Carpenters Ltd, Glossop
Transport Assessment

Carpenters Yard
February 2009

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1 Introduction

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1.1 Background

Faber Maunsell has been commissioned by Cassidy & Ashton to prepare a Transport Assessment (TA) in support of a planning application for a proposed extension at Carpenters Ltd, Dinting Lodge Industrial Estate, Glossop.

The purpose of the TA is to consider the transport implications of the proposed extension. 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 report has incorporated the current DfT Guidance on Transport Assessment which was issued in March 2007, which replaced the IHT Guidelines for Traffic Impact Assessments published in 1994.

1.2 Structure of Report

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 reviews the base line conditions associated with the current highway network in terms of base traffic flows and proposed highway network improvements;
- Chapter 7 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 8 considers the operational performance of the local highway network through approved DfT methods during differing scenarios; and
- Chapter 9 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

Carpenters Ltd are International manufacturers of polyurethane foam, processed polyester fibre and other types of related products such as foam slabstock, conversion, fire fill, bedding, bonded fibre, fire seal, tyre fill and visco elastics. The company is sited at the Dinting Value Industrial Estate which is located on the western outskirts of Glossop, Derbyshire.

The site is bordered to the south-west by the A57, to the north-east by Shaw Lane, to the north-west by Shaw lane and Dinting Road, and to the south-east by Dinting Viaduct.

Dinting Lodge is approximately 20 hectares in area comprising a mixture of commercial and industrial land use. The buildings contain a variety of commercial uses including storage, workshops and offices.

The location of the site and its context with the transportation infrastructure is shown in **Photo 1** below.

Photo 1 – Site Aerial Location

2.2 Highway Context

Access into the site is currently via a priority-controlled T-junction off Shaw Lane which is a single two-way carriageway with a 30 mph speed limit. However, the junction with the A57 is considered to be the primary access point to the development which is operated via a signal-controlled junction.

The A57 connects the towns of Glossop with Manchester and the M60 motorway with bus stops accessible within a short distance from the site in the directions of Hadfield, Glossop, and Manchester.

The nearest train station, Dinting, is located to the east of the site approximately 1km away.

3 Development Proposals

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3.1 Development

Carpenters Ltd manufacture polyurethane foam processed polyester fibre and other types of related products with the foam being manufactured at the Glossop site and transported elsewhere to be processed. Carpenters Ltd currently employs 196 full time staff consisting of unskilled, semi-skilled, skilled, administration and managerial positions. Employees working at the plant operate on shifts throughout the day with 25 employed during the night period.

There are approximately 100 parking spaces which are split with 54 parking spaces to the front of the site adjacent to the entrance and 51 parking spaces within the site. The business currently operates about 80-90 trailers, of which a third are generally with customers which leave a maximum of 50 on the site and there are currently 18 tractor units. A service yard for the parking of trailers is located to the east of the site however there are no designated parking bays for trucks/ trailers and they are therefore parked throughout the site.

The redevelopment of Carpenters Ltd would provide an additional 8,775m² gross floor area of industrial use to the east with a service yard for trailers and tractor units; this service yard would introduce a formal parking structure for the trailers and also the current parking area will continue to be used.

Due to the expansion there is potential for an increase in the workforce whereby it is anticipated this may increase by an additional 50-70 vacancies over a three year period upon completion. The expansion to the works will also see a reduction in 400 HGV trips to and from the site per year which comes from the combination of the processing facilities and the manufacturing facilities being located at Glossop. However production is also likely to increase as a result of the expansion and a further 12 tractor units along with 30 trailers are to be purchased.

The proposal would therefore result in a total fleet operating from the site of 120 trailers again with a third being off site at any one time and 30 tractor units.

An additional 49 parking spaces are needed for the expansion however existing spaces are never fully utilised as they serve to allow the change over between the shifts. A summary of the existing and proposed parking spaces for the redevelopment is show below in **Table 3.1.**

Table 3.1 Summary of Parking

Parking Bays	Existing Parking	Proposed Parking
Car Park Bay – 2.4 x 4.8m	105	154
Tractor Bay – 3.4 x 6.5m	18	30
Trailer Bay – 3.4 x 15m	50	80
Total Spaces	**173**	**264**

The proposed layout of the development is attached in **Appendix A.**

For the purpose of this assessment it has been assumed that the development will be fully operational by 2010.

