 The needs of those with mobility impairment are an important component of the detailed design of the development, and full account will be taken of current guidance and standards. This is in accordance with good practice and national and local policies.

5.4 **SUMMARY**

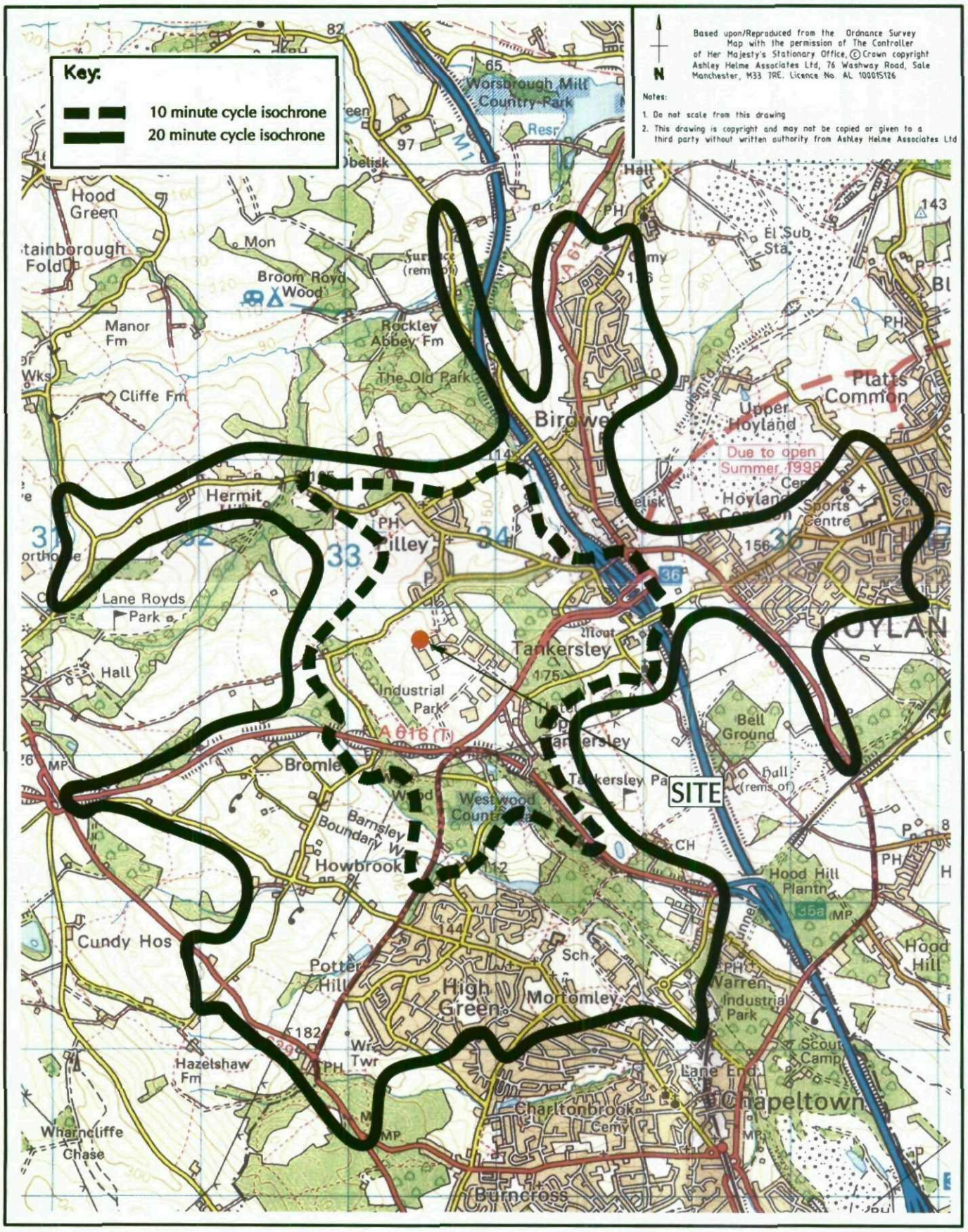
Transport sustainability is a principle underlying the proposed development. Encouraging walk and cycle journeys is recognised as important, and the existing walk and cycle infrastructure assists such journeys to be undertaken in a safe and convenient manner.



WALK ISOCHRONES

FIGURE 5.1

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CYCLE ISOCHRONES

FIGURE 5.2

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Chapter 6

Public Transport

6.1 The IHT 'Guidelines for Planning for Public Transport in Developments' (March 1999) set out that, in considering public transport provision for development, three questions need to be addressed:

"• *What is the existing situation with respect to public transport provision in the area around the development?*

• *What transport provision is required to ensure that the proposed development meets national and local transport policy objectives?*

• *Are the transport features of the development consistent with the transport policy objectives, and if not, can they be changed to enable the policy objectives to be achieved?*" (para 4.18).

6.2 The IHT Guidelines conclude that a broad methodology which allows the issues to be identified and debated comprises the following general principles:

- Investigate existing public transport provision,
- Using this information, determine whether the Site is well served by public transport,
- Where the Site is not well served or existing services are fully loaded, suggest measures to rectify this situation,
- Define infrastructure for the proposed development which enables public transport to be operated effectively and make it attractive to potential passengers.

6.3 The option for travelling on public transport to employment at the Site is bus.

6.4 EXISTING FACILITIES

Figure 6.1 indicates the existing bus stops near the Site. There are 7 bus stops within a 10 minute walk of the Site. The closest bus stops to the Site are on Wentworth Way and Carr Lane. Additionally, within a 10 minute walk there are bus stops on both sides of Westwood New Road, next to TA Junction 2 (ie Wentworth Way/Westwood New Road), on Maple Road and on Pilley Green. Within a 25 minute walk, there are an additional 8 bus stops, including stops in Tankersley.

6.5 EXISTING BUS ROUTES AND SERVICES

6.5.1 Figure 6.2 presents the existing network of bus routes for services that call at the stops shown on Figure 6.1. These provide opportunity for a direct bus journey, without a change of bus required, between the Site and a range of destinations including Barnsley, Chapeltown, Sheffield and Tankersley.

6.5.2 Table 6.1 summarises the scheduled bus services calling at the stops shown on Figure 6.1, and the frequency of service. In the typical weekday situation there are 3 or 4 buses per hour calling at stops near the Site, and typically 6 or 7 buses per hour taking account of buses travelling in both directions along a road.

6.6 BUS CATCHMENT

6.6.1 Figure 6.2 also indicates the bus catchment area for the Site, for journeys that can be undertaken on a single bus service, ie without the need to 'change bus', and calling at the bus stops shown on Figure 6 .1. This is derived as follows:

- Identify bus routes that enable visits to/from the Site by bus (refer Table 6.1),
- Plot bus routes onto the road network,
- Add plot of distance of 400m from bus route.

6.6.2 As explained in para 5.1, a 400m distance corresponds to a walk time of 5 minutes, based upon typical normal walking speed. This represents the distance from the bus route that is often considered reasonable to be expected to be walked as part of a primary mode bus journey. There are a number of references in the IHT 'Guidelines for Planning for Public Transport in Developments' that refer to a 400m walk distance to bus routes, for example:

"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 ....." (para 6.9).

However, the IHT Guidelines continue to point out that:

"It is better to provide bus routes that are simple and direct than slavishly follow limits on walk distances to stops. Routes should not be split or diverted to achieve a walk distance of less than 400m from every destination to its nearest bus stops." (para 6.9).

6.6.3 The Figure 6.2 bus catchment diagram is derived on the basis of a 400m walk from bus routes, and demonstrates the good accessibility of the Site by bus for a large area of population, including the locations referred to in para 6.5.1.

6.7 **SUMMARY**

It is demonstrated that the Site has good public transport accessibility, with journeys by bus available for a large residential population. This is in accordance with the aims and objectives of current national and local policies.

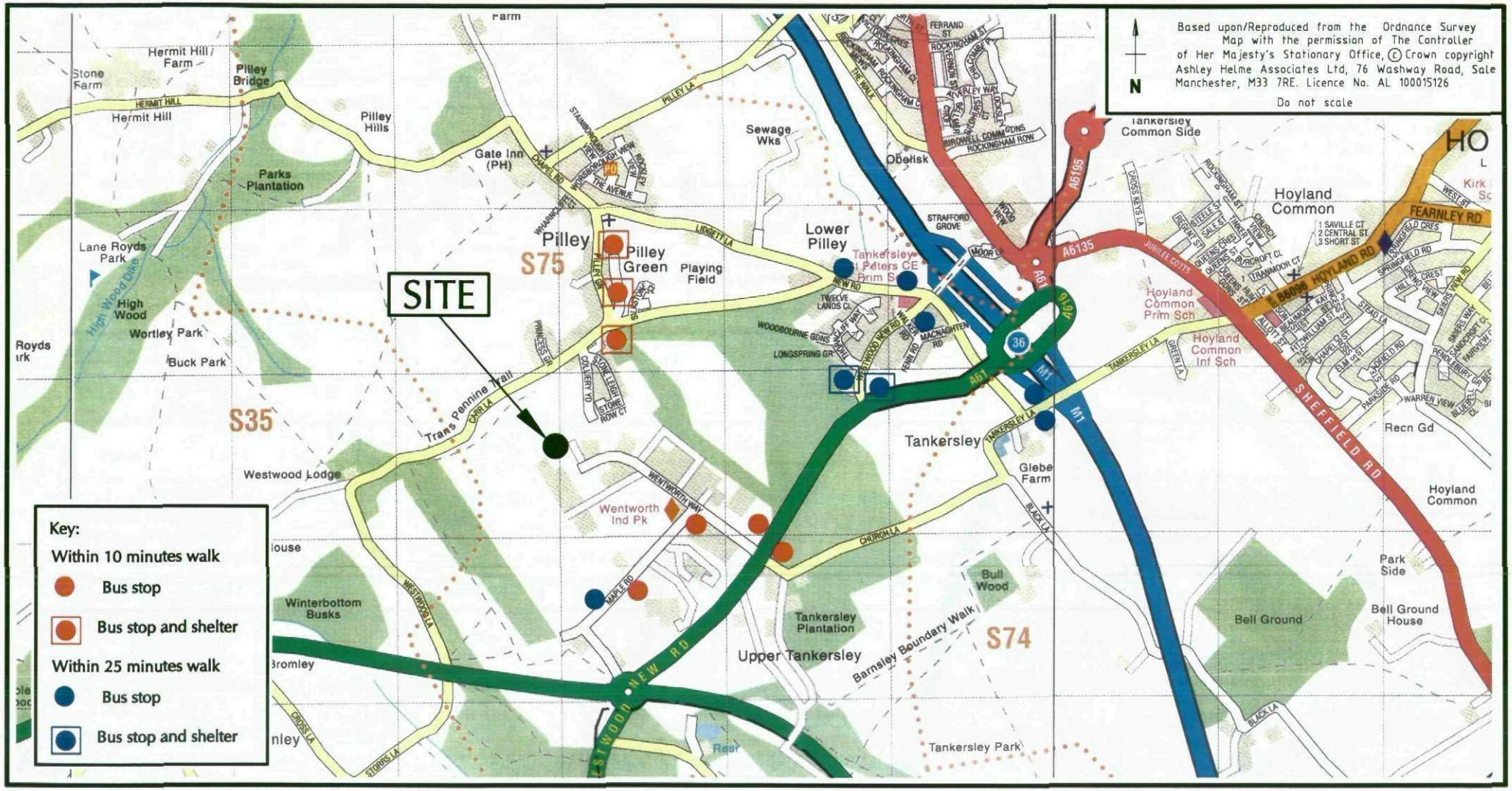
BUS No	ROUTE	FREQUENCY			OPERATOR
		Mon-Sat Day	Mon-Sat Eve	Sun/Bank Holidays	
Services within 10 minutes walk					
39	*Barnsley- Pilley- Hoyland- Blacker Hill Circular*	120 mins	120 mins	6Trips	SY
72A	Manvers- Hoyland- High Green- Chapletown	60 mins	-	-	SY
199	Southey Green- Chapletown- Tankersley- Brampton- Manvers	60 mins	2 Trips	-	SCT
201	Sheffield- Hillsborough- Chapletown- Meadowhall	60 mins	-	-	SY

Source: South Yorkshire Passenger Executive Bus Timetables for Rural Areas November 2005

Key:

SCT Sheffield Community Transport.
SY Stagecoach in Yorkshire

TABLE 6.1 BUS SERVICES & FREQUENCY

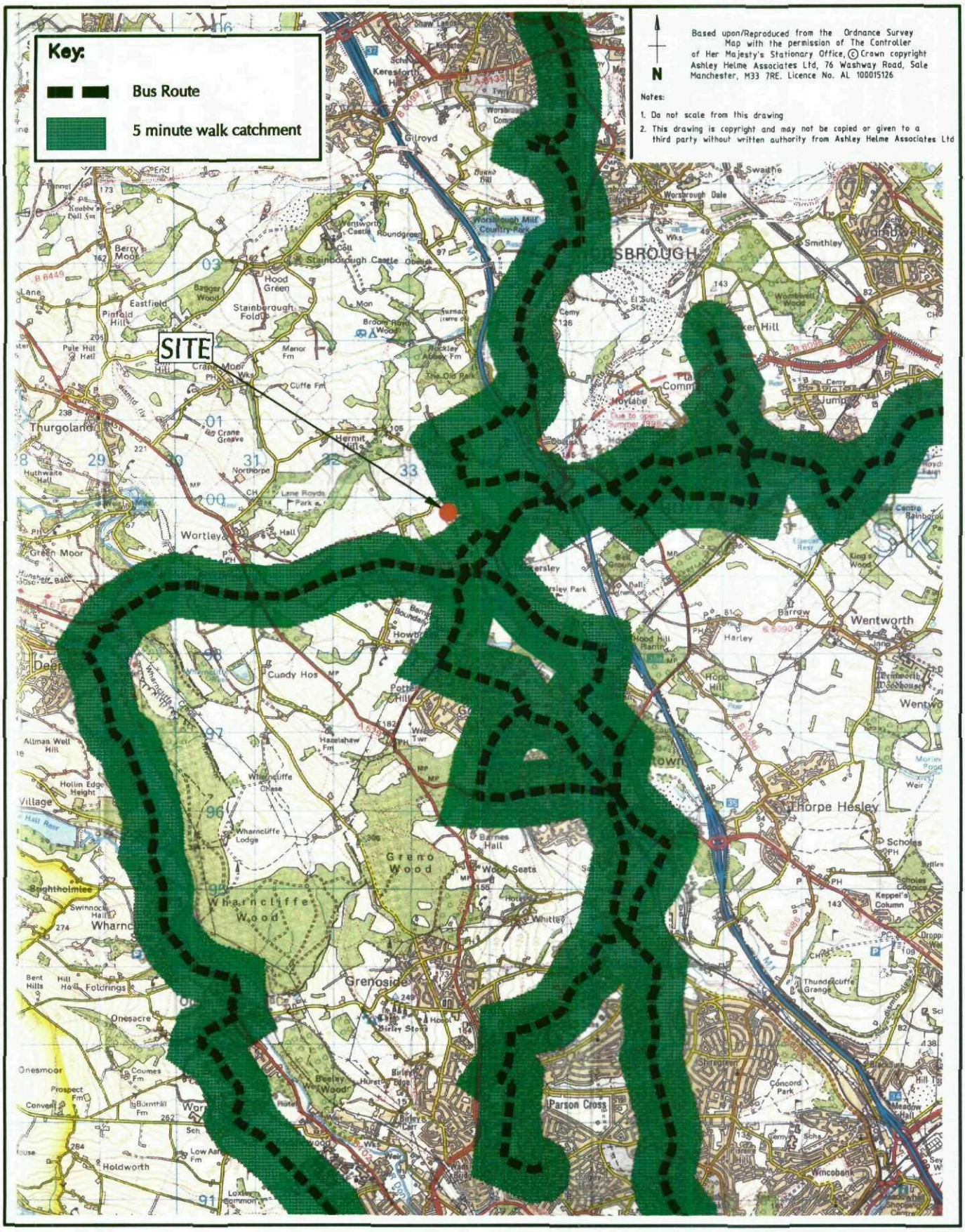


BUS STOPS

FIGURE 6.1

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BUS ROUTES & CATCHMENT AREA

FIGURE 6.2

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Chapter 7

Parking

7.1 In considering the car parking provision for the proposed development it is relevant to take account of a number of factors, including:

- Local policies, for example as included in the DLP and LTP,
- National policy as included in PPG13,
- Accessibility of the Site by non-car modes.

7.2 The development car parking provision needs to achieve a balance between:

- Providing sufficient car park spaces to meet the development generated demand in a safe manner, and

- Not over-providing to an extent that encourages unnecessary car travel and/or acts as a deterrent to use of alternative non-car modes.

The development car parking proposals provide the appropriate balance for these dual objectives.

7.3 The development proposal includes 285 car park spaces and additionally 12 disabled parking spaces, providing a total 297 spaces. The disabled spaces are located close to the building entrances.

7.4 Similarly, and as stated in para 5.2.3, covered cycle (bicycle) parking is to be provided. The provision is in accordance with the Council's SPG Note 32, being 1 short stay space per 1000sm and 1 space per 40 staff.

Chapter 8

Travel Plan

8.1 A Staff Travel Plan (TP) forms part of the development proposal. This is in accordance with national and local policies, and the stated requirement of the HA.

8.2 'Using the planning process to secure travel plans: Best practice guide' (DfT/Office of the Deputy Prime Minister, July 2002) sets out the current and most recent national advice available. The companion guide 'Making Travel Plans Work: Lessons from UK Case Studies' illustrates key success factors and features of good practice for setting up an effective travel plan. These form the basis for preparation of the development Travel Plan.

8.3 The 'starting point' for establishing the Travel Plan requirements is review of the 'ideal content' requirements set out in the DfT 'Best Practice Guide', that includes, in summary:

"• *Setting objectives and targets;*

- *Measures to promote and facilitate public transport use, including physical works, shuttle buses to stations and financial incentives;*
- *Measures to promote and facilitate walking and cycling;*
- *Car parking restraint, charges and management,*
- *Promotion of car sharing;*
- *Promotion of practices and on-site facilities that reduce the need for travel;*
- *Monitoring and review mechanisms;*
- *Travel Plan co-ordinators;*

- *Travel information and marketing."* (para 2.3).

The 'Best Practice Guide' notes that *"The list represents the state-of-the-art in respect of the Travel Plan itself and the incorporation of 'carrots' and 'sticks' to achieve a shift away from single occupancy car commuting. Travel plan measures aimed at other journeys (eg visitors or business travel) are less developed."* (para 2.4).

8.4 The DfT guidance explains that:

"Travel plan measures need to complement each other to be effective in achieving more sustainable modes of travel and reduce environmental impact. There is an increasing understanding of what elements, or combination of elements, are likely to be the most effective in reducing car trips". (para 2.6, 'Best Practice Guide').

8.5 The Staff Travel Plan for the development will adopt the principle of providing complementary relevant measures that reflect the components outlined in para 8.3 above. This Staff Travel Plan will be consistent with the Staff Travel Plan for the Gladman extant permission (committed) development at Wentworth Industrial Park.

8.6 There is a practical issue in terms of a Travel Plan for the proposed development. The Gladman drawing submitted with the planning application indicates a number of individual units, and some of these could have more than a single occupant. The future occupants are not presently known.

8.7 The DfT 'Using the planning process to secure travel plans: Best Practice Guide' (2002) specifically provides advice about the preparation of a Travel Plan for a speculative multi-occupied development, which is an accurate description of the development proposed by the planning application. A staged process is advocated, involving:

- Interim Travel Plan: to specify measures to be implemented before development and occupation as far as possible, and to include a framework and timetable for the Final Travel Plan,

- Final Travel Plan: compared and implemented soon after occupation and in accordance with the framework, based on surveys of the operating development.

8.8 The Staff Interim Travel Plan (prepared by the applicant) sets out all travel plan commitments that are not dependent on a survey of the occupiers' employees and which can be implemented before development (eg infrastructure) and/or before occupation. The Interim Travel Plan for the proposed development is complementary to the TA, and both documents are submitted in support of the planning application.

Chapter 9

Traffic Flows

9.1 STUDY NETWORK

A TA study network of 3 existing junctions is identified for the TA quantative analysis. This is indicated on Figure 1.2, and comprises:

TA Ref	JUNCTION	CONTROL
1	M1 J36:	roundabout,
2	A61 Westwood New Road/Wentworth Way:	priority,
3	A616/A61 Westwood New Road:	roundabout.

9.2 PEAK PERIODS

The times when the combination is greatest of traffic generated by the proposed employment use and the existing highway network traffic are the weekday AM and PM peak hours. The TA includes quantative analysis and junction modelling for these periods.

9.3 TRAFFIC COUNTS

9.3.1 AHA undertook traffic count surveys at the TA study junctions on 6 July 2006, during 0730-0930 and 1615-1815 hours.

9.3.2 Review of the count data identifies the peak hours for existing traffic flows at the TA study junctions as:

- AM 0730-0830
- PM 1645-1745

9.3.3 Figure B1, Appendix B presents the recorded AM and PM peak hour traffic flows at the study network junctions. The units are vehicles.

9.4 YEAR OF OPENING 2008

9.4.1 The development year of opening is defined as the year in which the proposed development is fully completed and occupied. This is adopted as year 2008 for the TA analysis.

9.4.2 Growth factors are applied to the traffic count data to estimate the 'growthed' year 2008 peak hour traffic flow at the study junctions. The HA requires that the NRTF Central growth rates, are used to estimate future year traffic flows. Based on this, the 2008 factored (Central NRTF rates)count traffic flows are presented on Figure B2, Appendix B.

9.5 FUTURE DESIGN YEAR: 2023

9.5.1 The current HA policy (set out in DfT Circular 02/2007) is to require that the TA also includes analysis for 10 years after the date of registration of the planning application, which is adopted as year 2017 for the TA analysis. The year 2017 factored count traffic flows at the study network junctions are presented on Figure B3, Appendix B, derived using the DfT NRTF Central rates.

9.6 GENERATED TRAFFIC

9.6.1 The proposed development is for 29,364sm GFA warehouse use.

9.6.2 The TRICS 2007(a) database is interrogated to identify suitable warehouse trip generation rates to be adopted for estimating the peak hour traffic generated by the proposed development. The criteria adopted for the TRICS interrogation include:

- Size in the range 11,495-55,740sm GFA,
- Includes sites surveyed 1997 or more recently,
- If a site has been re-surveyed, include only the most recent survey,
- If there are multiple survey day entries for a single site, include only the busiest survey day; this is so as to avoid bias in the survey sample and hence bias in the resultant trip rates,

- Exclude sites in Northern Ireland & Republic of Ireland, as being likely to have traffic generating characteristics distinct to that area.

It is recognised that TRICS 2007(b) is now available. However, the TRICS 2007(a) data included in the preceding version of the TA (ref 1023/1/A), that was **agreed** with DCC and the HA, is retained herein, so as to avoid delays in progress of the application.

9.6.3 Results of the TRICS interrogation are included in Appendix C. Table 9.1 summarises the warehouse trip generations rates for the TA identified AM and PM peak hours of 0730-0830 and 1645-1745 respectively. In respect of the latter (ie PM peak hour), the TRICS data is presented for the hours 1630-1730 and 1700-1800. Trip rates for both of these PM hour periods are reviewed and the higher trip rates adopted (ie those for 1700-1800 hours) as trip rates for the PM peak hour 1645-1745. For the avoidance of doubt, these are the identical data included in the previous TA report (ref 1023/1/A), with no change, and that were **agreed** with DCC and the HA.

9.6.4 Table 9.1 also summarises the estimated AM and PM peak hour traffic generated by the proposed 29,364sm GFA development.

9.7 **DISTRIBUTION OF GENERATED TRAFFIC**

9.7.1 It is necessary to estimate a directional distribution on the TA study network of the traffic generated by the proposed development at the Site, to enable quantative analysis of traffic impact.

9.7.2 The existing Wentworth Industrial Park generates traffic, and it is concluded that this provides the most suitable basis for estimating the % distribution of traffic generated by the proposed development. Figure B4, Appendix B presents the recorded % distribution of traffic generated by the existing Wentworth Industrial Park, reflecting the recorded pattern of turning movements at junctions.

9.7.3 Based on this, Figure B5, Appendix B presents the % distribution adopted for traffic generated by the proposed development. This was **agreed** with the DCC and the HA for the previous planning application.

9.7.4 The consequent estimate of AM & PM peak hour traffic generated at the TA study junctions by the proposed development is presented on Figure B6, Appendix B.

9.8 **IMPACT**

9.8.1 Figure B7, Appendix B presents the % impact of the proposed development at the TA study junctions in the year 2008 AM & PM peak hours.

9.8.2 The IHT TIA Guidelines is now superseded by the March 2007 Guidance on Transport Assessment (GTA). However, it is considered relevant to note that the IHT TIA Guidance set out that:

"It is recommended that the threshold approach should also be used to establish the area of influence of the development. Hence the study area should include all links and associated junctions where traffic from the development will exceed 10% of the existing traffic (or 5% in congested or other sensitive locations)..." (para 3.1.10).

In the previous TA report (ref 1023/1/A) it was concluded that in this specific case the more rigorous '5% threshold' should be adopted.

