

THE BASS MALTINGS, SLEAFORD

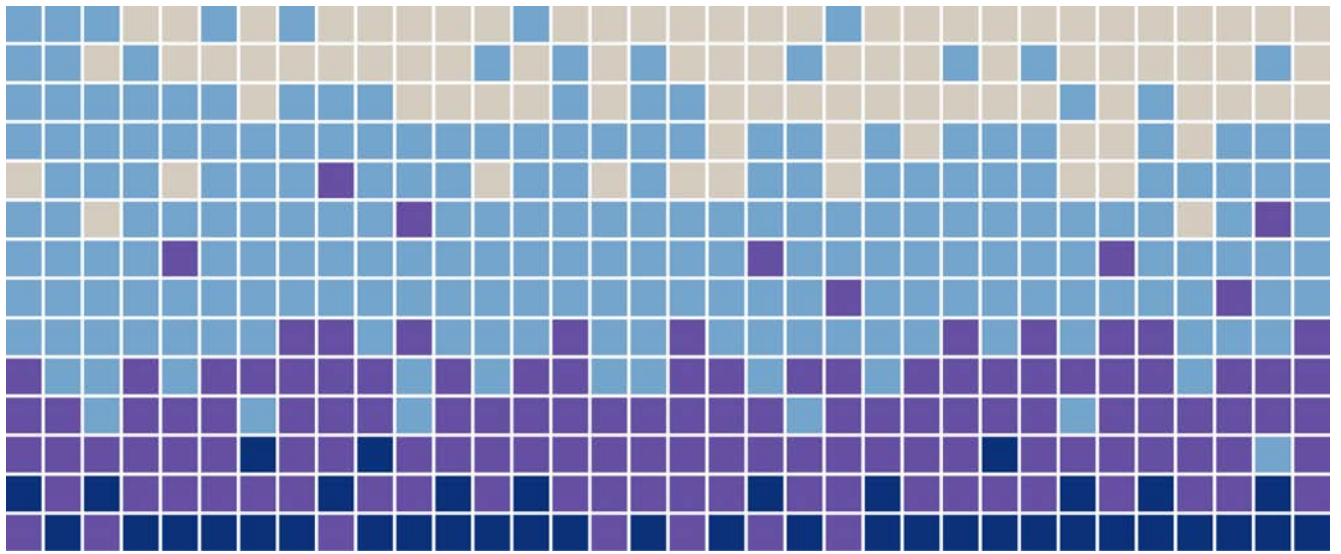


APPLICATION FOR PLANNING PERMISSION

BY

THE GLADEDALE SPECIAL PROJECTS DIVISION

TRANSPORT ASSESSMENT



Bass Maltings, Sleaford

Transport Assessment & Framework Travel Plan

Gladedale Special Projects Division

December 2008

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- Appendix A** Baseline Junction Analysis
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1 Introduction

1.1 PURPOSE

1.1.1 WSP Development and Transportation Ltd (WSPDT) have been appointed by the Gladedale Special Projects Division to provide professional services to support a detailed Planning Application for the redevelopment of the Bass Maltings, Sleaford, in Lincolnshire.

1.1.2 Planning Policy Guidance (PPG) 13 "Transport", released by the Government in March 2001, strongly suggests that a Transport Assessment (TA) should be produced for all developments which have significant transport implications. The Guidance for Transport Assessment (GTA) was published in March 2007 and describes the content of a TA relative to development scales and consultation with respective highway and planning authorities.

1.1.3 WSP has consulted Lincolnshire County Council (LCC) on the scope of the assessment relative to the scope for the adjacent Tesco application and the Development Brief, adopted as a Supplementary Planning Document (SPD). This TA therefore follows the proposed scope and highlights where factors have been agreed.



1.2 DEVELOPMENT PROPOSAL

1.2.1 The Sleaford Maltings is Grade II* listed complex occupying a site of 6.2 hectares (15.3 acres) and covering around 50,000 sqm of floor space, located to the south east of Sleaford town centre. Constructed between 1901 and 1906, today it is regarded as one of England's premier examples of an industrial scale maltings factory. Whilst the site was constructed prior to any planning legislation the original uses fall within the modern use classes of B1 / B2 / B8. As the more recent uses relate to production, storage and distribution it is believed the site benefits from a B2 Industrial use with elements of B1 and B8 ancillary to the primary use.

1.2.2 The Gladedale Special Projects have proposed a mixed use development for the Sleaford Maltings site comprising of residential, retail, commercial, office, health and community use.

1.3 OUTLINE OF THE ASSESSMENT

1.3.1 The scope of the study has been discussed with the local highways authority officers at LCC, and follows the guidelines set out in the DfT Guidance on Transport Assessment (2007). The scope of this report is set out as follows:

- Section 2 considers the existing environment. First, travel characteristics to surrounding employment, education, retail, health and leisure land uses are considered. Then the existing pedestrian, cycle, public transport and highway infrastructure provision is set out;
- Section 3 defines the permitted use in the context of the current land use classes and the current planning system. Details of the proposed development are subsequently provided. This includes the forecast trip generation, from each of the proposed uses and options for accessing and parking at The Maltings;
- Section 4 sets out the national, regional, and local policy context relevant to the proposed development;



- As a result of the proposed development a change in the existing environmental conditions will occur. Section 5 provides an analysis of this change on the pedestrian, cycle, public transport and highway network;
- Finally Section 6 summarises the report and draws a number of conclusions of the impact of the proposed development;

1.4 METHODOLOGY

1.4.1 Re-development proposals for three development areas to the east of Sleaford train station are expected to be considered in 2009. These development areas are:

- The Malting Site, proposed by Gladedale Special Projects Division;
- The adjoining depot, Albourne Developments; and
- The existing Advanta Seeds industrial site to the north of the railway, by Tesco.

1.4.2 The local planning authority, North Kesteven District Council (NKDC), has requested that the three major development areas are considered concurrently given the varying scales of development. Whilst each of the applications has been submitted separately it is hoped the application for the redevelopment of The Maltings should be considered alongside the adjacent proposals at a committee in early 2009.

1.4.3 The principle of each development is acceptable, although as The Maltings is a development area identified in the Sleaford Maltings Supplementary Planning Document as part of the Local Development Framework (LDF). Whilst applications for adjacent land have been submitted and should be considered concurrently this TA assumes each of the adjacent sites as 'soft' commitments at this stage. On this basis this TA will include a differing methodology to the Environmental Statement (ES) being submitted with the application.

1.4.4 This TA will consider the existing transport environment in detail based on available data sources. The capacity of the highway network will be examined in detail based on a predicted opening year, with only The Maltings development. Thereafter traffic conditions will be considered for the Design Year of 2020, with all developments and infrastructure improvements. This approach reflects discussions with LCC and NKDC. The Sleaford Transport Model, part funded by Gladedale Special Projects, considers the cumulative impact of proposals and is examined in more detail in the LCC Bridge application .

2 Existing Environment

2.1 SITE LOCATION

2.1.1 The site location is illustrated on Figure 1. The existing site is located 500m south east of Sleaford town centre. It is abutted to the east by farmland and, to the south and west by residential housing. The northern boundary of the site is formed by the Sleaford railway line which runs parallel to the existing development

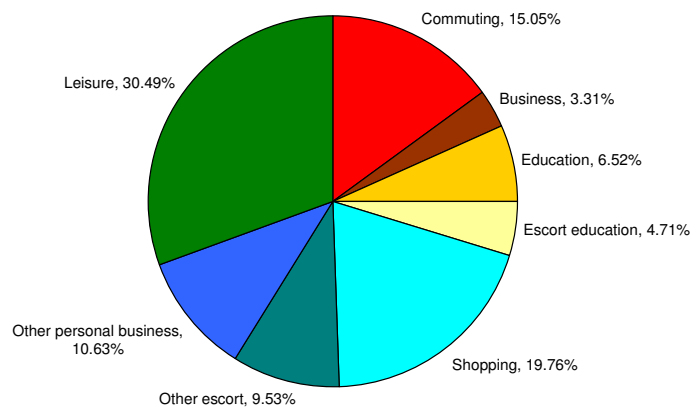
2.1.2 Access from the Bass Maltings site is via a single all movement priority junction on Mareham Lane, which is to the west of the development. From Mareham Lane access to areas north of the railway, which include Sleaford Town Centre and the A15 and A17 can be achieved. To the south access to the A52 and A15 can be achieved.

2.2 TRAVEL TRENDS

2.2.1 In order to understand how people travel for a range of trip purposes, a review of the National Travel Survey (NTS) and the 2001 Census data has been undertaken.

2.2.2 The NTS reports the number of trips undertaken relative to the journey purpose. Figure 2.1 indicates the proportions of journey purposes. Given the available land uses in the locale, most journey purposes can be completed within a short distance of The Maltings site. These have been reviewed to inform the scale of travel demand which may arise from the proposals.

Figure 2.1: Proportion of Trips Undertaken, NTS



2.2.3 The NTS reports that the number of trips being made has reduced year on year for around a decade. This could be attributed to longer working hours reported in the National Labour Trends offering less disposable time.

2.2.4 The NTS reports that many shopping trips are undertaken on foot, given the location of Sleaford town centre where parking charges apply, it is likely that most retail trips at the site will be undertaken on foot.



- 25.3% Food Shopping (5% of all trips)
- 25.5% Non-food shopping (5% of all trips)

2.2.5 The NTS notes that in some cases people will walk or use public transport even for their main food shopping and use a taxi due to the heavy loads involved. It is likely therefore that many food trips could begin on foot.

2.3 KEY LAND USES

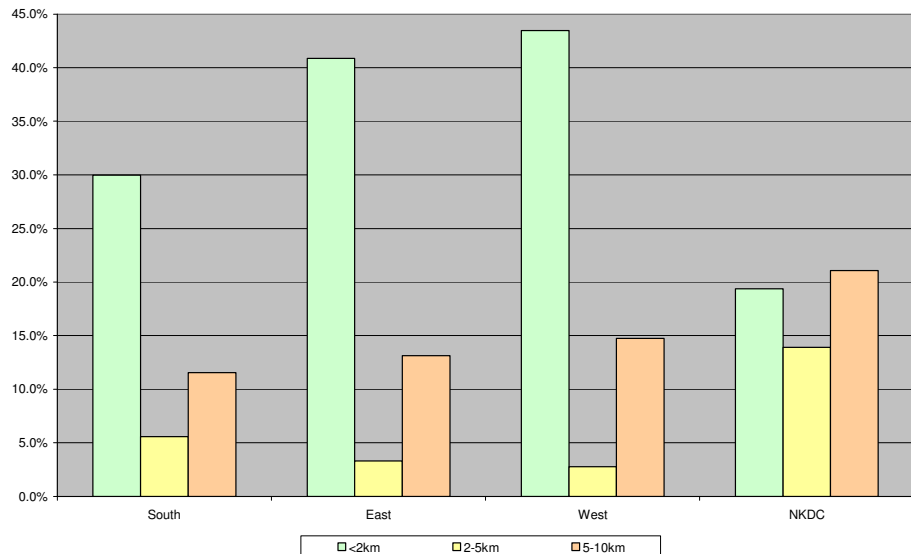
2.3.1 Figure 2 identifies a number of key land uses in Sleaford which are discussed below. These highlight sustainable travel trends within the settlement and will contribute to the forecast transport impact of the proposed development.