3.2 Proposed Means of Access

Vehicular access to the development will be taken from Shaw Lane via the existing access and therefore there are no proposals for a new site access as this report considers that the marginal increase in traffic would be able to be accommodated by the existing A57/ Shaw Lane signal-controlled junction.

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%).

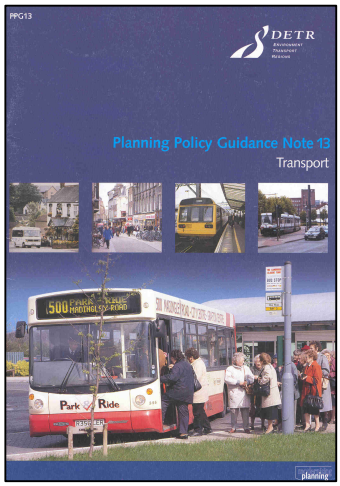
One of the provisions within the White Paper for cyclists is that Local Authorities will be required to increase provision of secure parking for cycles as well as providing more road space for cyclists and applying speed constraints.

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'.

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

Derbyshire County Council Local Transport Plan 2
The second Derbyshire Local Transport Plan covers the period from 2006 to 2011. The plan sets out the Council's transportation policies and proposals for the forthcoming five year period.

The key elements of the plan are in summary:

- Tackling congestion;
- Delivering accessibility;
- Safer roads; and
- Better air quality.

High Peak Borough Council Local Plan
The Local Plan has been prepared by the Council under the provisions of the Town and Country Planning Act 1990 and adopted in March 2005.

The Local Plan sets out the Council's policies and proposals in respect of the development and other use of land in the Borough (including measures for the improvement of the environment and management of traffic).

Chapter 11 of the Local Plan is on the Transport and Access policies for High Peak Borough Council. This chapter highlights the importance of growth through sustainable development, and how a safe and efficient transport system is paramount to this goal. Such a system can be achieved through minimising road traffic growth and integrating economic and environmental factors in transport planning. The following is key policy taken from this chapter

TR1 – Transport Implications of New Development
New developments should seek to:

- Reduce the need to travel;
- Widen transport choice for people and goods; and
- Integrate transport and landuse.

TR4 – Traffic Management
Proposed developments with the potential to increase the traffic on the road network will have to:

- Accommodate the anticipated increase in travel without materially harming the highway safety or local amenity; and
- Ensure the traffic generated by the development will not unduly interrupt the safe and free flow of traffic on trunk and primary roads or materially affect existing conditions to an unacceptable extent.

TR5 – Access, Parking, and Design

Planning permission will be granted for development provided that:

- The development provides safe and appropriate provision for access and egress by pedestrians, cyclists, public transport users, and the private car; and
- The development includes a high standard of design and layout having regarded the appropriate design standards.

TR6 – Buses and Public Transport
The development should promote the increased use of public transport, and not have a detrimental effect to the existing public transport network.

TR8 – Freight
The development should minimise the environmental impact of freight transported by road.

TR10 – Pedestrian Facilities
Planning permission will be granted to a development proposal that:
- Includes safe and convenient pedestrian facilities; and
- Includes safe and convenient links to already established pedestrian routes

TR12 – Cycling Facilities
High Peak Borough Council explains that the variation in topography and settlement layout can be a problem in developing a fully integrated cycle network. In light of this it is important that developments provide suitably safe and secure cycle facilities to maintain cycling as a favourable means of transport.

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 in terms of access and parking.

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

5 Access by Sustainable Modes

5.1 Introduction

The Government's objectives set out in PPG13 – Transport are to ensure that new developments are provided in sustainable locations, close to public transport services.

The development site is located where every facility provided is available within a short walking distance. Consideration is given below to each mode of transport demonstrating that the site is in a highly sustainable location, consistent with Government objectives.