9.8.3 Review of Figure B7, Appendix B shows that, based on this more rigorous 5% threshold, the proposed development has **no material** traffic impact at the TA Junction 1 (ie M1 J36); the traffic impact on Junction 1 entry arms is estimated to be at most 1.4% (PM peak hour on A61 Westwood New Road). It is recognised that the March 2007 GTA supersedes the IHT TIA Guidelines. The GTA does not provide explicit advice about defining a threshold for the level of development of generated traffic that needs further investigation (eg by junction modelling) to test for materiality of traffic impact. However, GTA does suggest that a threshold for 30 two-way trips may be appropriate for identifying the level of impact below which the need for a formal assessment may not be needed. Indeed, it is the HA's emerging approach to apply the 30 two-way trip limit as that below which operational assessments are not required for the trunk road network. It is concluded that, in the specific case of this TA and in the absence of any other guidance, the '30 two-way trip threshold' provides some guidance as to the materiality test of traffic impact for the TA study junctions.

9.8.4 Review of Figure B6, Appendix B shows that, for the TA Junction 1 (ie M1 J36), the proposed development is estimated to generate an increase in two-way traffic of 36 vehicles in the AM peak hour and 36 vehicles in the PM peak hour. This is only slightly in excess of a 30 two-way threshold. Indeed, it is considered highly relevant

to recognise that the total two-way traffic at the TA Junction 1 (ie M1 J36) is 4585 vehicles in the AM peak hour and 4693 vehicles in the PM peak hour. Thus, the estimated increase in two-way traffic generated at the TA Junction 1 by the proposed development represents **only a 0.7% increase** in the AM peak hour and **only a 0.7% increase** in the PM peak hour.

9.8.5 Taking account of all the information in paras 9.8.3 & 9.8.4, it is concluded that the proposed development has **no material** traffic impact at the TA Junction 1, and thus no further modelling of TA Junction 1 is required.

9.8.6 At TA Junction 3, (that is also the responsibility of the HA), the proposed development is estimated to generate an increase in traffic in excess of 5% on only a single arm of the junction (Maple Road). On the other 4 arms of Junction 3, the proposed development is estimate an increase in traffic of between zero and at most only 1.3%, in both the AM & PM peak hours.

9.8.5 Further modelling of TA Junctions 2 & 3 is undertaken and reported in Chapter 10.

9.9 **WITH DEVELOPMENT**

The estimated With Development traffic flows are presented on Figures B8 & B9, for years 2008 and 2017 respectively.

PEAK HOUR	Veh/hour/100sm (1)		Vehicles (2)	
	Arr	Dep	Arr	Dep
AM	0.179	0.089	53	26
PM	0.120	0.163	35	48

Notes:

1. Source: TRICS 2007(a), refer Appendix C
2. 29,364sm GFA Warehouse use

TABLE 9.1 GENERATED TRAFFIC AM & PM PEAK HOURS

Chapter 10

Operational Performance of Highway Network

10.1 Modelling and analysis of the operation of the local highway authority TA study Junctions 2 & 3 is undertaken for the AM and PM peak hour Base (ie No Development) and With Development situations.

10.2 The DfT computer program PICADY is used to analyse and predict the performance of a priority controlled junction. PICADY predicts the RFC (ratio of traffic demand to capacity) and queue for the minor road arm of the junction and the major road right-turn manoeuvre. PICADY is used for TA modelling of the performance of the TA Junction 2, that operates under priority control.

10.3 The DfT computer program ARCADY is used to analyse and predict the performance of a roundabout. ARCADY predicts the RFC and queue for the approach entries to a roundabout. ARCADY is used for TA modelling of the TA Junction 3.

10.4 **JUNCTION 2: A61 WESTWOOD NEW ROAD/WENTWORTH WAY**

10.4.1 Table 10.1 summarises the PICADY analysis results for the 2008 (year of opening) Base and With Development modelling of Junction 2.

10.4.2 Review of Table 10.1 indicates that in the year 2008 Base situation Junction 2 operates in an acceptable manner, and that this continues to be the case in the corresponding with Development situation. The maximum predicted RFC is 0.830 (associated queue 4.2 vehicles) on the A61 (N) arm of the junction.

10.5 **JUNCTION 3: A616/A61 WESTWOOD NEW ROAD**

10.5.1 Table 10.2 presents the ARCADY analysis results for the Base & With Development situations at Junction 3, for years 2008 and 2017. Modelling for 2017 is undertaken to meet the HA requirement for analysis for 10 years after registration of the planning application.

10.5.2 Review of Table 10.2 indicates that in the 2008 Base situation Junction 3 is predicted to experience traffic demands approaching capacity on the Westwood New Road arm of Junction 3. However, the corresponding 2008 With Development modelling predicts that the proposed development has **no material** detrimental impact on operation of Junction 3 in the 2008 year of opening AM & PM peak hours, with Junction 3 continuing to operate within capacity.

10.5.3 Traffic growth at Junction 3 over the years between 2008 and 2017, that is independent of the proposed development, is estimated based on the NRTF Central growth rates, to meet the information requirements of the HA. As would be expected, this substantial estimated increase in growth, that is independent of the proposed development, results in a predicted deterioration in performance of Junction 3; it is important to recognise that this is **independent** of the proposed development. The 2017 Base modelling predicts that Junction 3 experiences traffic demands in excess of capacity on Westwood New Road in the AM peak hour and on Maple Road and Westwood New Road (N) in the PM peak hour.

10.5.4 Correspondingly, the 2017 With Development modelling predicts that the traffic impact of the proposed development on the operation of Junction 3, is **not material**; the predicted increase in RFC is very small and the predicted increased queue reflects the loss of stability of the ARCADY algorithm to model situations with RFC greater than 1.0. Indeed, review of Figure B7, Appendix B shows that in 2008 the traffic impact of proposed development on Westwood New Road (N) is zero, and at most 0.9% on Westwood New Road (S); the corresponding % impact in 2017 is even less on Westwood New Road.

PEAK HOUR	DEVT	WENTWORTH WAY		A61 (S)		CHURCH LANE		A61 (N)	
		RFC	Q	RFC	Q	RFC	Q	RFC	Q
AM	No (1)	0.210	0.3	0.198	0.2	0.237	0.3	0.690	2.1
	Yes (2)	0.257	0.3	0.205	0.3	0.237	0.3	0.765	3.0
PM	No (1)	0.656	1.8	0.403	0.7	0.405	0.7	0.772	3.1
	Yes (2)	0.708	2.3	0.416	0.7	0.405	0.7	0.830	4.2

Notes:

1. Refer Figure B2, Appendix B for traffic flows
2. Refer Figure B8, Appendix B for traffic flows
3. Q = Queue (vehicles)

TABLE 10.1 **PICADY ANALYSIS RESULTS**
2008
AM & PM PEAK HOURS

ASHLEY◆HELME

YEAR	PEAK HOUR	DEVT	MAPLE ROAD		A61 WESTWOOD NEW RD (N)		A616 (E)		A61 WESTWOOD NEW RD		A616 (W)	
			RFC	Q	RFC	Q	RFC	Q	RFC	Q	RFC	Q
2008	AM	No [1]	0.351	0.5	0.855	5.5	0.589	1.4	0.950	13.8	0.741	2.8
		Yes [2]	0.371	0.6	0.860	5.7	0.598	1.5	0.963	16.3	0.755	3.0
	PM	No [1]	0.701	2.3	0.892	7.3	0.714	2.4	0.539	1.2	0.862	2.1
		Yes [2]	0.745	2.8	0.907	8.3	0.728	2.6	0.547	1.2	0.690	2.2
2017	AM	No [3]	0.438	0.8	1.009	26.6	0.700	2.3	1.131	109.8	0.857	5.5
		Yes [4]	0.456	0.8	1.014	28.2	0.708	2.4	1.144	119.6	0.866	5.9
	PM	No [3]	0.927	9.2	1.088	59.5	0.847	5.1	0.642	1.8	0.810	4.1
		Yes [4]	0.969	13.8	1.101	65.3	0.854	5.3	0.648	1.8	0.817	4.3

Notes:

1. Refer Figure B2, Appendix B for traffic flows
2. Refer Figure B8, Appendix B for traffic flows
3. Refer Figure B3, Appendix B for traffic flows
4. Refer Figure B9, Appendix B for traffic flows

TABLE 10.2 **ARCADY ANALYSIS RESULTS AM & PM PEAK HOURS**

ASHLEY◆HELME

Chapter 11

Accidents

11.1 AHA purchased from Barnsley MBC the 5 year accident records (1 April 2001 to 31 March 2006) for the 3no TA study junctions. A summary of the accident record data is included in Appendix D. (Further details can not be provided for reasons of data protection).

11.2 There are 26 recorded accidents at the TA Junction 1 (M1 J36). However, as reported in para 9.8.5, the proposed development has **no material** traffic impact at TA Junction 1. Consequently, it is concluded that the proposed development has **no material** impact on the occurrence of accidents at TA Junction 1.

11.3 There are 7 recorded accidents at Junction 2. Review of the traffic count data (Figure B1, Appendix B) shows that in practice there is no right-turn traffic from Wentworth Way to Westwood Road, (this demand traffic electing to travel via Maple Road instead), and conversely negligible left-turn traffic into Wentworth Way. Consequently at Junction 2 the turning manoeuvres involving Wentworth Way are effectively, in practice, only 'left out'/'right-in'. It is concluded that the most likely contributory factor to accidents is the derestricted speed limit. As demonstrated in Chapter 10, the proposed development has no material impact on the operation of Junction 2.

11.4 There are 11 recorded accidents at Junction 3. These are locationally 'spread' between 4 of the 5 arms of the Junction 3 roundabout and the circulatory carriageway. There is no single identifiable recurrent accident cause/type. It is concluded that the overall number of accidents at Junction 3 is a function of, and attributable to, the high volume of traffic traversing Junction 3 (refer Figure B1 Appendix B), and possibly the speed of vehicles. As demonstrated in Chapters 9 & 10, traffic impact of the proposed development is **not material** at Junction 3, (refer for example Figure B7, Appendix B).

Chapter 12

Summary & Conclusions

12.1 The proposed development is for a total of 29,364sm GFA warehouse employment use accommodation. The Site is presently vacant and hence all the traffic generated by the proposed development is assumed to be net additional traffic on the TA study network. A holistic approach is adopted for the development access strategy, and the development proposal respects and promotes the principles of transport sustainability, being consistent with national and local transport policy objectives.

12.2 The proposed development is accessible by people travelling on foot, and the location of the site provides the opportunity for employees to walk to work at the development. The proposed development includes cyclist provision, and there is a sizeable residential population within cycling distance of the Site. The needs of those with mobility impairment are an integral part of the development design, and full account will be taken of current guidance and standards.

12.3 The Site is located at the established Wentworth Industrial Park and benefits from the established public transport that serves it. There are a number of bus stops within walking distance of the Site. On a weekday, there are typically 3 or 4 buses per hour calling at stops near the Site, and typically 6 or 7 buses per hour taking account of buses travelling in both directions along a road.

12.4 The proposed development provides 285 car park spaces, and additionally 12 disabled parking spaces located close to building entrances. Covered cycle (bicycle) parking is to be provided in accordance with the SPG Note 32 requirement for 1 short stay cycle space per 1000sm GFA and 1 long stay cycle space per 40 staff.

12.5 A Staff Travel Plan (TP) forms part of the development proposal, in accordance with national and local policies and the requirement of the Council and the Highways Agency. This is prepared by the applicant and reflects their company practice for

many developments such as is proposed. It is prepared in accordance with the DfT 'Using the planning process to secure travel plans: Best Practice Guide' (2002). The Travel Plan is complementary to the TA, and both documents are submitted n support of the planning application.

12.6 A TA study network of 3 existing junctions is identified for the TA quantative analysis. This comprises:

TA Ref	JUNCTION	CONTROL
1	M1 J36:	roundabout,
2	A61 Westwood New Road/Wentworth Way:	priority,
3	A616/A61 Westwood New Road:	roundabout.

12.7 Comprehensive modelling of the traffic impact of the proposed development is undertaken. From this, it is established that the proposed development has **no material** detrimental impact at the study junctions.