EMPLOYMENT

2.3.2 The principal area of employment within Sleaford is located approximately 1.3km to the north of the town, although a number of smaller employment centres are also scattered within the locale. Access to the main employment centre can be achieved either by the public right of way (PROW) network, via Castle Causeway/King Edwards Street or via South Gate.

2.3.3 Census 2001 data for the Sleaford area indicates that the town is self sufficient, with many of the local populous living and working within the town. Figure 2.2 highlights that around 42% of the population travel less than 5km to work depicting a huge potential for walking and cycling.

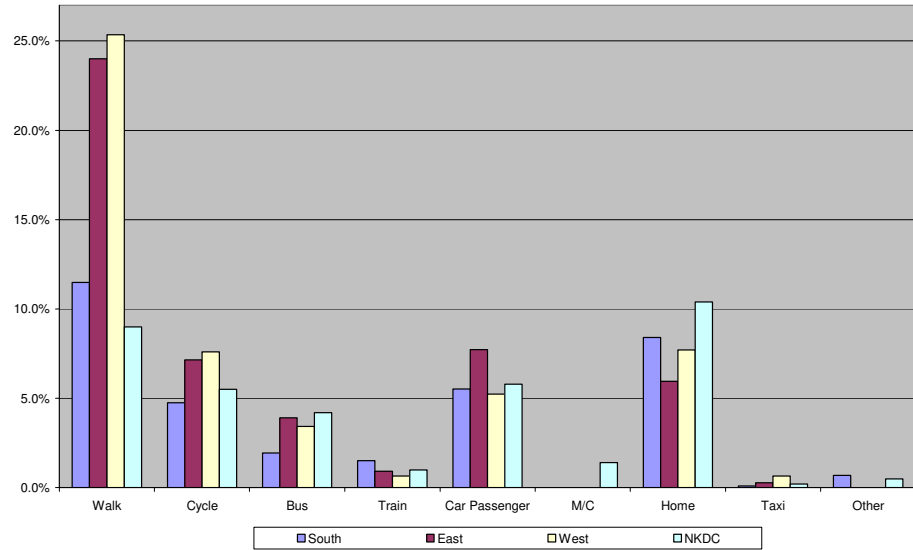
Figure 2.2: Distance Travel to Work, Local Wards, Neighbourhood Statistics



2.3.4 Despite local employment trends, sustainable travel is not as high as it could be, with typically around 27% walking or cycling to work. Figure 2.3 highlights the sustainable travel trend in the community with a particular bias towards walking.



Figure 2.3: Travel Mode to Work, Local Wards, Neighbourhood Statistics



2.3.5 For those persons who work out of the town there is a strong bias towards car use although the divide between northern and southern wards reveals a split between public transport demands. To the north bus use is greater whereas the proximity to the railway station to the south increases demand.

EDUCATION

2.3.6 Sleaford provides a number of primary and secondary schools which in some cases also serve some of the rural hinterlands beyond the settlement. Figure 2 also indicates a number of the local schools which include the following:

- Osbourn Bees Pre-School, London Road
- William Alvey School, East Road
- Church Lane Primary School, Church Lane
- Our Lady of Good Council Catholic Primary School, The Drove
- Chestnut C of E Primary School, Chestnut Street
- Carre's Grammar School, North Gate
- St. Georges College of Technology, Westhome West Gate

2.3.7 Research undertaken by the national walk to school campaign found that the average trip to school for pupils aged 5 to 10 years old was 1.5 miles or 2.4km.

2.3.8 The closest primary schools are Church Lane and William Avery both of which lie at the northern edge of the town centre within 0.75km or within 8 minutes walk of the Bass Maltings site. Access to Church Lane Primary School and William Avery may also be achieved via the level crossing and the B1617 South Gate or via Grantham Road and north along King Edwards Street.



2.3.9 For pupils aged 11 to 16 years the average distance travelled to secondary schools was found by the national walk to school campaign to be 5.3km.

2.3.10 The closest secondary school and sixth form is the St. George's College of Technology to the northwest of the town centre. Independent schools including Carre's Grammar School, for boys, and Kesteven & Sleaford High School, for Girls, are located a few hundred metres closer to the site. Access to secondary education can be achieved within 1.1km, 14 minutes walk or 5 minutes cycle of the site.

RETAIL

2.3.11 Sleaford town centre is located approximately 500m from the site just north of the railway station. The Local Plan defines the town centre extending just short of the level crossing, with the primary shop frontage identified north of the South Gate/Boston Road junction.

2.3.12 Sleaford offers a range of retail stores although it is recognised that certain comparison clothing retailers are not available in the town thus travel to local centres such as Lincoln and Boston occurs for these purposes.

2.3.13 There are currently two principal convenience/grocery stores within Sleaford:

- Gillian and Trevor Lakin, 20 Church Street
- Klassix Ltd, 48 South Gate.

2.3.14 There are a number of food superstores in the town including Sainsbury's and Tesco. Sainsbury's is currently the closest store located to the rear of South Gate around 800m or 10 minutes walk to the northwest of the site. A discount food store (Aldi) is however available on Mareham Lane around 400m or 5 minutes walk from the site.

HEALTH

2.3.15 The Millview Medical Centre is the main general medical practice serving Sleaford, and is currently located at 29 Handley Street.

2.3.16 There are currently five dental practices within Sleaford:

- MF Gould, Institute House
- Malcolm Robertson, 147 Grantham Road
- PR Walker, 27 West Banks
- Rose Cottage Practice, 12 West Banks
- Ruskington Practice, 37 High Street

2.3.17 The nearest Chemist is Boots the Chemist, located at 41-45 South Gate, approximately 1km or 12 minutes walk from the site.

2.3.18 Similarly, the nearest optician is available at Clover House, Boston Road, Sleaford approximately 1 km or 12 minutes walk to the north of the site.

LEISURE

2.3.19 There are a number of facilities in the town including:

- A range of public houses and a night club, 500m northwest



- The Cricket Club, 500m west
- The Recreation Ground, 400m north (900m via level crossing)

2.4 JOURNEYS ON FOOT AND CYCLE

2.4.1 PPG13 advocates that “Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly those under two kilometres”.

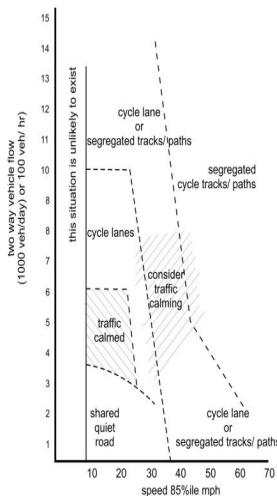
2.4.2 The site is located within easy walking range of employment, education, retail, health and leisure facilities. The Bass Maltings site is within 500m or within 7 minutes walk or 2.5 minutes cycle ride of Sleaford Town Centre’s core area, where a range of land uses are available. It has been demonstrated that the majority of the local community are accustomed to walking the short distance to principal land uses therefore the pedestrian network has been considered in greater detail.

2.4.3 Having considered the urban morphology (street pattern) of Sleaford an axial analysis is identified in Figure 3 which reveals the pattern of movement in the area. In most cases these converge on the town centre. Those routes from the south highlight that demand within the street network has been channelled via the level crossing where a range of transport modes converge.

2.4.4 The pedestrian network includes a number of roadside footways, typically 1.5-2.0m wide. In many cases the boundary treatments of adjacent properties effects edge shyness however this is countered by a range of features which preserve some segregation to adjacent trafficked streets.

2.4.5 A range of controlled pedestrian crossing points are available which are also highlighted in Figure 3. In most cases these are close to desire lines for routes to principal land uses.

2.4.6 Off-road cycleways available in Sleaford are also depicted in Figure 3. The IHT Guidelines for Cycle Audit and Review (pictured left) suggest that a number of streets can be regarded as quiet routes and therefore suitable for on-road cycling. Typically these include roads with traffic flows around 250-350 vehicles per hour within Sleaford which represents most residential streets in the town.



2.4.7 There is an existing cycle trail which follows an on-road route through the south-eastern quarter of the town which connects with Sleaford Station. The trail follows Mareham Lane and Boston Road within the town. This is a circular route connecting Sleaford with Heckington approximately 5 miles east, and surrounding woodlands (Figure 3).

2.4.8 A proposed national cycle route is being considered, National Route 15 of the National Cycle Network will connect Nottingham with Route 1 in Lincolnshire via Grantham. Many sections of the route are open and signed, though part of the route is still awaiting development. Once completed the route would connect Sleaford with Grantham to the south-west which intersects the existing Southgate level crossing

2.5 PUBLIC TRANSPORT

2.5.1 There are several public transport options within Sleaford which are outlined below. Figure 4 identifies primary interchanges and services levels which are described in more detail below.



2.5.2 Table 2.1 reports the 2001 Census travel to work data for public transport where the town wide average is around 4.1%. Whilst this is relatively low compared to other areas the very high levels of walking and cycling appear to capture the majority of short trip purposes

Table 2.1: Sleaford Ward and District travel to work data, Neighbourhood Statistics

	South	East	West	NKDC
Bus	1.9%	3.9%	3.4%	4.2%
Train	1.5%	0.9%	0.6%	1.0%



RAIL JOURNEYS

2.5.3 Sleaford station is located within the centre of Sleaford, and easily accessible by road, bus and cycle links. The Sleaford Maltings site is approximately 500m to the south east of the station.

2.5.4 Around 325,000 (2-way) passenger journeys were undertaken to/from Sleaford station in 2007 where around 35% of passengers travelled using a season ticket. The East Midlands has seen one of the greatest increases in rail passengers in the last decade and this trend is expected to contribute to increased service levels and journey quality.


2.5.5 The principal railway line through Sleaford links Nottingham with Skegness and Peterborough, Lincoln and Doncaster although a range of branch lines link to adjacent settlements.

2.5.6 The railway operator is East Midlands Trains. The main destinations can be seen below with links available from all these stations onto the wider network:

- Lincoln Central is directly served hourly in the peak periods by Central Trains from Sleaford Station with a journey time varying between 30 and 38 minutes, costing £7.50 for a peak period day return
- Grantham is directly served hourly in the peak periods from Sleaford Station with journey times between 25 and 28 minutes, also costing £7.60 for a peak period day return
- Nottingham is also directly served hourly in the peaks by Central Trains with journey times of between 52 minutes and 73 minutes, costing £14.50 for a peak period day return

Table 2.2 Rail Network Destinations and Journey Times:

Destination	Frequency	Journey Time (mins)
Lincoln	1/hour	30-38
Grantham	1/hour	25-28
Nottingham	1/hour	52-73



2.5.7 Network Rail are currently engaged in a Route Utilisation Strategy (RUS), exploring potential improvements to the network to accommodate projected growth associated with the Regional Spatial Strategy. The RUS is due to be published in Spring / Summer 2009. The background documents reveal that high levels of growth are expected for Lincoln and Nottingham in the region.

BUS JOURNEYS

2.5.8 Centrebus Limited operates four services in and out of Sleaford: the 37, 609, 635 and 640. All services apart from the 37 route via Sleaford Rail Station.