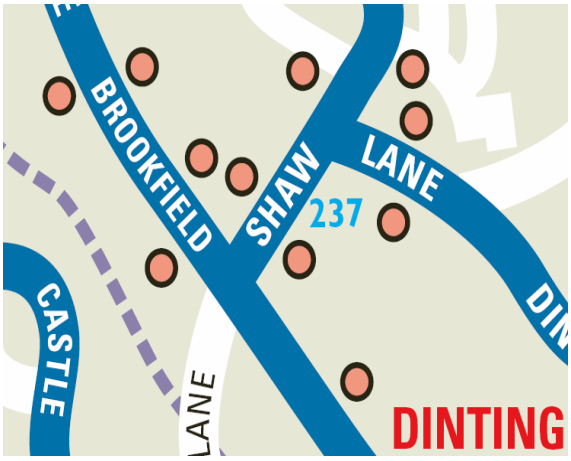
5.2 Public Transport

Bus Travel

The 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…'

Figure 5.1 Bus Stop Locations



The site is served by several services, with bus stops within close proximity to Dinting Lodge Industrial Estate as shown in **Figure 5.1**. There are two bus stops for travelling either to Hadfield or to Glossop/Manchester on Shaw Lane directly outside of the industrial estate, and also north of the junction with the A57 there are two more bus stops for travelling towards Glossop and Manchester.

A short walking distance eastbound provides bus services to Dinting rail station; however the station is also within walking distance of Dinting Industrial Estate.

A summary of the routes and frequency of the buses serving the above bus stops is shown in **Table 5.1** and offers a variety of destinations including Manchester, Ashton, and Glossop.

Table 5.1 Summary of Bus Services

Bus Service	Route	Service Frequency (Buses/Hour)			
		Weekday AM Peak	Weekday PM Peak	Saturday	Sunday
236	Glossop – Ashton - Manchester	1	1	1	1
237	Glossop – Hadfield – Ashton - Manchester	1	1	1	1
393	Padfield – Glossop – Shirebrook (Circ.)	1	1	1	-
397	Glossop – Hadfield - Hyde	1	1	1	-
	Total	**4**	**4**	**4**	**2**

As demonstrated the site is well connected to bus services. Access to Hadfield, Dinting, and Glossop rail stations via these bus services is also possible.

Rail Travel

Dinting railway station is located approximately 1km from the proposed development; in addition there are also stations at Hadfield, and Glossop.

The station is located directly off Dinting Road and has a part-time manned ticket office and waiting facilities on both platforms. There are two bus stops located outside the station; the northbound bus stop has service no. 397 (Rarely no. 393) which serves Hadfield and Hyde and the southbound bus stop that provides the same service serving Glossop.

The station can be accessed by pedestrians from Dinting Road; on the right hand side walking towards the station is a footpath. Cyclists also have storage facilities.

Dinting station provides access to Manchester Piccadilly, which has numerous employment, leisure and retail opportunities and **Table 5.2** summarises the frequencies of these services.

Table 5.2 Summary of Rail Services

Origin	Destination	Service Frequency (No. of Trains)		
		Weekday AM Peak (08:00-09:00)	Weekday PM Peak (17:00-18:00)	Saturday Peak (12:00-13:00)
Dinting	Manchester	3	3	2
Manchester	Dinting	3	2	2
Total		**6**	**5**	**4**

The train service to and from Manchester stops at several local services, these services are Broadbottom, Hattersley, Godley, Newton for Hyde, Flowery Field, Guide Bridge, Gorton, and Ashburys.

It can be seen that there are numerous services between Dinting and Manchester during the commuter peak hours with journey times of approximately 30 minutes.

5.3 Pedestrians

There are various guidelines relating to journey distances which people are prepared to make on foot;

IHT Guidelines for Providing Journeys on Foot states;

> *"The average length of a walk journey is 1km. This differs little by age or sex and has remained constant since 1975/76."*

Places, Streets & Movement guidelines state;

> *"A priority for planners should be to enable people to have access to local facilities on foot or by bicycle. Ideally this should mean a local shop for daily needs within five to eight minutes walk (400m) of home. If possible there should also be a mixture of shops, businesses and other uses within walking distance."*

The surrounding road network is well lit with lighting columns on either side of each road and is, therefore, considered to provide a pedestrian friendly environment for both clients and staff.