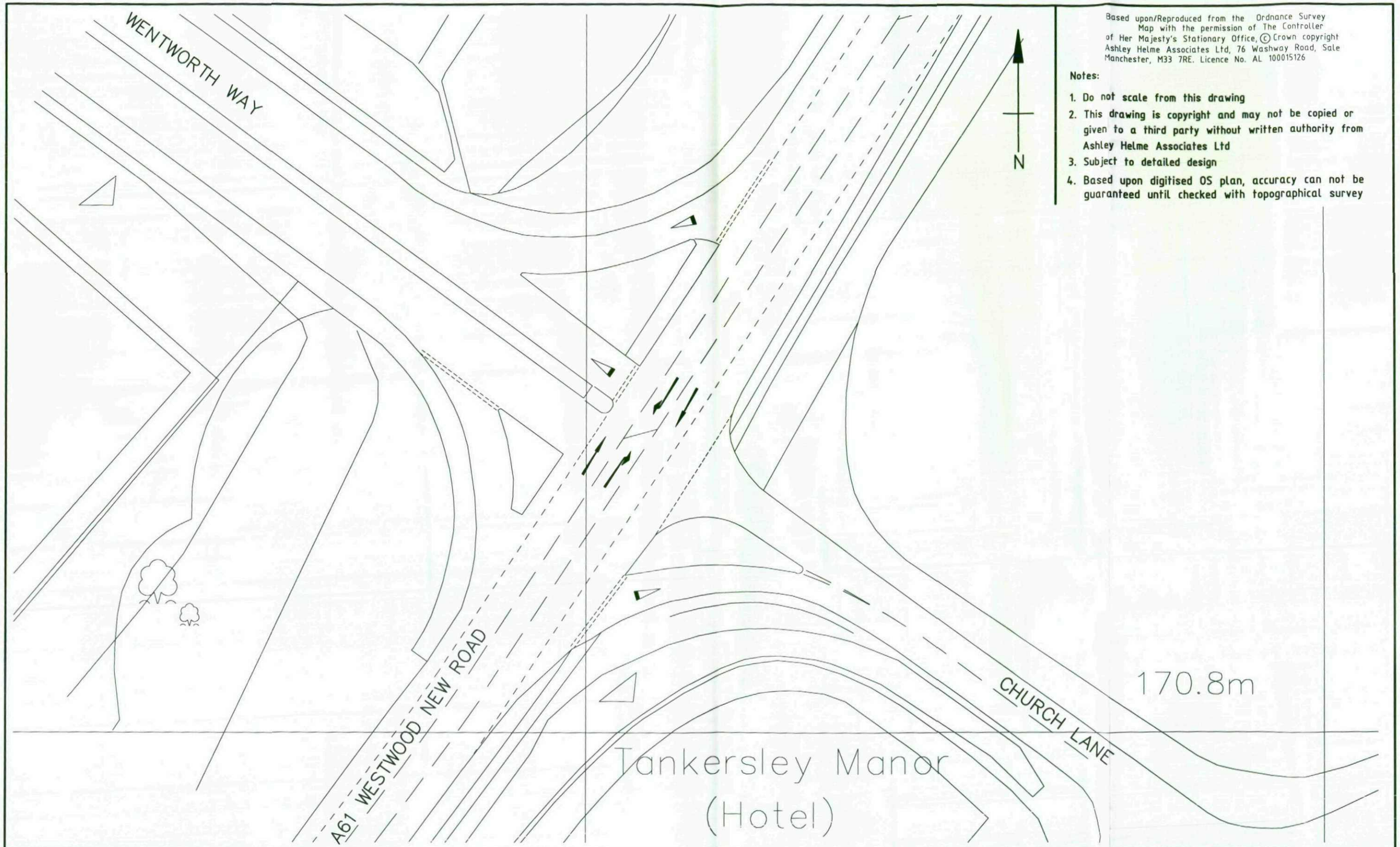
12.8 The 5 year accident records for the 3no TA study junctions are purchased from Barnsley MBC. It is concluded that the proposed development has **no material** impact on the occurrence of accidents at the study junctions.

12.9 It is concluded that there are no highways reasons for refusal of planning permission.

APPENDIX A

Junction Geometry:

AHA Drg Nos 1023/01-03



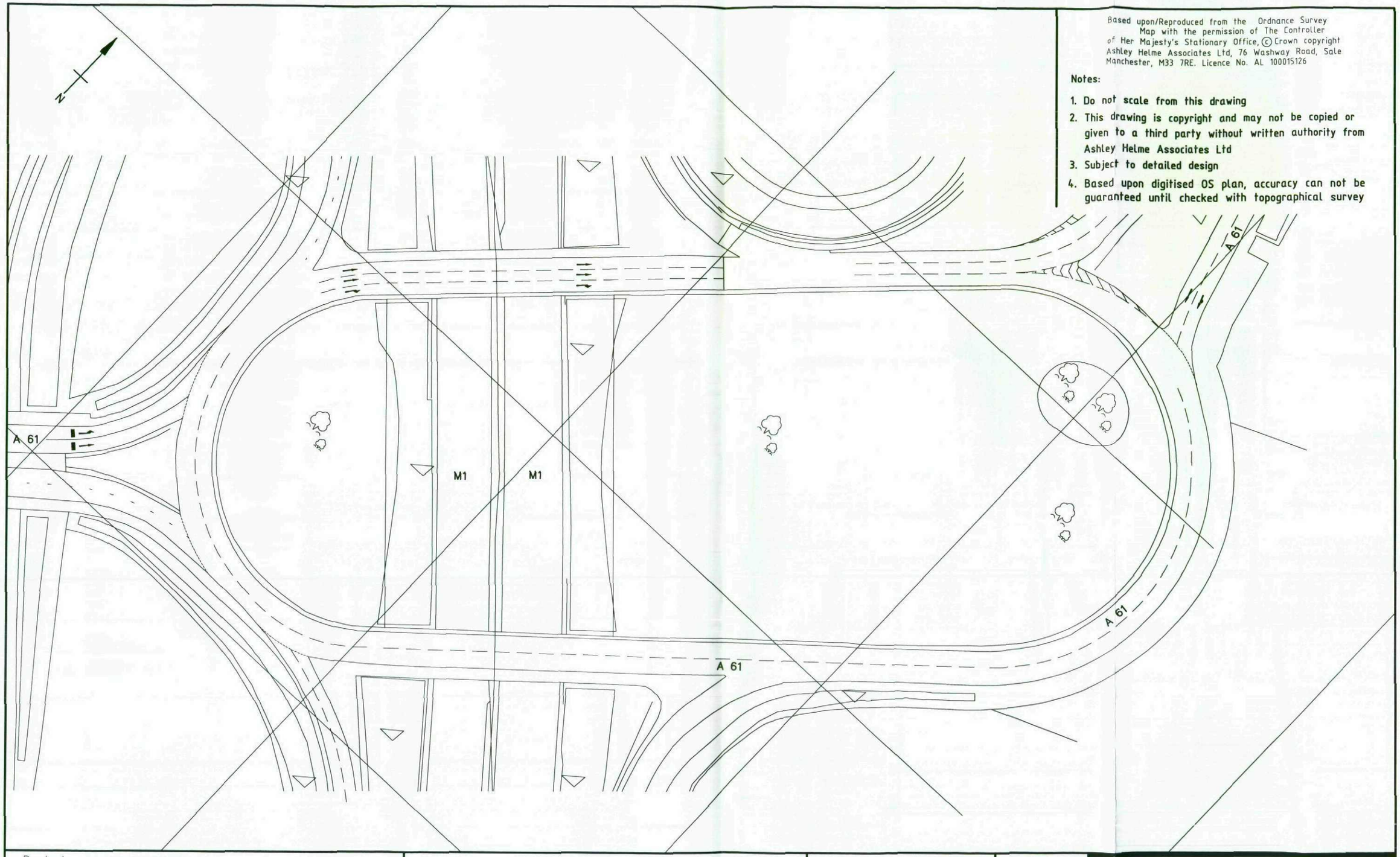
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4. **Based upon digitised OS plan, accuracy can not be guaranteed until checked with topographical survey**

Project: TANKERSLEY	Title: EXISTING JUNCTION LAYOUT A61/ WENTWORTH WAY/ CHURCH LANE	Drawing No: 1023/02	Rev:
Client: GLADMAN		Date: JUNE 2006	Scale: 1:500 @A3

ASHLEY•HELME ASSOCIATES LTD
76 Washway Road SALE Manchester M33 7RE Tel: 0161 972 0552



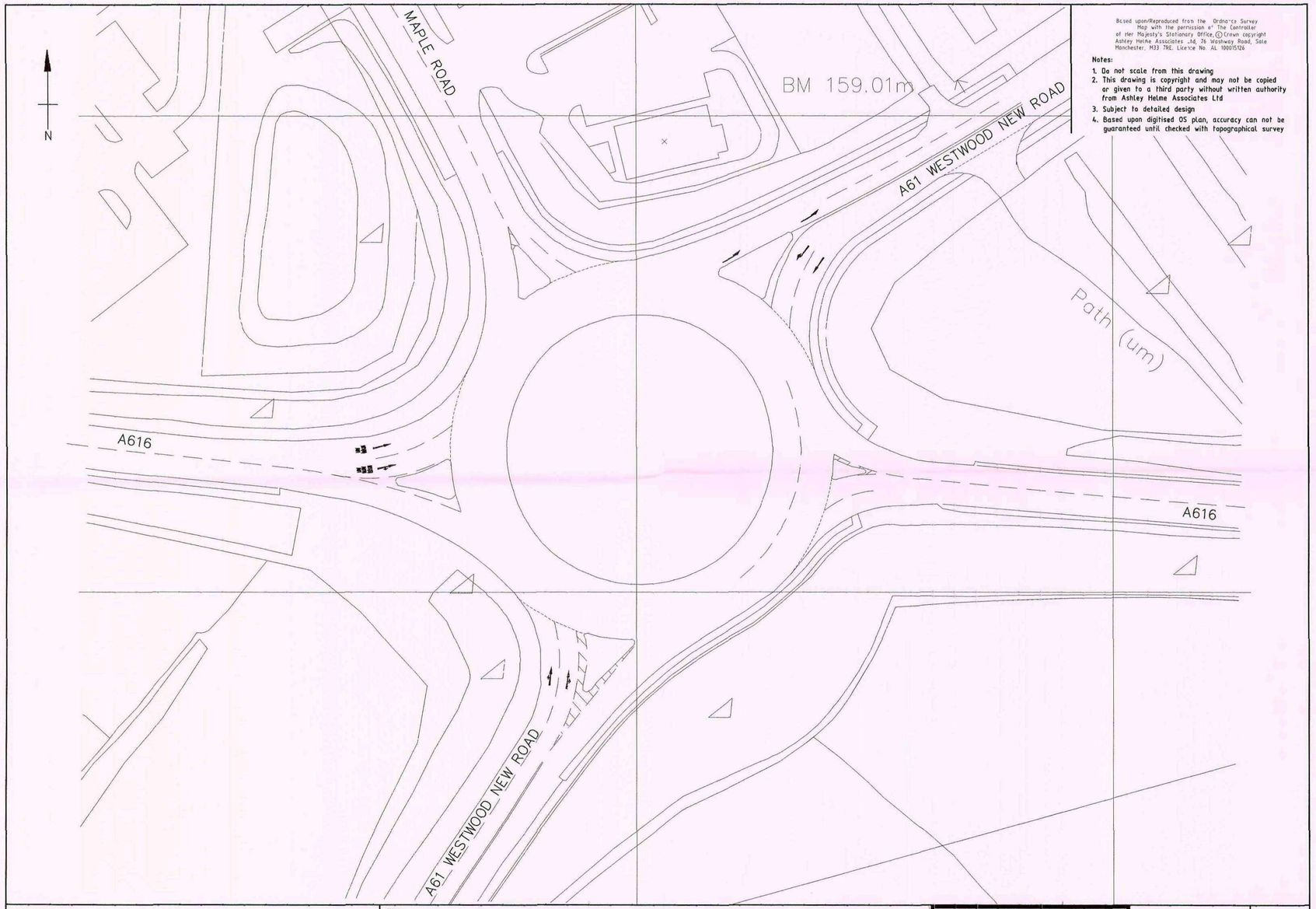
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Project: TANKERSLEY	Title: EXISTING JUNCTION LAYOUT M1 JUNCTION 36/ A61	Drawing No: 1023/03	Rev:
Client: GLADMAN		Date: JUNE 2006	Scale: 1:1000@A3