2.5.9 The 37 service operates once a day on Tuesdays, Wednesdays and Thursdays between Sleaford and Billingborough. The total journey time is 43 minutes and the service departs Sleaford at 12:30 and Billingborough at 13:30.

2.5.10 The 609 connects Sleaford with amenities (Co-op and Post Offices) in surrounding towns. Grantham is served on this route on school days with a journey time of 65 minutes.

2.5.11 The 635 service connects Sleaford with Cranwell Village and RAF Cranwell on weekdays with eight daily departures from Sleaford starting at 06:51 and with the last bus at 17:15. There are two services available before 09:00 and a further two after 16:00. Six services operate from RAF Cranwell with one before 09:00 and another after 16:00. An additional service operates on Mondays and Fridays.

2.5.12 The 640 service connects Sleaford with Holdingham, Leasingham and Ruskington with a single departure in the AM peak and return journey in the afternoon. This service operates on schooldays only, with a journey time of 22 minutes.

2.5.13 A number of demand responsive bus services are available in Lincolnshire through the interconnect system. The system aims to provide at least an hourly service between rural communities and major towns. The system offers the facility for services to be booked up to a week in advance. To date the system is considered to be successful in improving bus patronage with the equivalent of 200,000 additional passengers per year using the service.

CAR OWNERSHIP & USE

2.5.14 TEMPRO, which is based on the 2001 Census, reveals that in 2007 car ownership in Sleaford was less than 1.2 per household. The typical household size was 2.3 persons per household, thus it is likely that the development, which consists of primarily smaller dwellings close to the town centre, will generate a lower demand for car parking.

2.5.15 As reported above the Census also indicates that the vast majority of people live and work in Sleaford with residents travelling the following distances to work:

- 10% Working primarily from home
- 19% Working within 2km of home
- 14% Working within 5km of home
- 21% Working within 10km of home

2.6 HIGHWAY NETWORK

2.6.1 Sleaford lies in central Lincolnshire forming part of the East Midlands. The Primary Road Network (PRN) includes a number of A and B-Class roads including the A15 (west) and the A17 (north) converging to the northwest of the town.

2.6.2 The highway network is also identified in Figure 3 identifying the adjacent town centre area. It also identifies the B1517 runs broadly northeast/southwest through the town linking with the A153 for Grantham and villages to the northeast.

2.7 PERSONAL INJURY DATA

2.7.1 Personal Injury Accident (PIA) data has been obtained from Lincolnshire Road Safety Partnership (LRSP) for a recent three year period. According to data supplied by the LRSP, there have been 29 accidents on the roads and junctions surrounding the Sleaford Maltings Development. The location and severity of these accidents is illustrated on Figure 5, summarised below in Table 2.3

Table 2.3 : PIA Summary

Severity	Ped.	Cyc	M/C	Car	Bus	HGV	Total
Slight	7	7	1	11	0	0	26
Serious	2	0	0	0	0	0	2
Fatal	1	0	0	0	0	0	1

2.7.2 Of the 29 accidents reported, 26 resulted in 'slight' injuries, two were recorded in official records as being 'serious', and there was one accident resulting in a 'fatal' injury.


2.7.3 Pedestrians were involved in ten of the accidents, with the vast majority being a result of pedestrian error (not looking). Such an incident resulted in a fatal injury, where a pedestrian walked out from between two parked vehicles, into the path of an oncoming goods vehicle.

2.7.4 On a further six occasions the accidents involved cyclists, resulting from a mix of cyclist and driver errors. All of the accidents were recorded as resulting in slight injuries.

2.7.5 On one occasion, a motorcyclist was involved in a collision with a car as a result of the car turning across its path. The accident was recorded as slight.

2.7.6 The remaining twelve accidents involved vehicles only. Driver error was the main cause, though inexperience and intoxication were also cited in police accident reports. All twelve collisions were reported as slight.

2.7.7 Of all 29 personal injuries listed, on only one occasion was the road layout given as a contributing factor. In this instance, a vehicle failed to see a cyclist crossing its path at a give way junction and pulled out resulting in a collision. Though not specific, it cites road layout (e.g. bend, hill, narrow carriageway) as a contributing factor. Looking at the junction however, none of the three layout items listed would appear to be evident and so it has been assumed this is simply generic to 'road layout' on the accident reporting system.



2.7.8 The junction in question is 'open' with good sight lines and carriageways are of sufficient width. It is noted that excessive road / markings may have led to driver confusion at this two-way / one-way intersection. However, the road layout and markings appear to adhere to standards / guidelines and with only two accidents reported within the past three years, its record is acceptable with simple driver error the overlying reason. Having reviewed the PIA records, in our view, no direct mitigation measures are required.

2.8 TRAFFIC FLOWS

2.8.1 In order to establish the existing traffic conditions in the vicinity of the site, manual classified count (MCC) data has been obtained from LCC. The location and dates of the MCCs are:

- East Gate, Tuesday 22/05/07
- Carre Street, Tuesday 21/06/04
- Boston Road, Tuesday 22/05/07

2.8.2 The above data has been supplemented with a number of automatic traffic count (ATC) and manual classified counts (MCC) surveys in early December 2007. The location and dates of these surveys are:

- Grantham Road (ATC), 6-12/12/07
- Grantham Road/London Road (MCC), Thursday 6/12/07
- Grantham Road/Mareham Lane (MCC), Thursday 6/12/07
- Mareham Lane/Site Access (MCC), Thursday 6/12/07
- Grantham Road/South Gate (MCC), Thursday 6/12/07
- South Gate/Station Road (MCC), Thursday 6/12/07

2.8.3 Together the above traffic flows have been used to set out the baseline traffic conditions on the surrounding highway network. The resulting traffic flows are illustrated on Figures 6 and 7 for 2007. It should be noted that traffic flows recorded on Carre Street have been growthed using NRTF / Temprom from 2004 to 2007 for this purpose. Based on these flows future traffic projections will be considered.

2.9 TRAFFIC CONDITIONS

2.9.1 The local highway network within Sleaford town centre experiences congestion during peak hours with around 280 vehicles routing north on South Gate during the morning peak hour (08:00-09:00). Some inter-peak congestion is understood to occur around the level crossing and further north at North Gate. However, it is during the evening peak hour (17:00-18:00) that the greatest traffic flows occur. Figure 7 illustrates approximately 500 vehicles routing south on South Gate towards the level crossing during the evening peak, with a further 330 vehicles routing northbound on South Gate.

2.9.2 Further north South Gate forms part of a one-way traffic system which is currently in place in the centre of Sleaford. The system comprises of South Gate to the west, East Gate to the north, Carre Street to the east and Boston Road to the south.



2.9.3 The East Gate/Carre Street junction is subject to traffic signal control. Recent highway improvements have been introduced to the North Gate/East Gate junction introducing further traffic signal control to the one-way system around the town centre.

2.9.4 To the south, the junctions on Boston Road operate as priority junctions with priority given to the (one-way) circulating traffic flow. This arrangement can contribute to traffic queues (northbound) particularly after the level crossing is re-opened.

2.9.5 The demand for pedestrian crossings on South Gate close to the town centre can contribute to congestion conditions which in some cases results in queues extending back to preceding junctions for brief periods.

2.9.6 The uncontrolled zebra crossing on South Gate, north of Station Road, attracts appreciable crossing demand throughout the day. Some of this demand arises from pedestrian trips to the station and the adjacent schools and can have a similar effect of congestion.

2.9.7 In conjunction with the traffic surveys undertaken in December 2007 the level crossing was monitored during the peak periods. The level crossing down time was recorded during the morning and evening peak periods. The results of the surveys are summarised in Table 2.4.

Table 2.3 – Level Crossing Times

Peak Hour	Number Barrier Closures in Peak Hour	Average Time Closed
07:00-08:00	3	98 seconds
08:00-09:00	3	136 seconds
09:00-10:00	3	129 seconds
Typical Morning Peak	3	121 seconds
16:00-17:00	6	104 seconds
17:00-18:00	3	144 seconds
18:00-19:00	2	118 seconds
Typical Evening Peak	4	122 seconds

2.9.8 From Table 2.3 it can be seen that the level crossing was closed on average for 1½ - 2 minutes three or four times during a typical peak hour.

2.9.9 Observations of the existing traffic conditions between the Mareham Lane / London Road / South Gate crossing junction and the South Gate / Boston Road junction reveals that queues form from the South Gate / Boston Road junction, along South Gate, occasionally blocking back through the crossing. Whilst the queuing is most notable during the morning and evening peak periods, the platooning of traffic caused by the operation of the crossing gates during the inter-peak period also generates an element of queuing along South Gate from its junction with Boston Road.



2.9.10 It is understood that the SATURN model used to assess the LCC highway proposals in Sleaford adopted a base analysis of the junction assuming South Gate was closed for one in every five signal cycles. We have replicated this approach to identify baseline delay.

2.9.11 LINSIG has been used to assess the existing operation of the Mareham Lane / Grantham Road / South Gate junction in conjunction with the level crossing. In order to provide the most representative model of the existing junction it has been assumed that in the 'With Crossing' scenario, the crossing would close once in every 450 second for a period of 90 seconds.

2.9.12 Based on the traffic flows illustrated on Figures 6 and 7 the LINSIG results for the 2007 morning and evening peak hours are summarised in Table 2.4 with the full output provided in Appendix A.

Table 2.4 – LINSIG Version2 Results – Impact of the Level Crossing

Arm	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	% Sat	Average Delay	MMQ	% Sat	Average Delay	MMQ
Mareham Lane Right	41.3	56	7	50.1	74	5
Mareham Lane Ahead	9.9	21	2	14.5	27	3
South Gate Left	23.0	50	4	35.8	46	8
South Gate Right	44.2	53	11	56.9	52	18
Grantham Road Ahead	20.9	37	2	34.9	39	4
Grantham Road Left	14.9	23	5	21.2	19	9
PRC	103.5			58.1		
Cycle Time	450			450		

Source: LINSIG Version 2

PRC = Practical Reserve Capacity; MMQ = Mean Maximum Queue; Sat = Saturation

2.9.13 From Table 2.4 it can be seen that, based on an average model of the level crossing, the junction currently operates well within capacity during the morning and evening peak hours. Average delays at the crossing are shown to be around 50 seconds on Mareham Lane and South Gate during an average morning cycle, with queues of up to 11 Passenger Car Units (PCUs) or 63 metres.



2.9.14 During the evening peak hour Table 2.4 reveals a reduction in the available capacity of the junction and as a consequence average delays increase to 74 seconds and average queues increase to 18 PCUs or 104 metres on Mareham Lane and South Gate respectively.

2.9.15 It is evident therefore that the junction operates well within capacity however the level crossing contributes to traffic queues, delays and less appropriate driving.

2.10 LEVEL CROSSING

2.10.1 WSP has consulted Network Rail regarding the Sleaford level crossing (NGR 506916/345406). They have stated:

- “In point of fact Sleaford East ‘box controls the Grantham Road crossing, and having both manual control and full barriers means that the crossing is one of the safest type there is in terms of theoretical operation – it does not however take account [of] queuing problems...”