At the entrance to the site there are footpaths leading in on either side. After 30m the dedicated footpath ends and the main industrial area starts; the usage of the site access road is well marked and it is clear to any pedestrian that any movement within this area should be taken with caution due to the nature of the works and the vehicular movement within the site.

The infrastructure outside of the site connecting pedestrians to public transport links is of a high standard; on both the near and far side of Shaw Lane pedestrians can access the bus and train links on raised kerbed footpaths. Pedestrians are able to cross Shaw Lane with relative ease due to the high visibility.

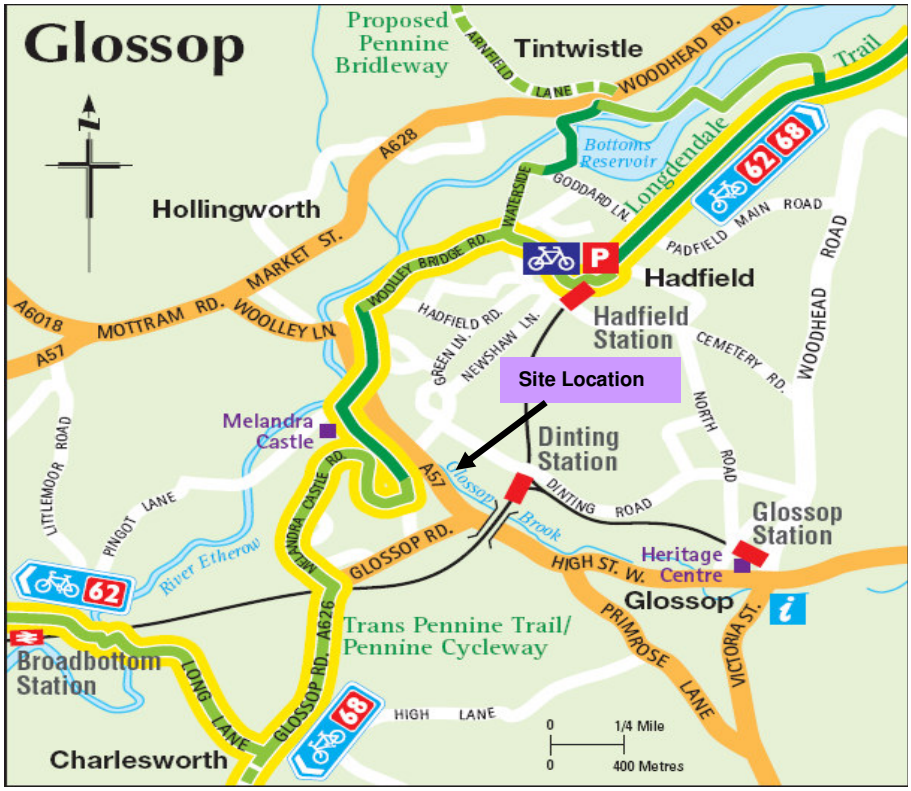
The A57/Shaw Lane junction is signalised and has a pedestrian priority phase for crossing the A57. This once again opens up the pedestrian access to public transport links.

5.4 Cycling

Carpenters Site has close links to existing cycling routes in its vicinity with the National Cycle Network running from North to South to the west off the site location. An on road cycle route operates along Wooley Bridge Road which then converts to an off-road cycle route which crosses the A57 and then reverts back to a on road cycle route south off the A57 on Castle Street.

The site is also easily accessed by bicycle from Dinting Railway Station and Glossop. **Figure 5.2** - Derbyshire County Cycle Map below shows the context of the cycle routes to the site.

Figure 5.2 Derbyshire Cycle Map



6 Baseline Conditions

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6.1 Traffic Flow Surveys.

Faber Maunsell commissioned Andy Haxby Traffic surveys to undertake a survey on Monday 7th July 2008 at the following junction:

- Shaw Lane/A57 Glossop/Cottage Lane/A57 Hyde Road

The surveys took place between 07:30 – 09:30 and 16:30 – 18:30 and comprised of classified turning counts.

An additional survey was also conducted on Tuesday 5th August 2008 at the site access to Carpenters Ltd off Shaw Lane. This survey was conducted between 07:30 – 09:00 and 16:30 – 18:00 and comprised of classified turning counts.