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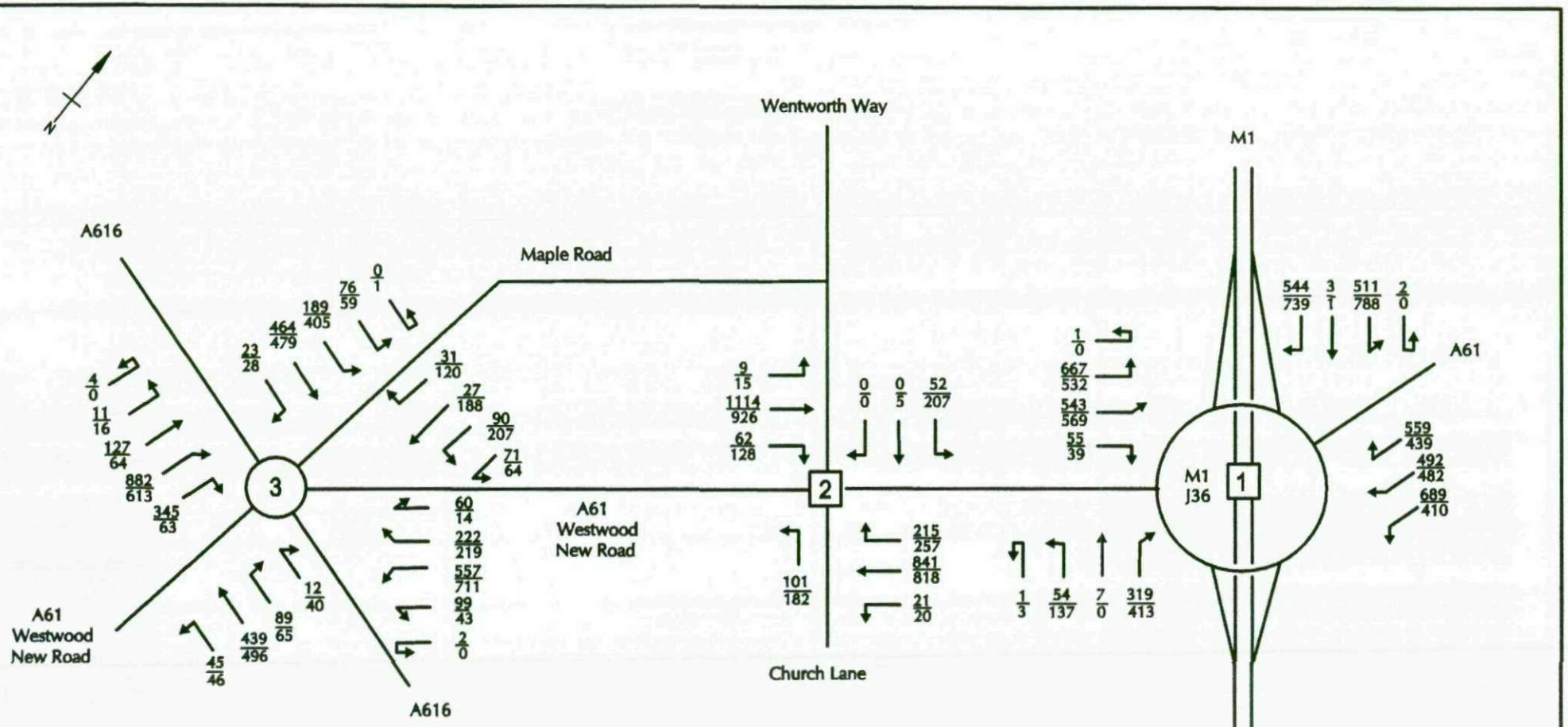
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Project: TANKERSLEY	Title: EXISTING JUNCTION LAYOUT A616/ WESTWOOD NEW ROAD/ MAPLE ROAD	ASHLEY HELME ASSOCIATES LTD	Drg No: 1023/01
Client: GLADMAN		76 Washway Road SALE Manchester M33 7RE Tel 0161 972 6552	Rev
			Date: JUNE 2006
			Scale: 1:500@A2

APPENDIX B

TRAFFIC FLOWS



Notes:
1. Source: AHA surveys 06.07.2006

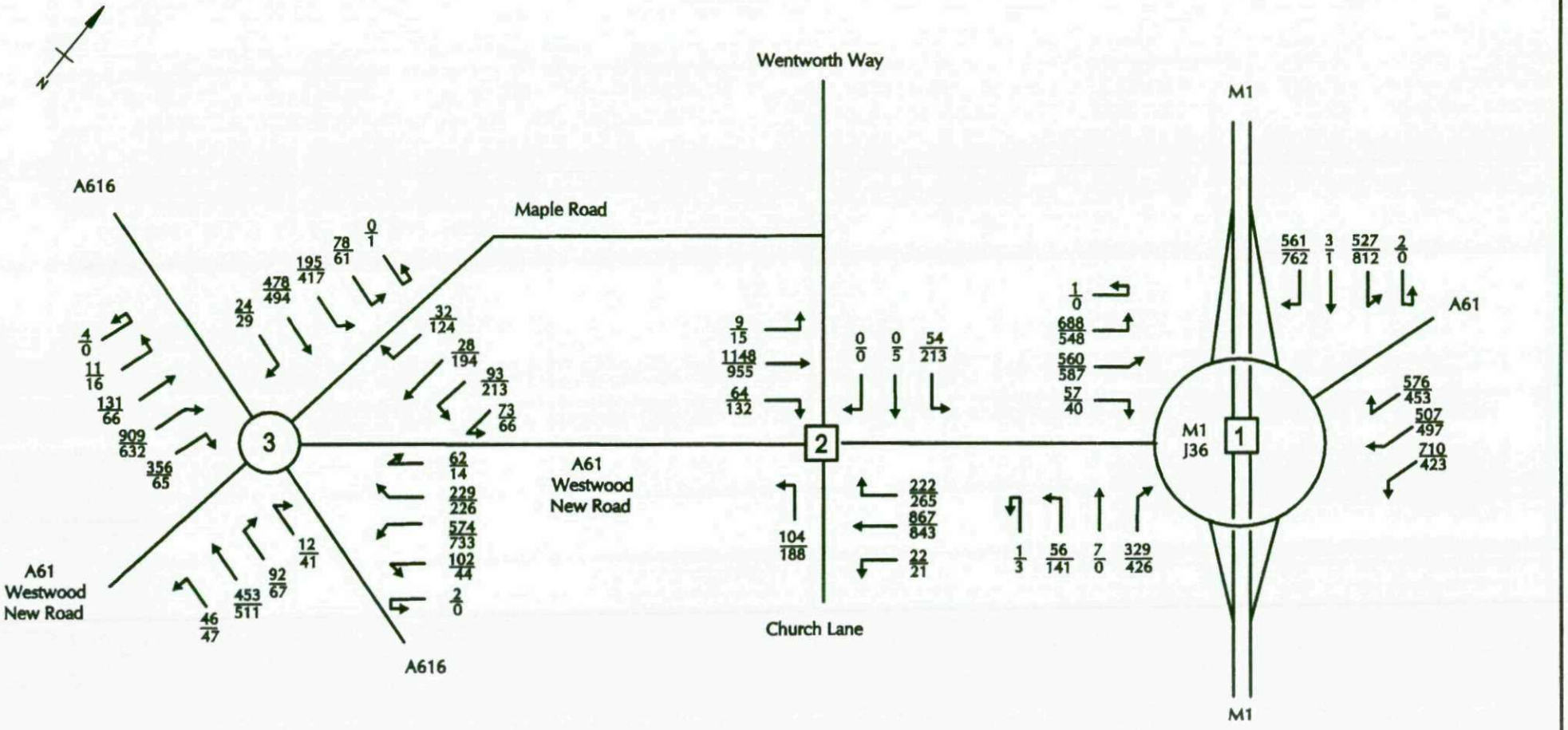
FIGURE B1 TRAFFIC FLOWS
AM & PM PEAK HOURS

Key:

AM = 0730-0830
PM = 1645-1745

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1023_1_B1



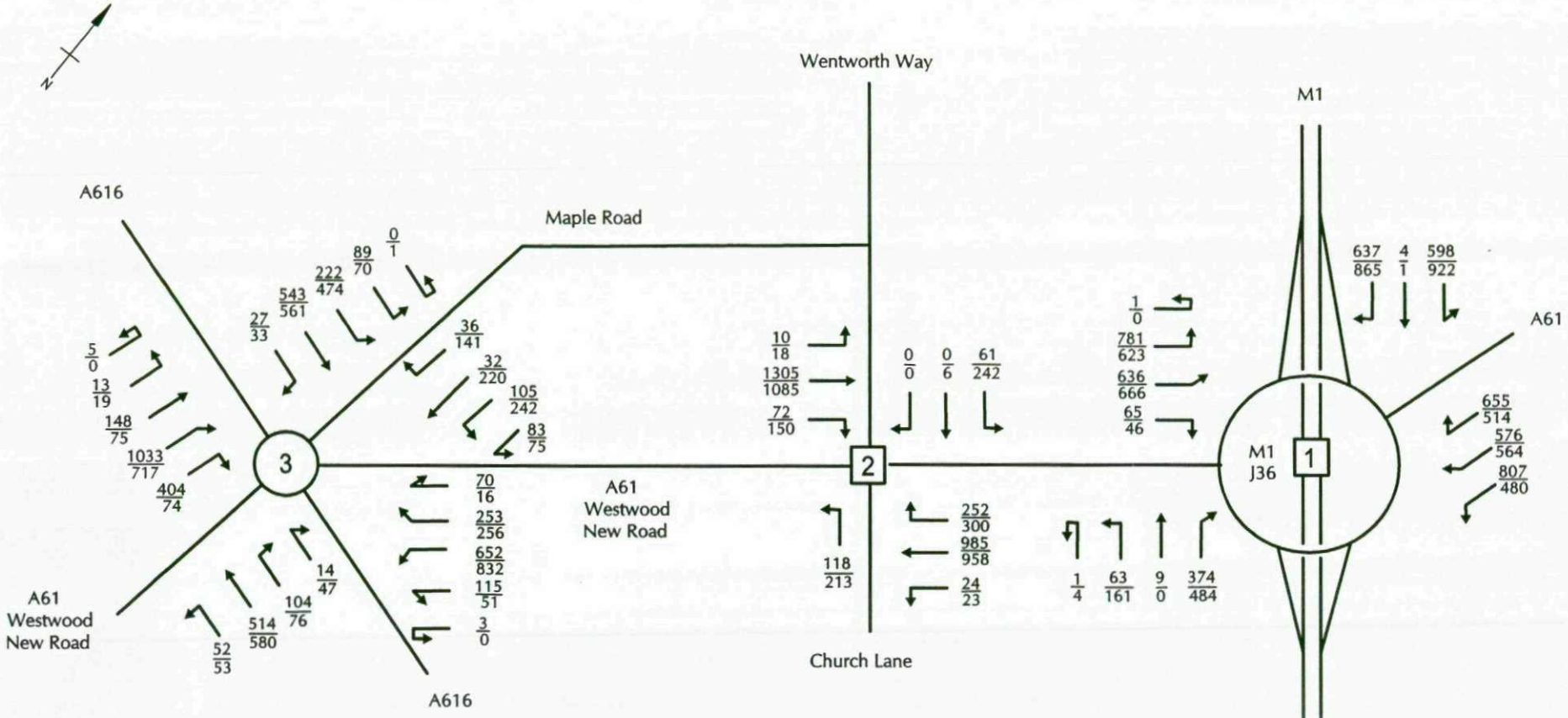
Notes:
1. NRTF Central growth factors applied to count data in Figure B1, Appendix B

FIGURE B2 YEAR OF OPENING : 2008
AM & PM PEAK HOURS

Key:
AM = 0730-0830
PM = 1645-1745

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1023_1_B2



Notes:
1. NRTF Central growth factors applied to count data in Figure B1, Appendix B

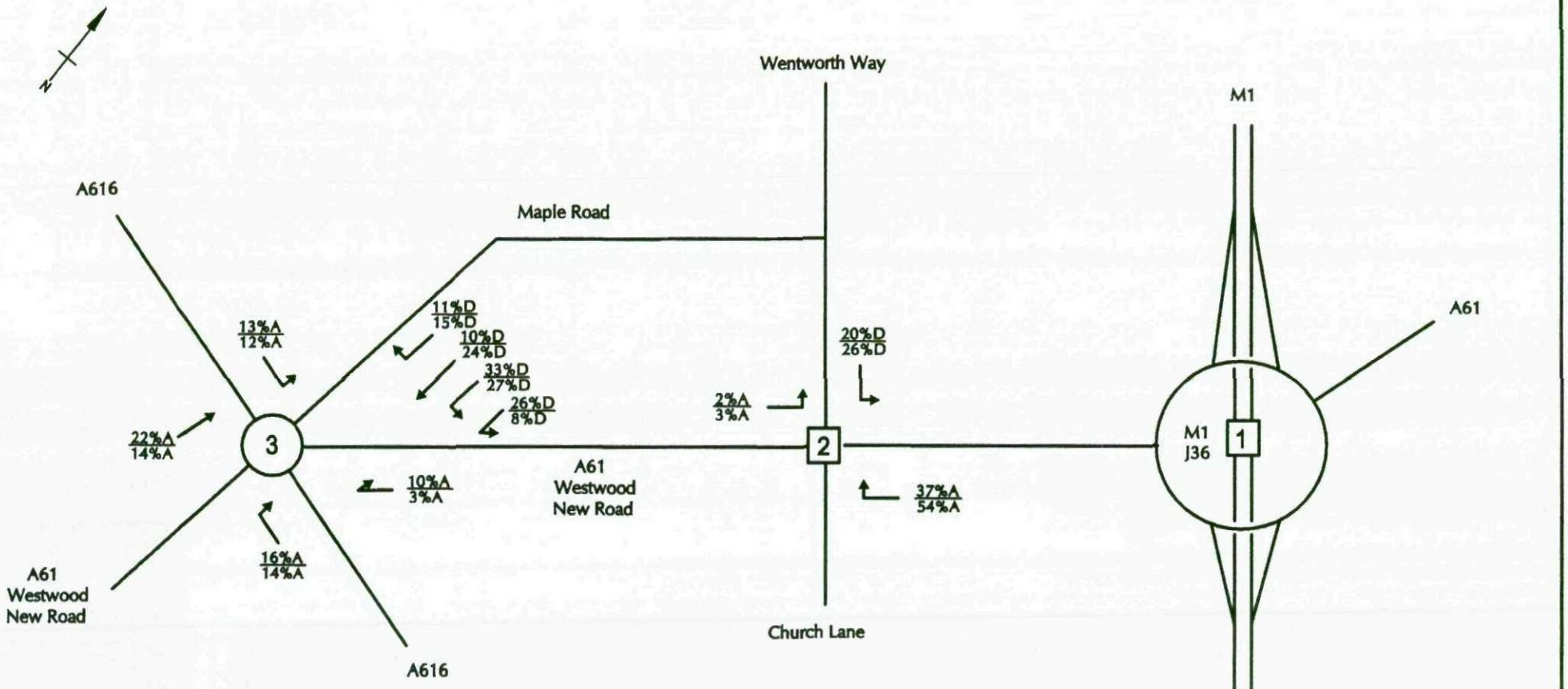
FIGURE B3 FUTURE YEAR: 2017
AM & PM PEAK HOURS