2.10.2 Network Rail has given the crossing a risk assessment score of 3 recognising the existing issues associated with driver behaviour, traffic queues (blocking back over the level crossing) and turning movements associated with adjacent junctions.

2.10.3 The Health & Safety Executive (HSE) and Her Majesty’s Rail Inspectorate (HMRI) publishes the Railway Safety Principles and Guidance Books. Part 2 Section E offers Guidance on Level Crossings. Based on the guidance and site observations we understand the level crossing is a divided Automatic barrier controlled crossing, locally monitored (ABCL) which is reported to be one of the safest level crossing arrangements available.



3 Development

3.1 BACKGROUND

3.1.1 To determine the scale of development impact trip generation data is required to inform what, mitigation measures are required to accommodate the development proposals. Proposals are compared to the existing or permitted use therefore Section 3.2 considers the most appropriate classification of the existing use based on the current use class order.

3.1.2 The proposed development comprises of a mix of land uses including (C3) residential dwellings, (B1) offices, (D1) Health Centre and (A1-A5) local retail/restaurant floor space and a small quantum of (D2) community use. In order to assess the likely traffic impact of the proposed development the TRICS 2007(b) database was interrogated to inform the TA Scope and the development of the Sleaford model. The output data is provided at Appendix B.

3.1.3 The Guidance on Transport Assessments suggests that comparable sites should be used to predict travel demand. Given the site location and local transport trends statistically average data has been adopted as most appropriate. Whilst this approach has not formerly been approved by LCC traffic generation data submitted has been incorporated into the Sleaford model.

3.2 EXISTING SITE

3.2.1 The Sleaford Maltings is a Grade II* listed complex occupying a site of 6.2 hectares (16.6 acres) and covering 50,000 square metres of floor space.

3.2.2 The complex comprises of:

- Eight former malt houses, each covering 5,420 square metres of floor space;
- A central core section covering 2,800 square metres of floor space containing engine room, boiler room, water tower, barley kiln, granaries and artesian well; and
- Five small, detached mess rooms, all single storeys.

3.2.3 The original development included the associated access road and the entrance gates and pillars, eight cottages, offices, stables, cart sheds and manager's house. The road and all its structures are considered an integral part of the complex in their Grade II listed buildings description.

3.2.4 The buildings are of a uniform design and material, and utilise repeated patterns, which will need to be preserved in the future development. The attention to detail extends from the overall design to the use of materials within the building.

3.2.5 The buildings have remained in use for a range of purposes similar to the original equivalent B2 industrial use. In 1976 the second fire at the site destroyed a significant proportion of the site.

3.2.6 Trip Generation rates for the permitted uses and proposed development have been determined using the TRICS 2007(b) database. The full TRICS outputs are also provided in Appendix B and summarised in the tables within this section. With the exception of the proposed residential dwelling (houses) the data used was submitted to LCC in September 2007 for approval. This data has been used for the Sleaford Model and is therefore assumed to offer an accepted method for predicting traffic demand.



3.2.7 Table 3.1 summarises the trip rates and likely trip generation from the permitted use of the site during the peak hours and on a daily basis. In order to identify appropriate trip rates for the permitted use of Sleaford Maltings the “Employment/Industrial Unit” category of TRICS 2007(b) was interrogated and sites within England which were not re-surveyed were included. The resulting trip rates and trip generation is provided in Table 3.1.

Table 3.1: The Sleaford Maltings, Permitted-Use Traffic

	AM Peak (8.00-9.00)		PM Peak (5.00-6.00)		Daily	
	Arrival	Departure	Arrival	Departure	Arrival	Departure
Trip Rate	0.264	0.056	0.048	0.347	1.404	1.558
HGV rate	0.018	0.020	0.005	0.010	0.201	0.198
Traffic	96	20	17	126	510	566
HGV	7	7	2	4	73	72

Source: TRICS 2007(b)

3.2.8 The permitted use is expected to generate 1076 vehicles per day two-way, of which around 145 or 13.5% would be HGVs. As the permitted use preceded planning law, conditions do not limit its use. It would therefore be possible that the permitted use is operated 24-hours per day.

3.2.9 During the peak hours 116 two-way vehicle trips are likely during the morning peak hour and 143 two-way vehicle trips are likely during the evening peak hour. The number of HGVs which could be generated from the site during the morning peak hour is around 12%.

3.3 DEVELOPMENT PROPOSALS

3.3.1 Given that there is a general over-provision of industrial uses in the town, it is more likely that the origin and destination of trips to the permitted use will be generated beyond the settlement boundaries. In order for these HGVs to access the strategic highway network, the most direct route would be via the Gratham Road/Mareham Lane /South Gate junction. Given the length of HGVs, reoccupation of Sleaford Malting for the permitted use is likely to have a greater detrimental impact on the highway network than proposed traffic.



3.3.2 The proposed redevelopment of the Sleaford Maltings aims to provide a balance of residential, employment, health and community uses on the site in order to reduce the number and length of trips made by local residents.

3.3.3 Table 3.2 overleaf has been adopted for the assessment of development traffic. Having worked through the development scale with English Heritage et al the proposals have been refined to form the final application. As the total land use mix is very similar in terms of travel demand the assessment approach has been retained to ensure it is consistent with those examined in the Sleaford model.



Table 3.2 – Development Parameters

Proposed Development	Number of Units / Floor Area
Residential (apartments) – C3	Up to 220 units
Residential (houses) – C3	24 units
Retail Employment – A1	930sqm (approximately)
Office Employment – B1	Circa 7,200sqm
Commercial Employment – A3-A5	260sqm (approximately)
Health Facilities – D1	Circa 3,400sqm
Community Facilities – D2	1370sqm (approximately)

3.3.4 Unlike the permitted use, the proposals represent a balance of land uses which do not currently exist in the surrounding residential areas. On this basis, a redistribution of existing trips could result from the proposed development as traffic reroutes to the proposed development. Consequently, the length of trips from the southern wards where car use is higher could be reduced. On this premise the proposed traffic generation represents a robust prediction of future travel demands.

3.3.5 Furthermore, an element of internalisation within the proposed development is likely, given that future residents of the site may make use of proposed retail, health and community facilities. However, no discount has been applied to the TRICS trip rates for the purpose of the internalisation of trips. On this basis, the traffic impact identified in Section 5.6 is considered to represent a robust assessment.

PUBLIC CONSULTATION

3.3.6 A public consultation exercise was held on 23rd November 2007. The purpose of the consultation was to identify out-standing issues and options which may influence the proposed developments and planned highway improvements at:

- The Bass Maltings
- Tesco
- Railway Bridge and associated highway improvements

3.3.7 Indicative arrangements for each proposal were displayed to the general public. The consensus of views supported the re-use of The Sleaford Maltings. Residents, who live on the existing access road to the sites, were also supportive of the proposed scheme.

3.3.8 A summary of information provided, and responses received are reported in the Statement of Community Involvement submitted with the application.

3.3.9 Most people recognised the site could be re-used for a use similar to the original Maltings production although most were concerned with a resultant increase in HGV traffic which would ensue. Similarly most were supportive of a mixed use scheme, concerned that an exclusive residential development would not meet the needs of the community.



DEVELOPMENT MIX

3.3.10 The mix of land uses have been carefully chosen to exploit existing links to adjacent land uses, principally the town centre. However, as explained at the public consultation the identified mix is marginal in terms of financial viability terms as set out in the Viability Assessment. Many in the community recognised the difficult financial balance and appeared satisfied that considerably more development would be required if the Maltings were to provide any planning obligations.

3.3.11 Whilst the assessment of travel demands has been based on a subtly different, as identified in paragraph 3.3.3, the proposed mix of land uses will foster an enhanced community as set out below:

- 204 Apartments;
- 24 residential dwellings
- 5,207m² GFA B1 office;
- 3,417m² Health Centre (D1, with a further 2346m² GFA B1 office) ;
- 1391m² (A1 – A5) Retail / Restaurant;
- 37m² Community and Leisure (D1).

RESIDENTIAL PROPOSALS

3.3.12 The proposals are to redevelop a proportion of the Bass Maltings into residential flats, consisting primarily of one and two bedroom apartments. The bulk of the residential development will be located in Blocks 3 and 9. It is anticipated a small number of apartments will be located in buildings 2, 4, 6, 7 and 8 on the upper floors. In addition 24 houses are proposed to the southeast of The Sleaford Maltings complex.

3.3.13 Traffic generation rates for the proposed development have been derived from TRICS 2007(b). Trip rates for privately owned flats were derived from all sites outside of London typically in Yorkshire and the West Midlands which are considered to be representative of the site location.

3.3.14 Table 3.2 summarises the resulting trip rates and the likely traffic generation from 220 apartments and 25 houses.



Table 3.2: Residential Traffic

	AM Peak (8.00-9.00)		PM Peak (17.00-18.00)		Daily	
	Arrival	Departure	Arrival	Departure	Arrival	Departure
Flats Trip Rate	0.066	0.201	0.159	0.084	1.265	1.338
Houses Trip Rate	0.185	0.432	0.458	0.292	2.818	2.865
Flats	15	44	35	18	278	294
Houses	4	10	11	7	70	72

3.3.15 From the likely development mix, it is anticipated that the greatest numbers of trips will be generated as outbound trips in the morning peak period and as inbound trips during the evening peak period. On this basis the likely trip generation from the residential element of the proposed development illustrates a reversal in the tidal flow associated with the permitted use of the site.

EMPLOYMENT PROPOSALS

3.3.16 The LDF has reviewed employment needs in NKDC and identified a general over-provision of employment; however this reflects the traditional industrial uses which characteristic of the town. There is widespread recognition that employment leakage occurs with out commuting to adjacent settlements, particularly for skilled and professional jobs. Despite this most (57%) of the District lives and works in the area, with a further 23% working in Lincoln. To promote greater sustainability high quality office space is required within Sleaford providing the basis for this allocation within the development proposals.

3.3.17 The proposed development aims to provide high quality office space through the provision of B1 offices. Building one will provide 4754m² GFA with further provision being provided in Buildings 4 and 5. These are likely to be associated with the Health Centre, bringing the total office space to 7553m². As a speculative development the end occupier is unknown and will influence the ability to provide a definitive Travel Plan.

3.3.18 The trip rates summarised in Table 3.3 are based on a range of sites in the Midlands and North of England, including a number of Council Office sites which generate higher off-peak travel demands than other office sites. It is therefore noted that in the evening peak hour a higher departure rate is evident between 16:30-17:00 compared to 17:00-18:00. In order to provide a robust scenario the higher rate of 1.179 has been considered for the purpose of the traffic assessments for 7,200m² GFA.

Table 3.3: B1 Office Traffic

	AM Peak (08.00-09.00)		PM Peak (17:00-18:00)		Daily	
	Arrival	Departure	Arrival	Departure	Arrival	Departure
Trip Rate	1.347	0.137	0.170	1.179	6.514	6.043
Traffic	97	10	12	85	469	435

3.3.19 As a result of the assumed employment floor space within the proposed development around 107 two-way trips in the morning peak and 97 two-way trips in the evening peak hour are likely from a B1 office use. On a daily basis this would increase to around 904 two-way trips at the Bass Maltings for the purpose of employment on a daily basis.