The peak hours have been identified as being 07:45 – 08:45 during the weekday AM and 16:45 – 17:45 during the weekday PM peak period. The traffic surveys undertaken are shown in **Appendix A**.

Survey results for the peak hours are summarised in the origin / destination tables below in **Tables 6.1** and **6.2**. The flows are shown as total vehicles with the proportion of heavy goods vehicles shown in brackets. **Figure 8.1** illustrates peak hour survey results within a network diagram, shown in PCUs (passenger car units).

Table 6.1 A57 Glossop/Shaw Lane – 2008 Survey Results

	Shaw Lane		A57 Glossop		Cottage Lane		A57 Hyde	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Shaw Lane			219 (6)	208 (1)	0 (0)	0 (0)	112 (5)	108 (1)
A57 Glossop	146 (8)	187 (2)			0 (0)	0 (0)	404 (37)	570 (19)
Cottage Lane	0 (0)	0 (0)	0 (0)	0 (0)			1 (0)	1 (0)
A57 Hyde	87 (16)	176 (0)	382 (54)	512 (24)	0 (0)	0 (0)		

Table 6.2 Shaw Lane/Site Access – 2008 Survey Results

	Shaw Lane (E)		Site Access		Shaw Lane (W)	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Shaw Lane (E)			4 (0)	0 (0)		
Site Access	2 (0)	5 (0)			5 (4)	32 (1)
Shaw Lane (W)			23 (2)	15 (6)		

The traffic flows for the peak survey periods growthed to 2010 which is anticipated to be the opening year are illustrated as a network diagram in **Figure 8.2.**

6.2 Network Traffic Growth

National Road Traffic Forecast (NRTF) growth factors have been applied to the traffic flow data to growth the flows to an assessment year of 2010, which is assumed to be opening year of the development.

In light of the local Highway and Planning Authorities' determination to reduce the level of traffic growth on the roads, the use of low growth factors is considered to provide an onerous assessment; therefore NRTF low growth factors have been used. These are illustrated in **Table 6.3** below.

Table 6.3 Growth Factor

Assessment Period	NRTF Low Growth Factor
2008 – 2010	1.012

7 Traffic Generation & Distribution

7 Traffic Generation & Distribution

7.1 Introduction

The traffic likely to be generated by the proposed development and the distribution of this traffic onto the road network is discussed in this section of the report.

7.2 Person Trip Generation – Proposed Site

The new *Guidance on Transport Assessments* (GTA), published in March 2007 by the DfT, puts a greater focus on the calculation of 'person trips' rather than simply vehicular trips. In line with this, trip generation for the site has been obtained using TRICS 2008(b) Multi-Modal Database for person trips. A person trip identifies the actual trips to the development via all modes of travel which include:

- Driver or passenger in private motor vehicle;
- Public Transport Users;
- Pedestrians; and
- Cyclists.

Multi modal sites were used to obtain this information which provides a breakdown for the above modes of travel. For the proposed development extension, Total Trips have been calculated for the land use listed below for the road network peaks (08:00 – 09:00 & 17:00 – 18:00):

- Industrial sites (70 employees)

Table 7.1 below shows the person trip rates generated by the database for morning and evening peak hours. These trip rates are expressed as person trips per parking space. To determine the generation of person trips, the trip rates have been multiplied by the total number of employees (70). The full TRICS output is attached at **Appendix C**.

Table 7.1 Total People Trip Rates and Person Trips

Peak Hours	Arrivals		Departures	
	85%ile Trip Rate	Person Trips Generated	85%ile Trip Rate	Person Trips Generated
Weekday (08:00-09:00)	0.735	51	0.195	14
Weekday (17:00-18:00)	0.222	16	0.715	50

Source: TRICS 2008(b)

7.3 Vehicular Trip Generation – Proposed Site

Following the estimation of person trips, the modal split for these trips was determined from the 2001 Census in Glossop, Derbyshire, which provides a percentage breakdown of main modes of transport used to travel to work. The results are provided in **Table 7.2** below.