Key:

AM = 0730-0830
PM = 1645-1745

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1023_1B_B3



Notes:
1. Based on recorded movements to/from Maple Road and Wentworth Way

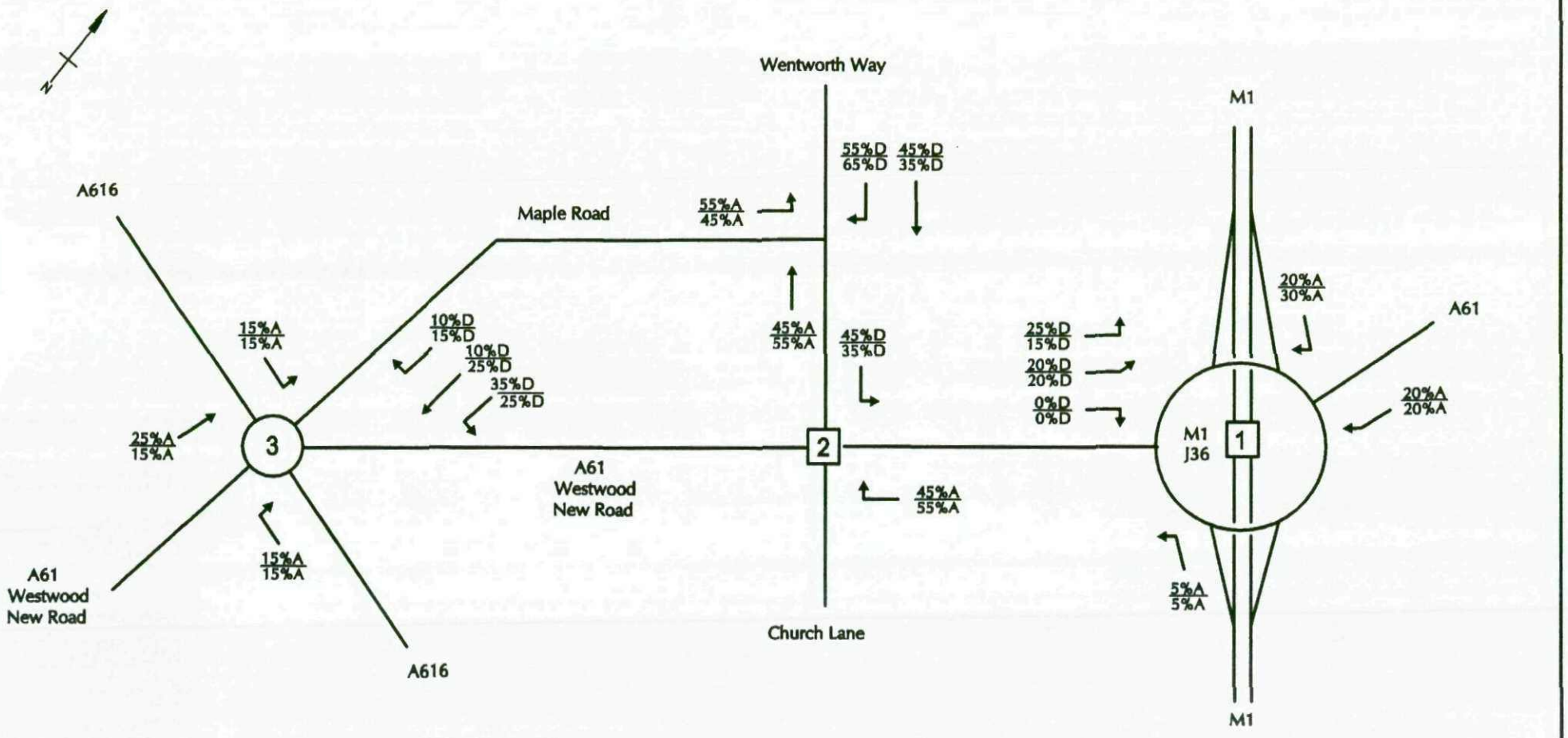
FIGURE B4 % DISTRIBUTION: EXISTING AM & PM PEAK HOURS

Key:

AM – 0730-0830
PM – 1645-1745

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1023_1_B4



Notes:

1. Based on Figure B4, but assumes that all traffic with arrival route through junction 1 use Maple Road and all traffic with an arrival/departure route through junctions 2 & 3 use Wentworth Way
2. Distribution at junction 3 based on recorded count data, refer Figure B1, Appendix B

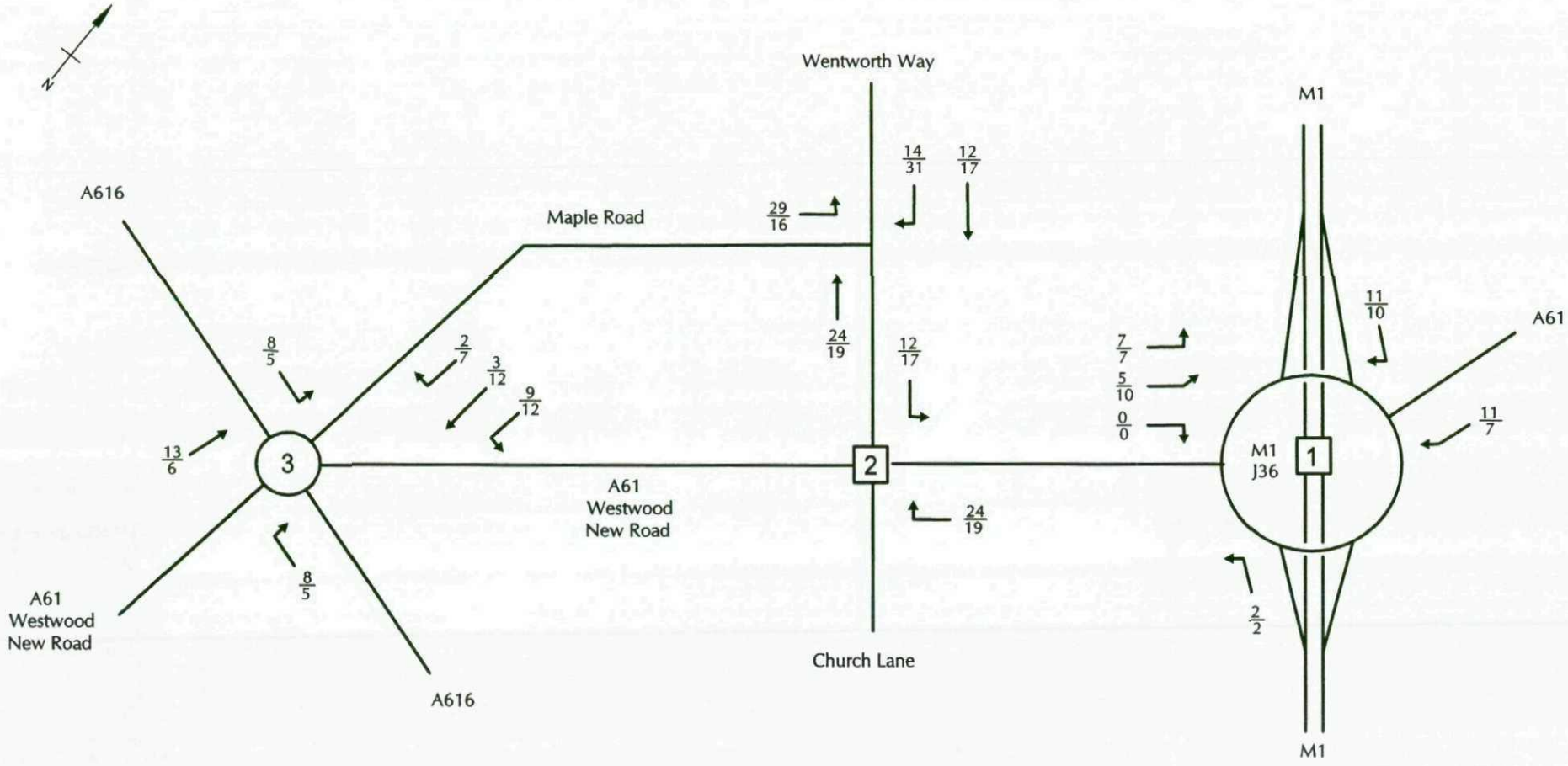
FIGURE B5 % DISTRIBUTION: PROPOSED AM & PM PEAK HOURS

Key:

AM = 0730-0830
PM = 1645-1745

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1023_1_B5



Notes:
1. Based on Figure B5 distribution

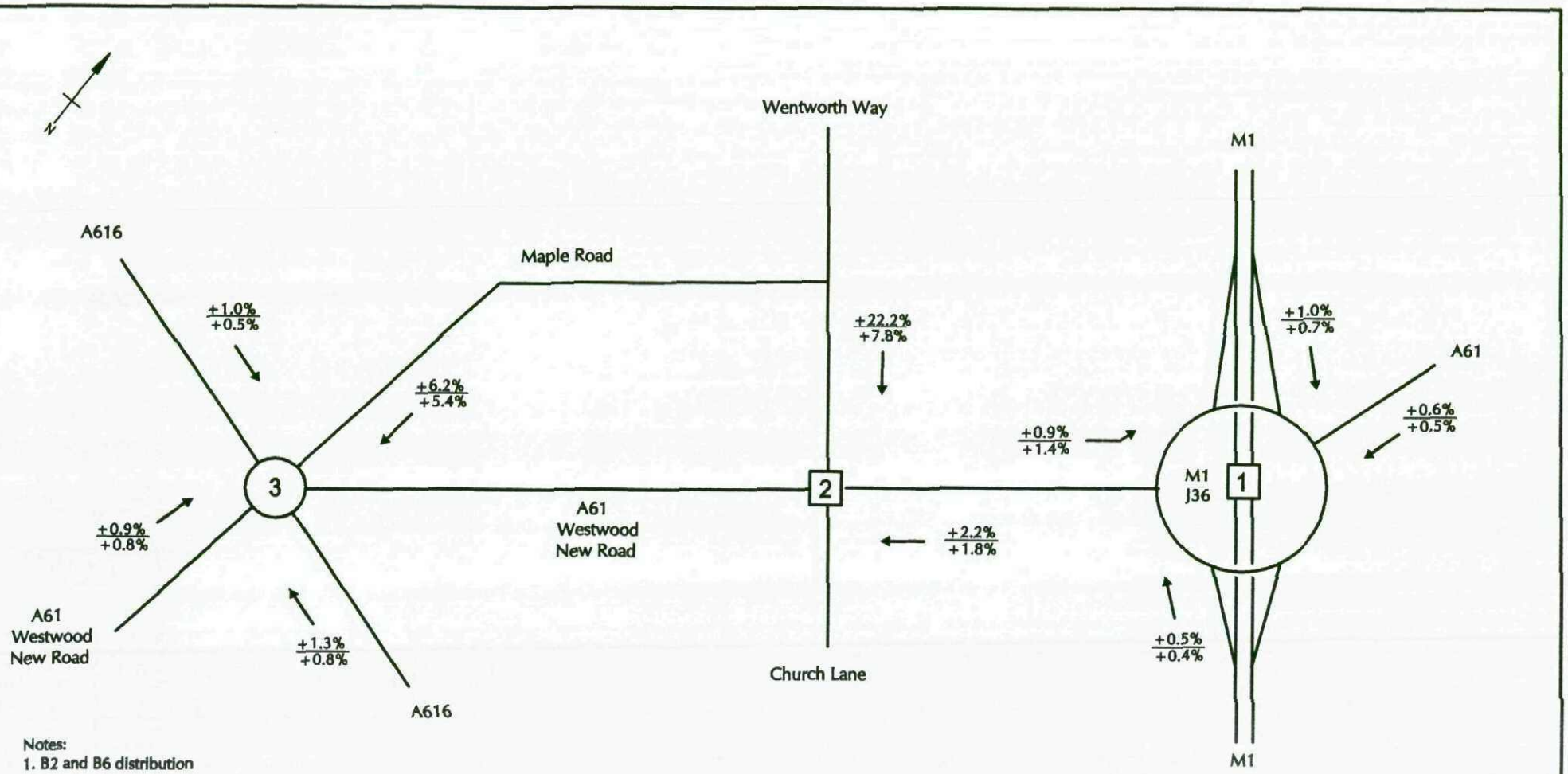
FIGURE B6 GENERATED TRAFFIC
AM & PM PEAK HOURS