HEALTH

3.3.20 Within Sleaford a single General Practitioner (GP) Surgery exists which is unable to meet modern community health care needs within its existing premises. To avoid the need for cross town travel, whilst exploiting linked trips, the existing practice has indicated a desire to relocate to the Maltings.

3.3.21 Responding to the local Primary Care Trust's desire, the developer has identified the need for a GP practice south of the railway, thus in addition to offices described above, 3,417m² of the proposed development to accommodate an enhanced Health Centre use.

3.3.22 The proposed health care facility will not provide an exclusive GP surgery, instead a range of local 'care in the community' facilities will be provided. By providing a range of facilities and services some of the existing health care trips which have to route across the settlement or to adjacent settlements, particularly for out-patient care, may re-route to the proposed Health Centre.

3.3.23 It is likely that the proposed development will include a local Chemist in either Building 6 or 7. As a result of this provision, this should accommodate linked trips thus reducing the overall distance travelled within Sleaford for the purpose of health care.

3.3.24 Traffic generation for the proposed expanded Health Centre is based on traditional GP Surgeries across the UK, including two sites in the Midlands. As the proposed Health Centre is larger than all of the comparative sites on the TRICS database and will offer expanded facilities the trip rates represent a more intensive use. Table 3.4 therefore represents a robust prediction of potential traffic generation for 3,400m² GFA.

3.3.25 The Health Centre is likely to include an out patient clinic. It is also anticipated that some of the proposed retail provision will include a chemist. It is therefore likely that the development will contribute to an overall reduction in the number and length of trips for the purpose of health. However, in order to provide a worst case scenario when assessing the highway impact of the proposed scheme, no account of this reduction has been included.

Table 3.4: Health Centre Traffic

	AM Peak (8.00-9.00)		PM Peak (5.00-6.00)		Daily	
	Arrival	Departure	Arrival	Departure	Arrival	Departure
Trip Rate	2.211	1.142	1.069	1.896	24.427	24.319
Traffic	75	39	36	64	831	827

Source: TRICS Database 2007 (c)

3.3.26 As a result of the anticipated floor space for health care facilities approximately 114 two-way trips in the morning peak hour and 100 two-way trips in the evening peak hour are likely. The tidality of health care trips is similar to that of the permitted employment use, therefore the greatest numbers of trips are forecast to arrive during the morning peak period and depart during the evening peak period.

RETAIL & COMMUNITY

3.3.27 The Retail and Commercial Leisure Study¹ suggests that growth in food & drink expenditure in NKDC includes areas outside of the catchment. To reduce this level of outward travel the proposed development will include some provision for (A3-A5) café/restaurants. As there is an established commercial need in Sleaford this element of the development is likely to contribute to the evening economy of the town.

3.3.28 The locations of the retail and restaurant uses within buildings 4 and 5 have been carefully placed in areas where the listed fabric of the building can alter the least. The overall provision of these uses is considered to contribute to the charm of the setting and compliment existing and proposed uses.

3.3.29 It is understood that demand exists in the community for informal community meeting space. Within the Maltings complex, some listed buildings do not lend themselves for economic conversion to other uses. To meet the community need one building will be identified to accommodate community needs. It is expected that this will be used for local clubs and societies. Other community uses which could also be accommodated within the building may include the Duke of Edinburgh Award, St John’s Ambulance training or rehearsals for the local theatrical society as mentioned at the public consultation

3.3.30 As these uses are undertaken in the evening or are considered ancillary to the primary land uses traffic impacts from these developments are not considered in detail.

TRAFFIC CHANGE

3.3.31 The proposed development will generate greater levels of traffic demand across the day broadly compared to the existing permitted use. Notwithstanding this the proposed uses generate less significant demands during the peak hours. Whilst the patterns of traffic demand are different Table 3.5 attempts to compare 70-100% of the permitted use with the proposed land use mix.

¹ Retail & Commercial Leisure Study, Tym & Partners, 2007



Table 3.5: Comparison of Permitted: Proposed Development

	Permitted Use			Proposed Use		
		Arrival	Departure	Arrival	Departure	Comparison of Uses
AM	70%	96	20	112	53	3417m ² GFA Healthcare; 2346m ² GFA B1 Office; 24 dwellings; and, 1391m ² of A1-A5
PM		17	126	52	99	
AM	100%	137	29	125	94	3417m ² GFA Healthcare; 2346m ² GFA B1 Office; 228 dwellings; and, 1391m ² of A1-A5
PM		25	180	84	117	

3.3.32 Table 3.5 identifies that the permitted use would generate total 2-way vehicle movements between 116-143 and 166-205 for 70-100% occupancy respectively. As the PM peak is more critical and the tidal and distribution patterns are not identical it is considered that the some of the proposed uses could be occupied without any detrimental impact on the existing highway network. Based on the above comparison the proposed Residential, Retail and Healthcare uses would generate traffic conditions similar to the equivalent permitted use.



3.4 ACCESS

3.4.1 The site benefits from an access onto Mareham Lane around 150m south of the Grantham Road junction and the adjacent Aldi store.

3.4.2 The existing vehicular access does not form part of the ownership of Gladedale Special Projects, although a right of access exists over it. Vehicle access to the site will utilise the existing internal site road.

3.4.3 The LCC proposals incorporate a medium term vision with a new signalised junction at its intersection with Mareham Lane. The junction conforms with visibility splays identified in Manual for Streets, providing at least 2.4 X 43.0 metres (adjusted for bonnet length) left and right and thus will provide adequate access in the interim.

3.5 PARKING

3.5.1 The LCC Development Guide offers standards for minimum cycle and motorcycle parking for some land uses. One stand per 200m² is identified to support growth with this mode of travel. Based on the proposed office development this is likely to provide parking for around 1:10 staff. We have therefore assumed that a similar provision would be required for the Health Centre staff, requiring 41 spaces.

3.5.2 As the site is located close to the town centre, it is anticipated that many trips will be undertaken on foot thus cycle parking demand is expected to be lower than average. As 62% of the UK population owned a bicycle in 2005, taking account of the typical dwelling size and the potential for shared use of cycle parking, the development will accommodate 200 bicycles in a mix of covered secure spaces and external stands integrated into the streetscape.

3.5.3 The Development Guide suggests that motorcycle parking should be provided at one space per 20 car spaces. Given the proposed parking provision around 40 motorcycle parking spaces will be provided.

3.5.4 The site is located just outside the town centre area thus car parking provision could be provided below the maximum provision. The Lincolnshire County Council Development Guide 2005 states a “Maximum on average of 2 spaces for a dwelling with 3 or less bedrooms and 3 spaces for dwellings with 4 or more bedrooms”.

3.5.5 The Department for Communities and Local Government (DCLG) has published Residential Car Parking Research (March 2007) which considers the number of habitable rooms and car ownership level, to inform allocated and unallocated residential parking provision.

3.5.6 Based on the 4,737 dwellings within the three central wards in Sleaford the 2001 Census reveals the typical dwelling size has approximately 3.3 - 3.4 habitable rooms (excluding kitchens, bathrooms etc.). For the same area the average car ownership in Sleaford is 1.15 cars/dwelling.

3.5.7 English Partnerships (EP) has published “Car Parking What Works Where” relating to the same residential car parking research to determine overall provision. This publication reviews a number of case studies in a range of environments.


3.5.8 The Bass Maltings can be regarded as Urban where EP suggests a range of off-plot and on-street parking is advocated. Within the guidance a mix of parking provision is recommended to reduce the effect of external car parking on the setting of the listed buildings. Consequently around 350 spaces will be provided within Blocks 2 and 8.

3.5.9 As the proposed development will provide a range of dwellings with an average number of habitable rooms below three, taking the range of available guidance the provision of *allocated* parking provision around 1.37/dwelling would provide a modest reserve provision. The use of unallocated parking would however allow provision of around 1.1/dwelling offering an operational minimum. *Offering 1 space per dwelling for sale with the development will enable some allocation for residents who wish to acquire a space within the Maltings complex with adequate reserve being available in the decked car park area to the east.*

3.5.10 Examining private non-residential parking provision for the other land uses the LCC maximum parking provision is identified as:

- Non-food retail - 1:20m² GFA
- Office - 1:30m² GFA
- Hospitals (assumed to apply to Health Centres) – “to be assessed on individual merits”
- Restaurants/Cafes/Public Houses/Licensed Clubs – 1 space per 3m² public drinking area + 1 space per 5m² public dining area

3.5.11 Taking account of the range of uses and type of uses proposed WSP has determined that the likely maximum parking provision should be marginally over 1000 spaces, as identified in the Design and Access Statement.



3.5.12 Planning Policy Statement 6 retains a managed approach to car parking in and adjacent to town centres, advocating the shared use of spaces amongst land uses. Given the site's proximity to the town centre and the range of proposed land uses at the development an element of shared use would be reasonable and would limit demand for external or decked car parking provision.

3.5.13 As part of a review of parking needs in Sleaford possible improvements were considered by the Council. One such site is the Carre Arms Hotel adjacent the Mareham Lane/Gratham Road junction. This suggests that NKDC accepts the site lies adjacent to and is within reasonable walking distance of town centre.

3.5.14 For the development proposals, a maximum provision of around 1000 parking spaces could be permitted. Due to its good access to the town centre, public transport services and the mix of complimentary land uses, car parking will be reduced below the maximum standard. The provision is likely to include a mix of allocated and unallocated as set out below to contribute to demand management of car based travel.

- Building 2 – 90 residential spaces (1:1 for Buildings 2-4) and 69 spaces for the adjacent office (Building 1) staff
- Building 8 – 114 residential spaces (1:1 for Buildings 6-9) and 45 allocated for health centre staff
- External and adjacent areas - 147 visitor parking spaces
- Enabling Development - 51 spaces for residential development area and visitors
- Decked car park - 290 spaces for general and over-flow parking


3.5.15 Provision for apartments will be limited to one allocated space close to each dwelling. A similar approach would be adopted for the health centre and offices, providing limited spaces close by. Other staff and resident parking will be provided in the decked car park, to minimise the impact on the streetscape therefore providing the remainder for visitors. Due to this reduction in parking provision, and the proposed Health Centre use, 5% of spaces will or can be easily adapted for disabled parking.

3.6 DEVELOPMENT COMMITMENTS

3.6.1 Following the Planning and Compulsory Purchase Act 2004, the planning policy system has undergone a period of change. Local plans prepared by local council will be replaced by Local Development Framework (LDF) documents. However, given that North Kesteven's Local Plan (NKLP) was adopted in September 2007 and the Regional Spatial Strategy has not yet been adopted work has hardly begun on the North Kesteven LDF. On this basis, the policies within NKLP remain saved and the best indication of the council's aspiration for development in the Sleaford area.

3.6.2 Chapter 4 of the NKLP relates to housing. Policy H1 advocates that 8,000 dwellings should be developed in district between 2001 and 2021, with 1,700 of these dwellings in Sleaford.

3.6.3 Following the deletion of housing designations in policy SLE 10a and SLE11 from the draft deposit plan, no housing allocations are located close to the Bass Malting's site within the adopted NKLP. However, a number of windfall sites are understood to be applying for planning permission close to the site. These sites include the adjacent Albourne development site and the industrial site north of the railway.