Table 7.2 Modal Split for Travel to Work Using 2001 Census

Travel Mode	Percentage Mode (%)
Car incl passengers	77
Public Transport	9
Pedestrians	1
Cyclists	12
Motorcycle	1
Other	1

Source: 2001 Census

These 2001 Census percentages for Glossop were then applied to the person trips generated by the development to determine the vehicle trips generated by the site. This assumes that all trips generated during the peak hours are trips to work, as non-employment related trips are more likely to occur outside the peak hours. Based on the above modal split the total number of vehicle trips generated by the development is shown in **Table 7.3** below.

Table 7.3 Vehicle Trips Generated to/from the Site

Time Period	Arrivals	Departures	Total Vehicle Trips Generated
Weekday AM Peak	40	11	**51**
Weekday PM Peak	12	39	**51**

7.4 Shift Operations at Carpenters Ltd

The above trip generation has been undertaken to determine the impact of generated traffic during typical peak hour periods associated with background traffic on the highway network during the weekday AM and PM peaks. However Carpenters Ltd as previously stated operates shifts and these shifts clearly indicate that employees either arrive or depart outside typical peak periods.

Table 7.4 shows the current shifts in operation with the current number of employees working each shift. An assumption has been made that the day staff are split equally between the two day shifts and that the additional 50-70 staff to be employed in the three year period upon completion of the extension would be spread as they currently operate as shown below.

Table 7.4 Shift Patterns and Employee Numbers

Shift Patterns	Percentage Split of Employees on Shift	Approximate number of Employees per Shift	Additional Workforce per Shift
06:00 – 14:00	87%	85	30
14:00 – 22:00		85	30
07:30 – 04:15	13%	13	5
10:00 – 18:00		13	5
TOTAL	**100%**	**196**	**70**

It can therefore be demonstrated that majority of staff employed at Carpenters Ltd apart from senior management and admin staff work outside peak hours and would therefore not have an impact on the local highway network. In addition there are some employees who are arriving by more sustainable means such as public transport, cycling and walking.

It is therefore considered that the main impact on the Shaw Lane/ A57 junction in relation to Carpenters Ltd would be by those arriving during the peak hour periods such as office employees and the arrival and departure of trucks which operate during the whole working day. The survey undertaken on 5th August at the site access shows the volume of traffic arriving and departing at the site and is split into vehicles and HGVs.

As stated in Chapter 3 – Development Proposals, there is to be an increase from 18 tractor units to 30 tractor units upon expansion of the Glossop site which provides an increase of 67% in tractors.

As the fleet of tractors are operating throughout the working day in order to gauge the likely increase and impact on the local highway network we have assumed that the existing trips during the AM and PM peaks would increase by 67% (i.e. increase of tractor units).

Table 6.2 in Chapter 6 has therefore been revised to show the increase in HGV trips during the weekday peak periods and as a robust assessment we have also undertaken this process to increase the vehicle trips. **Table 7.5** shows the trips likely to be generated during the opening year of 2010 and this has been added to the base 2010 traffic flows and the A57/ Shaw Lane junction assessed in the following chapter.

Table 7.5 Shaw Lane/Site Access – Trips Generated

	Shaw Lane (E)		Site Access		Shaw Lane (W)	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Shaw Lane (E)			3 (0)	0 (0)		
Site Access	1 (0)	3 (0)			3 (3)	21 (1)
Shaw Lane (W)			15 (1)	10 (4)		

7.5 Traffic Distribution

The total potential new trips to Carpenters Ltd, as shown in **Table 7.5**, have been assigned to the local network in accordance to the existing distribution at the A57/ Shaw Lane junction.

The assignment of the proposed development generated traffic is illustrated in **Figure 8.3.**

8 Highway Impact

8 Highway Impact

8.1 Junction Assessments

Assessments have been undertaken for an opening year assessment 2010 with and without development traffic at the A57 Glossop Road/ Shaw Lane signalised junction.

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

- **Figure 8.1** illustrates base traffic flows in 2008 for the Weekday AM & PM peak periods;
- **Figure 8.2** illustrates base traffic flows growthed to a 2010 opening year of assessment for the Weekday AM & PM peak periods;
- **Figure 8.3** illustrates Trips likely to be generated on the local highway network; and
- **Figure 8.4** illustrates 2010 base with development for the Weekday AM & PM peak periods.