Key:

AM = 0730-0830
PM = 1645-1745

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1023_1B_B6



Notes:
1. B2 and B6 distribution

Key:
+7.8% Increase 5% or greater

FIGURE B7 % IMPACT
AM & PM PEAK HOURS

Key:
AM = 0730-0830
PM = 1645-1745

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1023_1A_B7

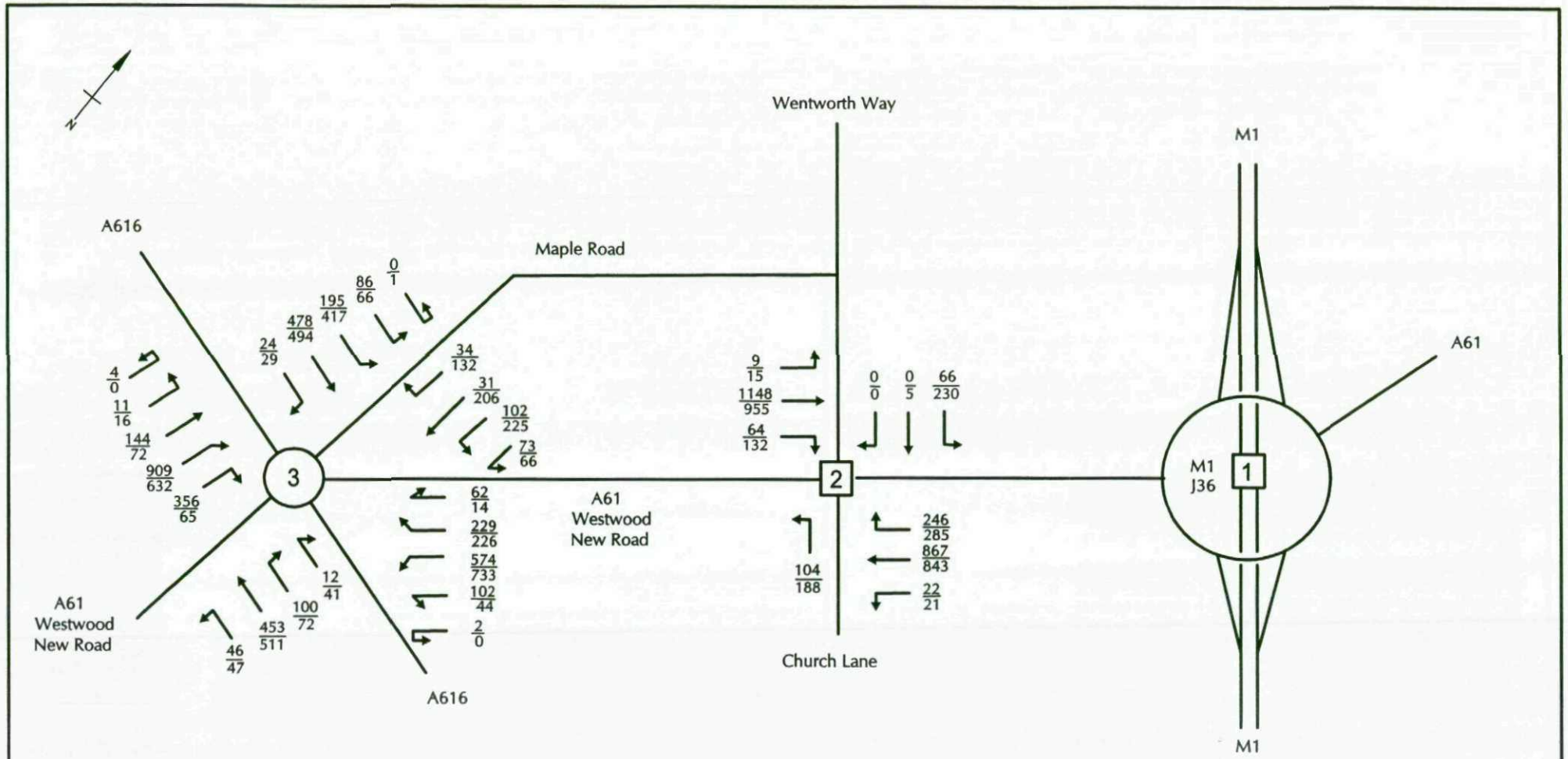


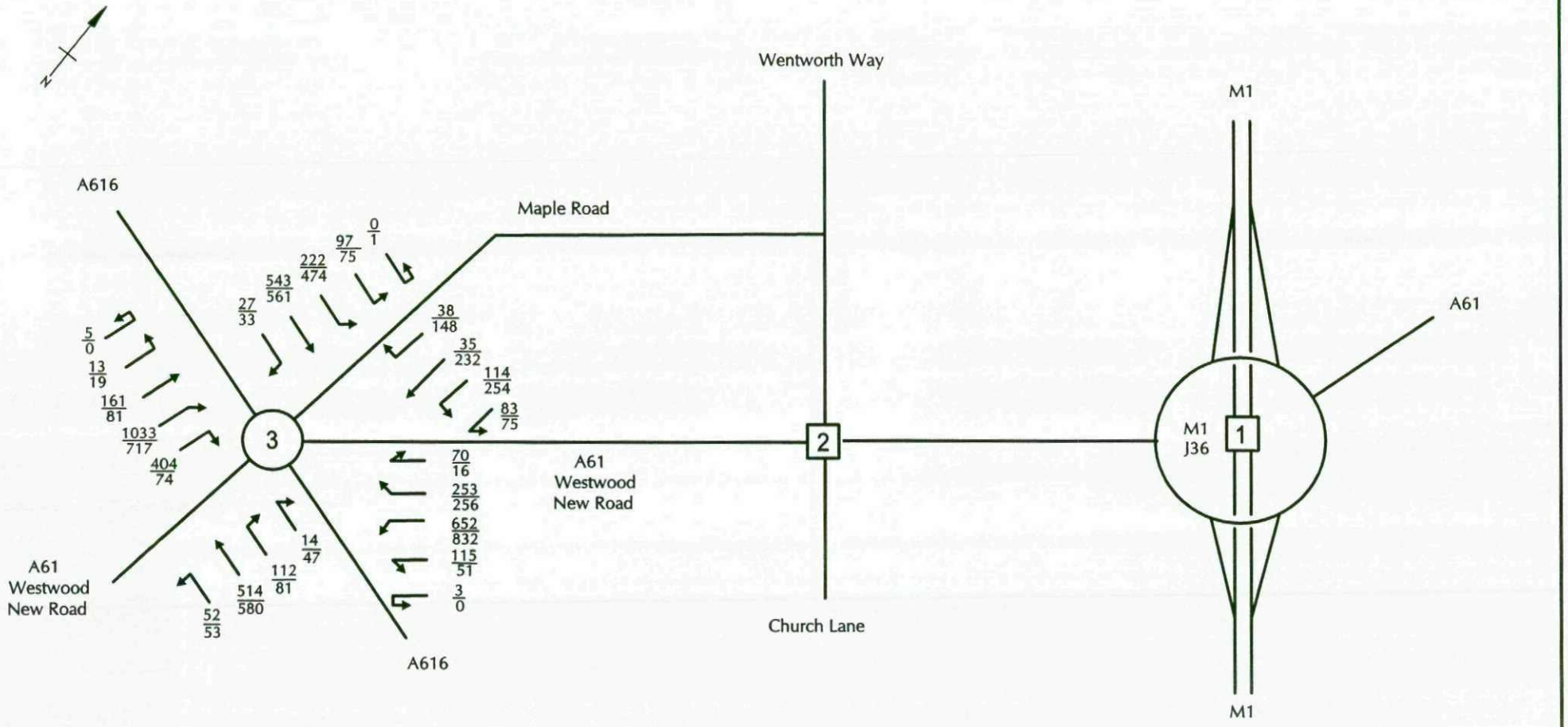
FIGURE B8 WITH DEVELOPMENT: 2008
(B2 + B6)

Key:

AM = 0730-0830
PM = 1645-1745

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1023_1A_B8



Notes:
1. NRTF Central growth factors applied to count data in Figure B1, Appendix B

FIGURE B9 WITH DEVELOPMENT: 2017
(B3 + B6)

Key:

AM = 0730-0830
PM = 1645-1745

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1023_1B_B9

APPENDIX C

TRAFFIC GENERATION

Ashley Helme Associates Ltd 76 Washway Road Sale, Manchester Licence No: 733101

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	BU	BUCKINGHAMSHIRE	1 days
	HF	HERTFORDSHIRE	2 days
06	**WEST MIDLANDS**		
	WO	WORCESTERSHIRE	1 days
09	**NORTH**		
	TV	TEES VALLEY	1 days
11	**SCOTLAND**		
	GC	GLASGOW CITY	1 days

Main parameter selection:

Parameter: Gross floor area
Range: 11495 to 55740 (units: sqm)

Date Range: 01/01/98 to 07/12/05

Selected survey days:

Monday	1 days
Wednesday	1 days
Thursday	3 days
Friday	1 days

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

LIST OF SITES relevant to selection parameters

1 **BU-02-F-01** **TESCO DISTRIBUTION CENTRE** **BUCKINGHAMSHIRE**
BLETCHAM WAY
BLETCHLEY
MILTON KEYNES
Total Gross floor area: 52125 sqm
Survey date: THURSDAY *07/02/02* *Survey Type: MANUAL*

2 **GC-02-F-01** **DISTRIBUTION CTR, GLASGOW** **GLASGOW CITY**
BARRACHNIE ROAD
GARROWHILL
GLASGOW
Total Gross floor area: 11504 sqm
Survey date: MONDAY *10/09/01* *Survey Type: MANUAL*

3 **HF-02-F-01** **SAINSBURYS DISTRIB. DEPOT** **HERTFORDSHIRE**
LONDON ROAD

BUNTINGFORD
Total Gross floor area: 47584 sqm
Survey date: WEDNESDAY *06/12/00* *Survey Type: MANUAL*

4 **HF-02-F-02** **SAFEWAY, WELWYN GARDEN CTY** **HERTFORDSHIRE**
BLACK FAN ROAD
PANSHANGER
WELWYN GARDEN CITY
Total Gross floor area: 18600 sqm
Survey date: FRIDAY *06/09/02* *Survey Type: MANUAL*

5 **TV-02-F-01** **SAFEWAY DISTRIBUTION CENTRE** **TEES VALLEY**
MALLEABLE WAY

STOCKTON-ON-TEES
Total Gross floor area: 30187 sqm
Survey date: THURSDAY *04/10/01* *Survey Type: MANUAL*

6 **WO-02-F-01** **SAINSBURYS DISTRIBUTION C.** **WORCESTERSHIRE**
WAINWRIGHT ROAD
SHIRE BUSINESS PARK
WORCESTER
Total Gross floor area: 31416 sqm
Survey date: THURSDAY *14/03/02* *Survey Type: MANUAL*

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	0	0	0.000	0	0	0.000	0	0	0.000
05:30 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 06:30	1	30187	0.036	1	30187	0.086	1	30187	0.122
06:30 - 07:00	1	30187	0.056	1	30187	0.063	1	30187	0.119
07:00 - 07:30	6	31903	0.054	6	31903	0.060	6	31903	0.114
07:30 - 08:00	6	31903	0.099	6	31903	0.040	6	31903	0.139
08:00 - 08:30	6	31903	0.080	6	31903	0.049	6	31903	0.129
08:30 - 09:00	6	31903	0.090	6	31903	0.048	6	31903	0.138
09:00 - 09:30	6	31903	0.080	6	31903	0.055	6	31903	0.135
09:30 - 10:00	6	31903	0.081	6	31903	0.052	6	31903	0.133
10:00 - 10:30	6	31903	0.060	6	31903	0.051	6	31903	0.111
10:30 - 11:00	6	31903	0.053	6	31903	0.051	6	31903	0.104
11:00 - 11:30	6	31903	0.068	6	31903	0.049	6	31903	0.117
11:30 - 12:00	6	31903	0.065	6	31903	0.050	6	31903	0.115
12:00 - 12:30	6	31903	0.055	6	31903	0.076	6	31903	0.131
12:30 - 13:00	6	31903	0.052	6	31903	0.051	6	31903	0.103
13:00 - 13:30	6	31903	0.095	6	31903	0.072	6	31903	0.167
13:30 - 14:00	**6**	**31903**	**0.192**	6	31903	0.133	**6**	**31903**	**0.325**
14:00 - 14:30	6	31903	0.067	**6**	**31903**	**0.145**	6	31903	0.212
14:30 - 15:00	6	31903	0.077	6	31903	0.099	6	31903	0.176
15:00 - 15:30	6	31903	0.054	6	31903	0.069	6	31903	0.123
15:30 - 16:00	6	31903	0.052	6	31903	0.071	6	31903	0.123
16:00 - 16:30	6	31903	0.050	6	31903	0.086	6	31903	0.136
16:30 - 17:00	6	31903	0.046	6	31903	0.090	6	31903	0.136
17:00 - 17:30	6	31903	0.041	6	31903	0.089	6	31903	0.130
17:30 - 18:00	6	31903	0.079	6	31903	0.074	6	31903	0.153
18:00 - 18:30	5	32246	0.033	5	32246	0.066	5	32246	0.099
18:30 - 19:00	5	32246	0.030	5	32246	0.026	5	32246	0.056
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Daily Trip Rates:			1.745			1.801			3.546