3.6.4 The adjacent Albourne site can be regarded as a 'soft' development commitment as an application has been submitted. It is understood the proposed development consists of 100 residential units in place of the existing 5 buildings. Whilst a previous application has been refused the new application is understood to be largely similar, albeit the application includes additional information. In the absence of a consented scheme this is regarded as a 'soft' commitment.

3.6.5 It is understood that an application for the existing industrial/warehouse site north of the railway has been submitted by Tesco. The application for the site includes an A1 food superstore, a petrol filling station and associated parking. The remaining industrial land could be developed for a smaller use. Similar to the Albourne site, NKDC is expected to determine this application early in 2009; therefore it has been considered as a 'soft' commitment.

3.6.6 It is also understood that the Local Highway Authority (LCC) is about to submit proposals for a new road overbridge to replace the existing rail level crossing at South Gate. This has been supported with a study undertaken by JMP Consulting and Jacobs Consultancy which assesses various proposals for the re-development of the Sleaford Maltings and regeneration of the south eastern section of Sleaford. The analysis undertaken within the May 2005 report is summarised in LCC's June 2005 report. This application is understood to examine the development traffic identifying the proposed highway improvements as the principal mitigation measure.

3.6.7 Based on the SATURN model constructed for Sleaford the studies indicate that the "do nothing scenario" of no development and no road improvements would increase average journey times by around 69% and reduce average speeds by 40% by 2020.

3.6.8 Further modelling scenarios have been requested to assess the impact of a new link road (bridge) in 2020, these scenarios are:

- With and without a food retail store; and
- With and without the Bass Maltings

3.6.9 Further modelling undertaken by Jacobs UK Limited has assessed the impact of the bridge with both the retail and the Sleaford Maltings developments. As there have been extensive delays to the modelling each developer, including Tesco and Gladedale Special Projects, have chosen to submit applications based on information available. Gladedale accept however that further sensitivity tests associated with the SATURN model should be undertaken before the application is determined.

3.7 SUMMARY

3.7.1 The proposed development has been assessed based on an approximate land use mix including 220 apartments; 25 houses; 7,200sqm for B1 office use, 3,400sqm of health care floor space and around 930sqm of retail / restaurant floor space. Whilst this mix has subtly changed the resultant traffic generation differs by 1-2 vehicles during the peak hours.

3.7.2 The permitted use of the Bass Malting site is equivalent B2 industrial use it is anticipated that the greatest traffic flows would be generated by those arriving during the morning peak hour and those departing during the evening peak hour. Given that the permitted use could operate over a 24hour period with around a 12%- 13% HGV the overall impact could be significant.



3.7.3 As a result of the proposed redevelopment the number of local outbound trips routing north towards Sleaford Town Centre during the morning peak period may increase. However, this is balanced by greater numbers of inbound trips generated by the employment and health care floor space. Whilst it is acknowledged that there will inevitably be an increase in the volume of traffic generated by the proposed development, this increase is more likely to be between 07:00-19:00 and reduce the potential HGV generation from the site.



4 National and Local Planning Context

4.1 CONTEXT

4.1.1 All planning policies are material considerations in the determination of a planning application. Generally the hierarchy of weight applies to the most recent policy relative to the national, regional and local level policies.

4.1.2 This section summarises the relevant national, regional and local planning policies and demonstrates how the proposed development of Sleaford Maltings and where these would comply with, and contribute towards, these policy aspirations. All current transport policies at all scales place a very strong emphasis upon sustainable transport use such as walking, cycling and public transport.

4.2 NATIONAL POLICY

“THE FUTURE OF TRANSPORT: A NETWORK FOR 2030”

4.2.1 In July 2004, the Government set out its policy for the future of transport in the white paper ‘The Future of Transport: A Network for 2030’. The document sets the policy framework for the next 30 years and provides more information and better choices for local authorities, businesses and individuals.

4.2.2 The White Paper is built on three central themes:

- Sustained investment,
- Improvements in transport management,
- Planning ahead.

4.2.3 The underlying objective of the strategy is stated as:

“Balancing the need to travel with the need to improve quality of life. This means seeking solutions that meet long term economic, social and environmental goals”

4.2.4 The re-use of the existing buildings complies with the Governments target to see 60% of all developments on previously developed land. In collaboration with the Prince’s Trust, the proposals are brought forward with the aim to deliver a financially viable redevelopment of this Heritage property preserving these important industrial buildings. Given the central position The Sleaford Maltings are ideally placed to benefit from a proximity to an array of critical land uses and a choice of transport modes all contributing to quality of life. Against these over-arching aims it appears that the proposed Sleaford Maltings development complies with the above objective.

4.3 PPG 13 TRANSPORT

4.3.1 Planning Policy Guidance Note 13 (PPG 13), published in March 2001, outlines central government’s key objectives for transport. PPG13 advocates that local authorities should promote land use policies and transport programmes which promote accessibility by more sustainable modes of travel including public transport, walking and cycling.

4.3.2 Key policies within PPG13 that are relevant to the redevelopment of the Sleaford Maltings site include the following:

- Encourage a mix of land uses, including housing, in town, suburban and local centres.



4.3.3 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 those under two kilometres. In order to give greater priority to walking, the guidance advises local authorities to promote measures such as (inter alia):

- Provision of wider pavements, including the reallocation of road space for pedestrians;
- Introduction of pedestrian friendly road crossings;
- Identification of key links where pedestrians will be given priority;
- Creation of more direct, safe and secure walking routes to reduce the actual walking distances between land uses, and to public transport;
- Implementation of traffic calming to reduce speeds;
- Encouragement of more use of public rights of way, including the promotion of missing links in rights of way networks;


4.3.4 A Public Right of Way (PROW) route is available to the east of the Bass Maltings. As the proposed buildings will be accessible to the general public there may be some potential to increase access, through permitted rights.

4.3.5 PPG 13 also acknowledges that cycling has the potential to substitute for short car trips, particularly those under five kilometres, and to form part of a longer journey by public transport. The guidance advises local authorities to promote cycling through measures such as (inter alia):

- Influencing the design of development to promote cycling;
- Provision of good cycle facilities in new developments;
- Introduction of traffic calming measures to reduce speeds;
- Reallocation of carriageways to provide more space for cyclists; and
- Encouragement of more use of rights of way, including the promotion of missing links in rights of way networks.
- Promoting more sustainable transport choices;
- Reducing the need to travel, especially by car.

4.3.6 PPG13 states that the likely availability and use of public transport is a very important ingredient in determining local policies designed to reduce the need to travel by car. Therefore, in order to establish a high quality, safe and secure public transport network which maximises the potential usage of public transport, local authorities are encouraged to (inter alia):

- identify key routes for bus improvements and priority;
- ensure, so far as is practicable, that traffic management measures do not impede the effectiveness of public transport services; and
- highlight the potential for improved interchange between different transport services and between public transport, walking and cycling.



4.3.7 In essence, the PPG 13 sets out guidelines to encourage the use of sustainable transport choices for everyone.

4.3.8 Furthermore, where developments are significant in scale, PPG13 recommends that a Transport Assessment is undertaken to assess the level of accessibility to local facilities. Therefore, this Transport Assessment is in line with the parameters set out in PPG13.

4.4 REGIONAL SPATIAL STRATEGY FOR THE EAST MIDLANDS (RSS8) (MARCH 2005)

4.4.1 Following the Planning and Compulsory Act 2004 the Regional Planning Guidance (RPG) became part of the statutory development plan and was renamed as The Regional Spatial Strategy for the East Midlands (RSS8). RSS8, published by the Government Office for the East Midlands, provides the framework for the development of the East Midlands Region up until 2021.

4.4.2 The Secretary of State published proposed modifications to Draft East Midlands Regional Plan (DEM RP), RSS8, for consultation in July 2008. Following consultation, which closed in October, RSS8 is expected to be adopted shortly. Relevant policies taken from the proposed modifications relevant to the proposals are considered below.

4.4.3 For RSS8 the Regional Transport Strategy is based on the following key objectives:

- *“reducing the need to travel, especially by car, and managing traffic growth and congestion;*
- *Significantly improving opportunities for walking and cycling;*
- *Improving the reliability, capacity, quality accessibility and coverage of the public transport network;*
- *Making better use of existing transport networks through better management; and*
- *Only developing additional highway capacity when all other measures have been considered.*

4.4.4 RSS8 promotes a sustainable pattern of development and movement recommending that development should focus on urban developments within existing and sustainable extensions surrounding settlements. It is considered that the proposed development at the Bass Maltings promotes sustainable movement through reducing the need to travel, reducing trip length and through the promotion of a modal shift away from single occupancy vehicle trips.

4.4.5 Those policies with a particular focus on transport are contained in the Regional Transport Strategy (RTS), documented in Section 3 of RSS8. Policies contained within the RTS emphasises the objectives of national policy in the promotion of sustainable transport and encouraging a mode shift away from the private car.

4.4.6 Section 3 illustrated that the proposed development of the Bass Maltings is considered to be in accordance with the policy objectives of Policy 44 “Regional Traffic Growth Reduction” are set out overleaf:



- “encourage behavioural change, as set out in Policy 45 and 46;
- reduce the need to travel;
- restrict unnecessary car usage;
- manage the demand for travel;
- significantly improve the quality and quantity of public transport; and
- encourage cycling and walking for short journeys.”

4.4.7 In conjunction with a Travel Plan the development offers a mix of land uses that provide enhanced accessibility for pedestrian, cycle and public transport accessibility. The proposed health centre, offices and care/restaurant uses have all been identified to reduce the number and length of trips beyond the settlement boundary and thereby reduce private motorised travel.

4.4.8 Policy 50 highlights the national target “to increase the level of bus and light rail patronage at the regional level towards the national target of 12% by 2010” through a range of measures. Taking account of current levels, the proximity to the adjacent transport interchange is likely to compliment this objective.

4.4.9 Policy 53 identifies that Local Transport Authorities are to identify “highway investment priorities subject to full and detailed appraisal”. LCC has identified potential highway improvements which are examined below.

4.5 LINCOLNSHIRE STRUCTURE PLAN (SEPTEMBER 2006)

4.5.1 The Lincolnshire Structure Plan (LSP) was adopted September 2006 and provides the framework for development in Lincolnshire up until 2021.

4.5.2 The LSP highlights a need for:

“strategic opportunities for new development or redevelopment of brownfield sites within the urban areas and are being stifled by lack of appropriate transport infrastructure.”

and:

“a disposition of land uses which will facilitate accessibility and inclusion but also to minimise environmental and economic cost”

4.5.3 It is considered that the proposed development contributes to the above objectives of the LSP through the geographical location of the site. The town centre and train station juxtapose the Maltings, therefore providing access to a range of complimentary land uses which can be accessed on foot bike or train.

4.5.4 Furthermore, The Sleaford Maltings site is a key listed brownfield site in a sustainable location. The redevelopment of the existing brownfield site is considered to enhance the traditional character; vitality and viability of the local area through the redevelopment of the list building and by partially bring it into public use.

4.5.5 Based on the re-use of the listed building it is considered that the proposed development responds to the Policy test well, given that the re-use of the listed Sleaford Maltings complex will minimise environmental impacts on the built and natural environment.