A57 Glossop/Shaw Lane

Traffic signal data has been obtained for this junction from Derbyshire County Council and showed that the junction operates on a four stage Method of Control (MOC) and has pedestrian crossing facilities across Shaw Lane and one arm of the A57 (Southbound approach).

A LINSIG assessment was undertaken for the junction; this program is used for Traffic Signal junctions and presents results as a percentage Degree of Saturation and corresponding likely traffic queues for each modelled link at the junction. For Traffic Signals it is generally accepted that Degrees of Saturation (DoS) of 90% or less on individual links represent satisfactory signal operation

Due to its industrial location the assessments have been undertaken for a three stage MOC i.e. without pedestrian stage as it is considered that pedestrian movements are not considerably high and would warrant the pedestrian stage to be operating every cycle time.

The results of the assessments for this junction are presented in **Table 8.1** below with LINSIG outputs attached in **Appendix E**.

Table 8.1 A57 Glossop Lane/ Shaw Lane – Weekday AM & PM LINSIG Results

Scenario	Period	Cycle Time	A57 Northbound (Ahead)		A57 Northbound (Right Turn)		A57 Southbound (Ahead + Left)		Shaw Lane (Left + Right)	
			Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue
2010 Base	Weekday AM Peak	93	49	9	66	6	79	18	84	13
	Weekday PM Peak	93	55	10	80	7	87	22	86	13
2010 Base & Development	Weekday AM Peak	93	50	9	73	6	82	19	83	13
	Weekday PM Peak	93	56	11	89	8	90	24	88	14

The results indicate that the junction would be operating below its practical capacity without and with development traffic in the opening year 2010, when the pedestrian stage is not demanded

during the cycle time with maximum DoS of 90% during the Weekday PM Peak period with a mean max queue of 24 on the A57 southbound approach.

A further assessment was also undertaken to ascertain the operation of the A57/ Shaw Lane junction with the pedestrian stage activated every other cycle using a cycle time of 200 seconds to replicate 2 cycle time periods.

The results of the assessment is shown below in **Table 8.2** and shows that the junction would be operating just above its capacity during the Weekday PM Peak period, however with the pedestrian stage likely to be demanded every other cycle and with shifts at the plant outside normal peak periods, it is anticipated that the delay will occur for shorter periods during the day.

Table 8.2 A57 Glossop Lane/ Shaw Lane – Weekday AM & PM LINSIG Results

Scenario	Period	Cycle Time	A57 Nortbound (Ahead)		A57 Northbound (Right Turn)		A57 Southbound (Ahead + Left)		Shaw Lane (Left + Right)	
			Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue	Degree of Saturation (%)	Mean Maximum Queue
2010 Base & Development	Weekday AM Peak	200	57	12	86	8	87	24	92	17
	Weekday PM Peak	200	59	13	102	16	102	46	103	28

It is clear from these results that the A57/ Shaw Lane signal-controlled junction is able to accommodate the potential increase in traffic to be generated from the proposed extension and that no mitigation measures are necessary.

9 Conclusion

9 Conclusion

9.1 Conclusion

This report has given consideration to the transportation elements of the proposed extension to Carpenters Ltd at Dinting, Glossop. The proposals will provide an extension to the production area with service yard and associated parking and to be accessed by the existing priority-controlled junction off Shaw Lane and via the A57/ Shaw Lane signal-controlled junction.

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

Junction assessments were undertaken at the A57/ Shaw Lane signal-controlled junction for the proposed opening year of 2010. It was found that traffic likely to be generated from the proposed expansion would be able to accommodate these additional development trips.

Consideration of the location of the site has identified the site to be sustainable with employees having easy access to public transport with bus stops situated off Shaw Lane and Dinting Railway Station located approximately 1 km away, both of which serve a wide selection of destinations. The National Cycle route is also located nearby off the A57.

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

Appendix B

Appendix B - Figures

Appendix C

Appendix C – TRICS

Appendix D

Appendix D – Traffic Flow Spreadsheets

Appendix E

Appendix E – Junction Outputs