Parameter summary

Trip rate parameter range selected:	11495 - 55740 (units: sqm)
Survey date date range:	01/01/98 - 07/12/05
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	NO
Surveys manually removed from selection:	2

APPENDIX D

ACCIDENT RECORDS

REF	DATE
01EE 00348	30/04/2001
01EE 00397	18/05/2001
01EE 00751	05/10/2001
02EE 00007	03/01/2002
02EE 00071	29/01/2002
02EE 00226	18/03/2002
02EE 00285	11/04/2002
02EE 00570	26/07/2002
02EE 00634	19/08/2002
02EE 00911	25/11/2002
03EE 0816	07/11/2003
04B 00308	24/02/2004
04B 00885	28/06/2004
04B 01126	23/07/2004
04B 01034	01/08/2004
04B 01245	15/09/2004
04B 01440	25/10/2004
04B 01560	18/11/2004
04B 01763	15/12/2004
04B 01789	21/12/2004
B00 32805	09/03/2005
B00 39605	15/03/2005
B01 35705	29/09/2005
B01 836 05	23/12/2005
B00 28506	01/03/2006
B00 36106	16/03/2006

Notes:

1. All 'Slight' injury severity classification

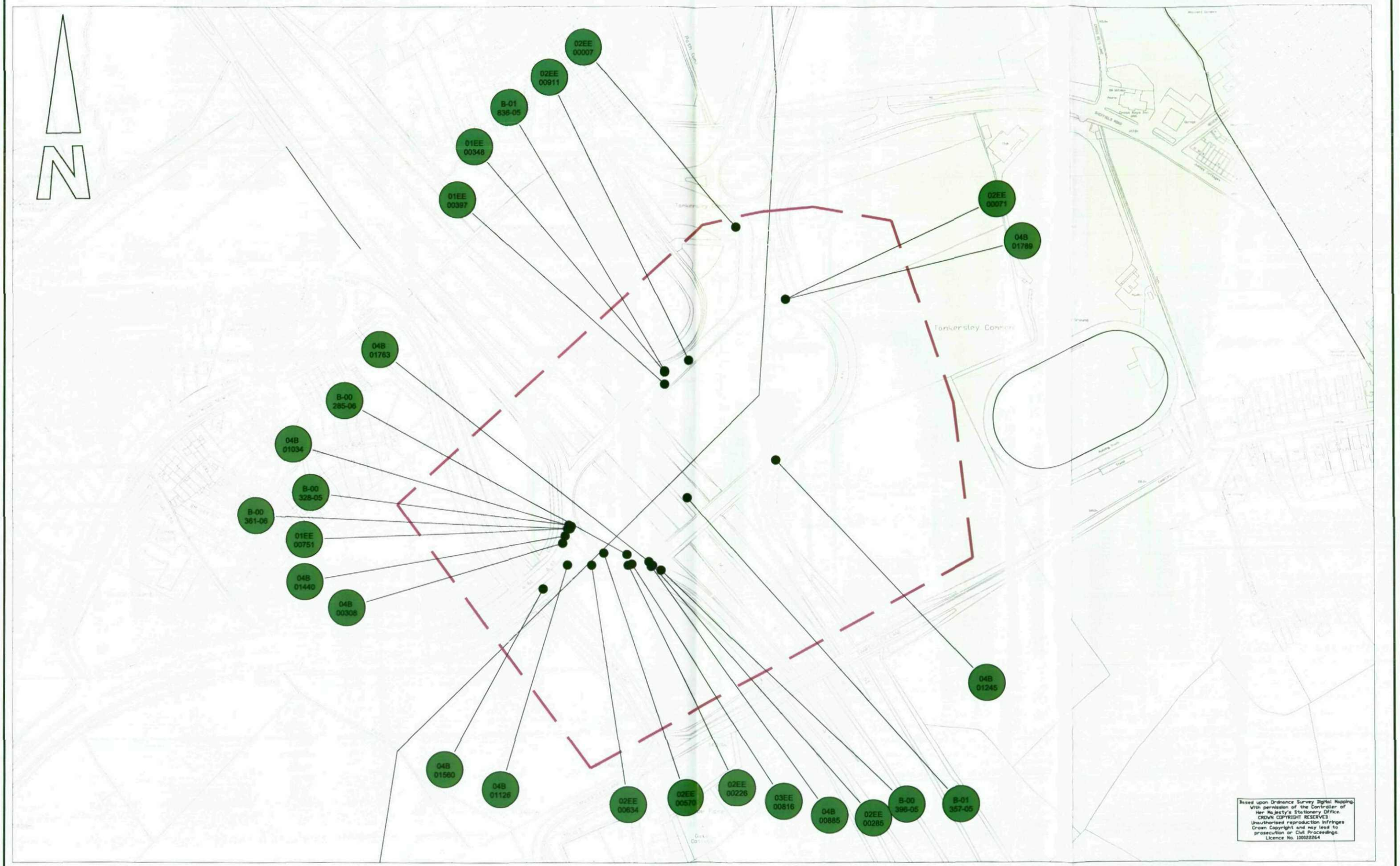
TABLE D1 **ACCIDENT SUMMARY**
STUDY JUNCTION 1

REF	DATE	SEVERITY
01EE 00274	02/04/2001	Slight
01EE00978	19/12/2001	Slight
02EE00220	18/03/2002	Serious
03EE 00922	04/12/2003	Slight
04B 01747	16/12/2004	Slight
B01 57905	08/11/2005	Slight
B00 38906	20/03/2006	Slight

TABLE D2 **ACCIDENT SUMMARY**
STUDY JUNCTION 2

REF	DATE	SEVERITY
01EE 00388	14/05/2001	Slight
03EE 00223	20/03/2003	Slight
03EE 00953	09/12/2003	Slight
04B 00188	06/02/2004	Slight
B00 75705	04/06/2005	Slight
B00 93105	12/07/2005	Slight
B01 24205	08/09/2005	Serious
B0133305	27/09/2005	Slight
B01 40505	12/10/2005	Slight
B0178305	15/12/2005	Slight
B00 14706	31/01/2006	Slight

TABLE D3 **ACCIDENT SUMMARY**
STUDY JUNCTION 3



outside bodies\ashley Helms

BARNSLEY
Metropolitan Borough Council
Highways & Engineering

Accident Data
01/04/2001 to 31/3/2006
Site 1

Rev.	By	Amendments	Date

Scale 1:1000
Drawn PC Date 19/07/06
Checked PC File TR/RSE

Mr. A. J. Carnall, BSc, MEng, MICE, MIHT
Assistant Director, Highways & Engineering,
Central Offices, Kendray Street,
Barnsley S70 2TN.
Tel. (01226) 770770 Fax. (01226) 772222

Drawing No. TR/RSE/AH/Site 1

N

B-00
389-06

02EE
00220

P

R100m

01EE
00274

03EE
00922

01B
01747

B-01
578-05

01EE
00978

B-00
757-05

B-01
783-05

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outside bodies\Ashley Helme

BARNSLEY
Metropolitan Borough Council
Highways & Engineering

Accident Data
01/04/2001 to 31/3/2006
Site 2

Rev.	By	Amendments	Date

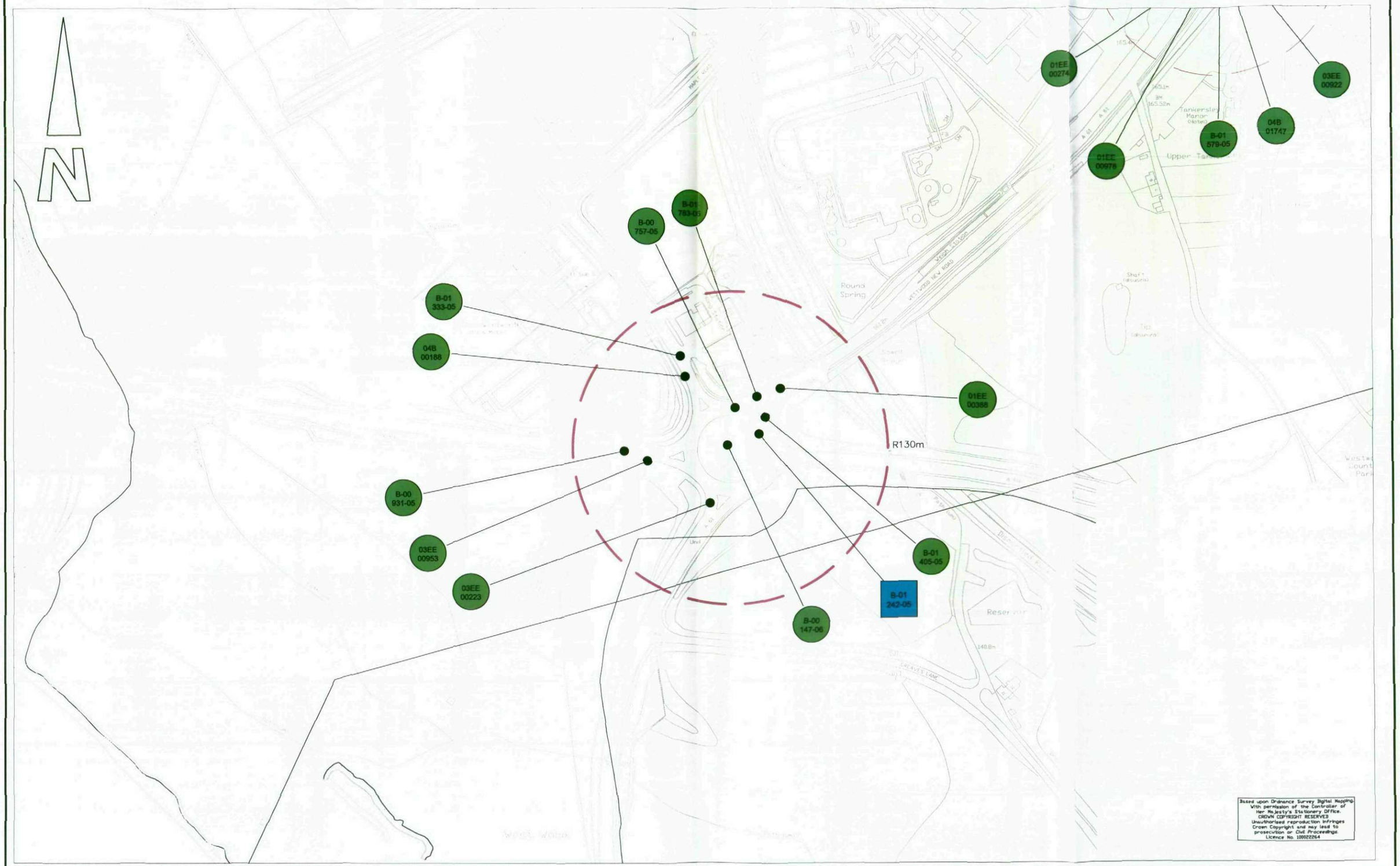
Scale 1:1000

Drawn PC Date 19/07/06

Checked PC File TR/RSE

Mr. A. J. Carnall, BSc, MEng, MICE, MIHT
Assistant Director, Highways & Engineering,
Central Offices, Kendray Street,
Barnsley S70 2TN.
Tel. (01226) 770770 Fax. (01226) 772222

Drawing No. TR/RSE/AH/Site 2



outside bodies\ashley Holme

BARNSLEY
Metropolitan Borough Council
Highways & Engineering

Accident Data
01/04/2001 to 31/3/2006
Site 3

Rev.	By	Amendments	Date

Scale 1:1000
Drawn PC Date 19/07/06
Checked PC File TR/RSE

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Drawing No. TR/RSE/AH/Site 3

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