4.5.6 Similarly the financial viability of the development is an important consideration, given the complex heritage issues. The economic costs of preserving and enhancing the Sleaford Maltings complex is considered to contribute to the longer term economic performance of Sleaford as a whole, which is supported in the Lincolnshire Structure Plan.

4.5.7 With regards to transport the LSP also highlights the need for:

“an integrated approach to movement at district and local level largely based on major settlements and an increase in movement by cycle and on foot”

4.5.8 In support of this approach NKDC has produced a Supplementary Planning Document (SPD) for The Sleaford Maltings development which, amongst other things, supports a mix of land uses close to the town centre. The proposed development mix is intended to support travel by cycle and on foot, supplemented by a package of infrastructure and streetscape measures within the development site.

4.5.9 Other transport policies considered to be of relevance to the proposed development of the Sleaford Maltings site from the transport perspective are:

POLICY M1 - THE STRATEGIC ROAD NETWORK;

4.5.10 Under the Traffic Management Act 2004, the Secretary of State (SoS) has powers to designate roads as strategic. The definition of a strategic road can be defined as either a motorway or trunk road.

4.5.11 Currently, the Strategic Road Network (SRN) includes 103 routes which include “most motorway and all other trunk roads”. The Secretary of State has delegated powers to the Mayor of London for SRN within the capital but the vast majority of SRN routes are managed by the Highways Agency and Transport for London. The SRN is intended to serve the majority of medium to long distance traffic and heavy goods traffic. Beyond the national SRN, local Highway Authorities attempt to define routes which they consider as strategic to the County detailed in Appendix A of the Structure Plan. These are normally defined as the Primary Route Network (PRN). Within Lincolnshire, these routes are all A roads, including the A15 which runs from north to south and Sleaford lies to the east, these are referred to in Figure 2.

4.5.12 LCC has listed all the roads it believes are requiring improvement but none of these are in or near Sleaford.

4.5.13 The existing site access road, Mareham Lane, would serve either the re-use or development of The Maltings. As existing traffic flows are typically light adequate access to the site for the mixed use development would not be detrimental to the environment. The use of only a single access road with capability for adequate pedestrian and cycle facilities should encourage users to consider sustainable modes of transport.

POLICY M2 – ROADS NOT ON THE STRATEGIC ROAD NETWORK;

4.5.14 The Highways Authority highlights that other roads serve a strategic function in Lincolnshire, potentially recognising that some existing SRN routes are to be de-trunked. Notwithstanding this Policy 37 highlights only one road improvement scheme in the whole county, the A158/C541 Gunby to Ingoldmells.



4.5.15 Furthermore, the Structure Plan sets out criteria for the improvement of roads which are not on the Strategic Road Network:

- Improve road safety
- Bring significant, local environmental, economic and social benefits
- Assist in the operation of public transport
- Improve conditions for cyclists, pedestrians and other vulnerable road users.

4.5.16 It is assumed that the LCC proposals for the road improvements will be supported with further information to demonstrate improvements in accordance with Policy M2. The road improvement proposals for a rail over-bridge with supported junction improvements are supported in principle and not prejudiced by the development proposals.

POLICY M5 - MOVEMENT IN, TO AND FROM THE DEFINED MAJOR SETTLEMENTS;

4.5.17 The need to encourage a wider choice of transport modes is highlighted within Appendix A of LSP. Policy M5 states that provisions will be made to encourage the use of wider choice of transport mode within, to and from the defined towns through an integrated approach that will seek:


- *“Improvements to and better use of existing transport infrastructure;*
- *A locally appropriate balance of long stay/short stay parking provision;*
- *Traffic management and calming particularly in Residential and shopping areas;*
- *Improved conditions for pedestrians, cyclists and other vulnerable road users.*
- *Environmental improvement linked, where appropriate, to wider regeneration initiatives;*
- *Proposals should be appropriate to the size and function of the respective major settlements; and*
- *Supporting the delivery of sustainable communities”.*

4.5.18 A package of measures are considered in Section 5.80 that the proposed development will contribute to the objectives of policy M5 through the upgrading of the access road for pedestrians and cyclist.

POLICY M7 – PARKING;

4.5.19 Policy M7 advocates that parking provision for new developments should be kept within the maximum standards, as set out in Appendix 3 of the LSP. In addition, Policy M7 advises minimum standards for cycles, motorcycles and disabled people should apply.

4.5.20 Appendix 3 advises that a maximum of 2 spaces per dwelling could be provided for dwellings with 3 or less bedrooms and a maximum of 3 spaces per dwelling for dwellings with 4 or more bedrooms could be provided. In line with PPG13 non-food retail a maximum of 1 space per 20sqm Gross Floor Area (GFA) and 1 space per 30sqm GFA is identified for offices.



4.5.21 As discussed in Section 3.5, ranges of parking policies and standards have been considered from best practice, surrounding developments and appropriate policy documents. It is considered that the most appropriate level of parking for the site is 1.37 allocated parking spaces per dwelling, or 1.1 space/dwelling if unallocated. Overall a parking provision marginally over 1,000 spaces could be provided but could reasonably be reduced.

4.6 LINCOLNSHIRE LOCAL TRANSPORT PLAN

4.6.1 The Local Transport Plan 2006-2011 (LTP2) examines in greater detail local travel patterns and prioritised a range of measures to tackle travel demands across the County. The LTP2 highlights that the population of Lincolnshire has grown faster than any other County and has thus attracted greater challenges, not least due to its proximity to three Government Office boundaries.

4.6.2 Whilst the LTP2 focuses on urban areas such as Lincoln and other towns and villages, Sleaford attracts modest attention. The emphasis on maintaining accessibility to key services for rural areas is tackled with a range of demand responsive bus services. In many cases these connect to Sleaford's transport interchange on Station Road near the site.

4.6.3 The LTP2 recognises that the low density area contributes to increased numbers of private vehicle trips associated with schools. In Sleaford this is a critical issue given the competing challenges of schools close to the town centre and train station, with many parents/guardians dropping children off during peak periods for commuters in the morning and shoppers in the afternoon.

4.6.4 LCC has identified a number of possible solutions to tackling these problems by supporting:

- Cycle infrastructure – through the provision of cycle parking and cycle routes;
- Park and Stride sites – by encouraging walking for part of the school journey;
- Travel Plans – to encourage a mode shift to walking, cycling and public transport; and
- Parking Management – by reviewing parking controls and charges

4.7 NORTH KESTEVEN LOCAL PLAN

4.7.1 The North Kesteven Local Plan (NKLP) was adopted by the Council in September 2007. Responding to objections NKDC withdrew specific policies proposed modifications, against which an Inspector recommended published revisions in January 2007. Whilst the NKLP is subject to a legal challenge taken together the two documents represent a reasonable basis for the adopted document.

4.7.2 The NKLP forms the basis for decisions on land use planning affecting the area. It sets out the Council's policies for the development and use of land and includes the key considerations for determining planning applications within the Authority.

4.7.3 The policies set out in the NKLP aim to ensure that:

- The necessary transport infrastructure is provided;
- New development does not unnecessarily increase car use; and



- Opportunities for journeys to be made by public transport bicycle and on foot are maximised.

4.7.4 These policies aid in meeting the plans objectives which are;

- To reduce people's need to travel, by ensuring that homes, jobs, and services are close to one another
- To facilitate walking, cycling and public transport use
- To make the best use of capacity in infrastructure

4.7.5 Policies considered to be of particular relevance to the proposed development of the Sleaford Maltings site are:

POLICY T1 - ACCESSIBILITY TO DEVELOPMENTS,

4.7.6 Within the Local Plan Policy T1 states; planning permission will be granted for developments that will generate or attract significant numbers of journeys, only if:

- Adequate and effective measures are taken to facilitate access by all modes of transport, with particular emphasis on enabling and promoting safe and convenient access by public transport, walking and cycling; or
- The site's location and the infrastructure serving it are satisfactory, or can be made satisfactory, as part of the overall development.

4.7.7 As identified in Section 2, the site is located within 500m or 6 minutes walk of Sleaford Town Centre. Access to Sleaford town centre on foot or cycle can be achieved via the highway or PROW network. Specifically the existing cycle routes which include Mareham Lane as a quiet route and Boston Road promotes safe and convenient access from the residential areas south of South Gate.

4.7.8 It is acknowledged that congestion occurs at the South Gate / Boston Road priority junction with the potential for traffic to block back through the signalised crossings. It is considered that a change of priority at the South Gate / Boston Road could reduce queuing along South Gate to reduce the risk of blocking back as a result of development traffic, examined further in Section 5.

4.7.9 In addition to a change of priority at the South Gate / Boston Road junction the provision of pedestrian / cycle refuse islands could increase the number of cycle to work or school to reduce the pressure on existing congestion levels. These would also enhance access to public transport, particularly buses.

4.7.10 The proposed infrastructure measures have been designed to facilitate access by all modes to Sleaford town centre in order to mitigate the impact of the proposed development. However, should LCC wish to complement the above measures options for signalising the zebra crossing and linking the phasing to the signalised crossing or providing signal junctions to the south of the railway may also exist.

4.7.11 Based on a package of possible planning obligations the proposed development at Sleaford Maltings is considered to be in accordance with Policy T1 of the NKLP.



POLICY T2 - PUBLIC TRANSPORT FACILITIES;

4.7.12 We have stated above the site location is within 500m or 6 minutes walk of Sleaford Centre and the rail station which connects with local bus routes in and out of Sleaford Centre. Policy T2 encourages developments that support the provision of public transport services.

4.7.13 Whilst it is acknowledged that the proposed development will not provide additional public transport infrastructure in itself, the additional demand for public transport which is likely to be generated from the proposed development is likely to enhance the viability of public transport in the surrounding area.

POLICY T3 - MAXIMISING TRAVEL CHOICE;

4.7.14 Policy T3 advocates that planning permission will be granted for developments consisting of groups, complexes or estates of buildings sharing common access roads or drives, only if the layout and design of the development incorporates:


- Safe and convenient links with the surroundings for pedestrians, cyclists and vehicles; and
- Safe and convenient provision within the site for walking and cycling (and for encouraging walking and cycling) and, access by public transport, as well as travelling by car.

4.7.15 The development will include a streetscape which contributes to the heritage value of the site. The Sleaford Maltings complex provides an established built form which will contribute to a pattern of mews and residential streets. Within the current fire damaged area a formal square will be terraced to replicate the pattern of active streets and vertical references which punctuate the townscape. Complimented with a boulevard which links legible pedestrian dominated spaces with mixed priority routes the site will provide a positive blend of travel modes whilst preserving a safe attractive environment.

4.7.16 At the site entrance a gateway will be introduced to provide a legible change in the street priority, in advance of the proposed bridge junction. The use of complimentary hard and soft landscaping within the site will thereafter convey the importance of sustainable travel modes and deliver a safe convenient environment to inform occupiers and visitors of the value of walking and cycling.

4.7.17 Beyond the immediate site entrance the existing access road forms part of the current Albourne site redevelopment. It is understood that this street will be enhanced through the redevelopment of this adjacent site to enhance pedestrian and cycle routes linking the site with Mareham Lane.

4.7.18 In the near future the existing access road is to be adopted as public highway and will provide a common access road to a mixed development. The mixed development will consist of Residential, B1 office, Health Centre, Retail / Restaurant and Community & Leisure as identified in section 3.2.4 of this report, maintaining an active streetscape throughout the day. In combination with the residential occupation of The Steeps within the site natural surveillance will deliver high levels of perceived personal safety in-turn promoting walking, cycling and public transport.



4.7.19 Parking provision will be offered below the maximum standard in a mix of on-street, allocated multi-storey and communal decked car parking. Provision is refined to contribute to demand management of car based travel but located as far as practicable to foster sustainable travel without detracting from the streetscape.

POLICY T4 – SAFETY;

4.7.20 Policy T4 seeks developments that will not adversely affect the safety of people using roads, cycleways, footpaths, bridleways or railways. The proposed use on the site will replace the permitted use which would attract appreciable HGV traffic in the locale. It is envisaged that the proposed use would reduce the number of HGVs by 145 per day which should offer some improvement for non-motorised users (NMU) of the site and the local highway network.

4.7.21 Discussions with Railtrack indicate that the current operation /signalisation of the South Gate / Grantham Road / Mareham Lane crossing is one of the safest options available. On this basis, measures to improve safety focus on the provision of pedestrian and cyclist measures north and south of the railway.

4.7.22 The combination of on-site improvements and enhancement of the access road by the adjacent Albourne redevelopment will enhance the pedestrian and cycle infrastructure, offering safe links from the site, leading onto Mareham Lane. This will provide access to Sleaford Centre and public transport services as identified in Section 2.5.

4.7.23 The development proposals will significantly reduce the number of HGV traffic movements into and out-of the site access as well as the adjacent road network. The removal of slow turning movements will provide a net safety improvement which would compliment the expected increase in pedestrian movements.


4.7.24 The site access with Mareham Lane is identified for improvement associated with the LCC proposals which are anticipated to come forward before 2025.

POLICY T5 - PARKING PROVISION,

4.7.25 The local authority, through policy T5, seeks developments that include provision for the off-street parking of cars, bicycles and motorbikes and look more favourably towards developments that do not exceed the maximum standard. Provisions which exceed the maximum standards will be permitted only in cases where retail and leisure developments within or on the edge of a town centre will provide parking facilities that will serve the town centre.

4.7.26 Parking provision below the maximum is identified in Section 2.5 and 3.5. This parking level is within the maximum parking standards (identified in 4.7 below) and takes into consideration both the likely demand from the site and the need to encourage non car travel as is consistent with both local and national policy.

POLICY T7 - SAFEGUARDING LAND FOR TRANSPORT INFRASTRUCTURE



4.7.27 The local authority states that planning permission will be granted for developments that would not prevent or hinder the planned provision or improvement of desirable transport infrastructure. In particular, land required in connection with the construction and operation of the proposed Lincoln Eastern By-pass Phase 1 will be safeguarded from any development that would prejudice the provision of that road.

4.7.28 The Sleaford Maltings site is a Grade II listed complex, located to the south east of Sleaford town centre. Taking the Grade II listing into consideration and the location of the site, it is safe to assume that the proposed development will have no impact upon future transport infrastructure based on proposals within adopted planning policy.

4.8 NORTH KESTEVEN LOCAL DEVELOPMENT FRAMEWORK

4.8.1 The Local Development Framework (LDF) is a strategic document setting out the vision and spatial strategy for meeting known and anticipated development requirements to 2021. The LDF comprises several planning documents and its core strategy is expected to be adopted in July 2010. The LDF will eventually replace the Local Plan, with several policies being 'saved' during the transition years.

4.8.2 As part of the LDF a Supplementary Planning Document (SPD) was adopted in August 2006 regarding future development of the Sleaford Maltings site. The SPD aims to;


- Preserve the site, prevent inappropriate alterations and prevent demolition of any significant part of the complex unless it has been fully justified;
- Promote a comprehensive mixed use development of the whole site which makes the most of the existing features and protects against any ad hoc proposals that may prejudice this aim;
- Set out the physical and policy parameters that would influence the development; and ensure that the new development integrates the site with Sleaford town, with appropriate access.

4.8.3 The SPD interprets, and conforms to, National and Regional planning policies as well as those set out in North Kesteven Local Plan. These are highlighted further in section 4.7.

4.9 DEVELOPMENT GUIDE ON TRANSPORT AND NEW DEVELOPMENT ISSUES IN LINCOLNSHIRE

4.9.1 The LCC Development Guide outlines the Council's approach to transport issues associated with planning applications. It reviews the policy implications and explains the approach that should be taken and how a range of planning obligations will be requested to overcome:

- A physical detriment to highway safety
- Over intensification of a highway/or junction, thereby becoming a threat to highway safety
- Damage to the public highway that will pose a threat to highway safety



4.9.2 The Guide explores the scope of Transport Assessments suggesting, amongst other things, the justification for trip generation values. Traffic generation data for the proposed development was provided to LCC in September 2007 and has been adopted with the forecast SATURN model by Jacobs. It is therefore assumed these have been agreed.

4.9.3 The Guide suggests the assessment of development impacts should be undertaken for the Base Year (first year of full occupation) and a design year ten years after a planning application is registered. Despite delays in the submission of this application the design year of 2020 has been retained.

4.9.4 To assess the traffic impact the Guide suggests that key links and junctions within the affected area should be examined using “industry software”. The study area was defined in advance of the GTA publication. The scope of this assessment has however been refined to reflect the town centre area and the roads between the site access and Grantham Road/London Road junction.

4.9.5 The Guide states that “for a commercial, educational or health establishment (i.e. non-housing) a **Travel Plan** may be required”, within the discussed scope LCC has not requested a Travel Plan. Notwithstanding this position, and in recognition of the largely speculative nature of the development, a Framework Travel Plan is provided in Section 5.10.

4.9.6 The Guide outlines Lincolnshire’s view of parking provision in the County adopting the demand restraint approach advocated at National level, stating “Parking provision at new development will be kept within maximum standards adopted by the County Council.” The standards for the proposed development uses are set out in Table 1, (page 13) of the guide. Details of these standards are provided in Section 3.5.

4.9.7 Design standards are explored within the Guide although these have been superseded by Manual for Streets which provide National guidance.


4.10 SLEAFORD MALTINGS SUPPLEMENTARY PLANNING DOCUMENT (AUGUST 2006)

4.10.1 SPD forms part of the North Kesteven District Council LDF and adopted in August 2006. In this document, the transport requirements for the development of Sleaford Maltings are detailed below:

- A signal controlled junction onto Mareham Lane;
- A bridge over the railway line providing a link to Boston Road; and
- The upgrade of the access road from Mareham Lane to the Maltings to an adoptable standard capable of acting as a primary access road.

4.10.2 Network Rail has indicated that a pre-requisite of the construction of a new road bridge over the railway would be the closure of the existing level crossing.

4.10.3 The SPD suggests that a signal controlled junction is needed for site access to Mareham Lane to allow construction traffic and then later site users to access and egress the Maltings development.



4.10.4 The SPD reports a road from Mareham Lane to the Maltings is needed to allow adequate access to the site for both vehicles and other transport users. The Authorities have not provided evidence to support these needs although all parties accept that some junction improvement may be necessary to accommodate modern traffic demands.

4.10.5 A bridge over the railway network is proposed to remove vehicles away from the already congested level crossing which it states is currently the only method of crossing the railway line that bisects Sleaford from east to west. In fact Castle Causeway offers an alternative local route north / south east of the level crossing over the railway.

4.10.6 SPD is the only document which states the need for a bridge. The other planning directives at national and regional level do not mention any need for a new railway bridge or link between Mareham Lane and Boston Road. Consequently the SPD has not been tested throughout Strategic Environmental Assessment (SEA) therefore this Transport Assessment and Environmental Statement will consider the development impact without a bridge on the basis the LCC application will consider the wider transport impacts with the proposed bridge.

4.11 SLEAFORD MALTINGS REDEVELOPMENT STUDY REPORT (JUNE 2005)

4.11.1 A study commissioned by JMP Consulting to investigate the option of a proposed link road showed that the link road would remove 100 westbound and 115 eastbound vehicles from the congested level crossing with the introduction of the two way link road.

4.11.2 However, the introduction of the link road encouraged the development of vehicular traffic rather than encouraging users of sustainable transport which is against current national and local policy. Whilst WSP and Gladedale support the principal of the proposed bridge it is felt that further justification for major transport infrastructure is required and is assumed to be incorporated in any application.

4.11.3 Building the new link road would encourage continued use of the motor car when national and regional structure plan policy place most important emphasis on encouraging use of sustainable transport. The balancing test to support the bridge will be on a detailed comparison of the wider Environmental Impacts.

4.12 SUMMARY

4.12.1 Taken together, the above policy documents provide a broad range of objectives for new developments.

4.12.2 The proposed uses are in accordance with all constraints and policy objectives.

4.12.3 The Bass Malting site is well located to meet these objectives. The site is within walking and cycling distance of Sleaford Town Centre. The rail station is located within the Sleaford Centre with a range of bus routes going via the station. The development of the site provides the opportunity to encourage alternative modes of transport and improve facilities for pedestrians and cyclist. These aspects are described more fully in the remaining Chapters of the TA.



5 Predicted Environment

5.1 INTRODUCTION

5.1.1 This section of the Transport Assessment looks at the transport environment should the development gain consent and therefore be complete and occupied. It will also examine the impacts that may be associated with the development, mitigation measures that may be required and a construction management plan are also set out.

5.1.2 As identified in Chapter 4 the proposed development is in accordance with regional, county and district planning policy objectives. The overarching objective is to promote more sustainable travel, by reducing trip lengths and promoting a mode share to walking, cycling and public transport.

5.1.3 The Bass Maltings site is in close proximity to Sleaford town centre and good rail links mean that the development of the site will minimise the environmental and economic costs normally associated with increased travel by private vehicle. Given the location of the site, users of the Bass Maltings would be able to utilise the existing Sleaford transport infrastructure, in order to access the site

5.1.4 The surrounding area is subject to modest levels of congestion which is related to the pedestrian crossings, on-street parking around the town centre and existing level crossing. The level crossing currently provides the primary vehicle access to land north of the railway.

5.2 PEDESTRIAN NETWORK

5.2.1 Based on local travel trends the development is likely to attract considerable pedestrian movements. The development will have no adverse impact upon the existing pedestrian network indeed the increase in pedestrian movements will enhance personal security by increasing pedestrian activity and natural surveillance within the town.

5.2.2 Planned improvements along the access road will enhance pedestrian and cycle routes supported by enhanced infrastructure on site. The enhanced public access to the Bass Maltings could open enhanced access (permitted right of way) to the existing public right of way (PROW) which routes north to Boston Road. This route should increase the connectivity and permeability of the Sleaford area linking the employment area to the north of Sleaford and thereby reducing the distance travelled on foot.

5.3 CYCLE NETWORK

5.3.1 The development will accommodate around 200 cycle parking spaces in a range of secure internal and external parking areas along with associated facilities (such as showers) that will contribute towards a modest increase in cycle traffic using the local cycle and highway networks.

5.4 PUBLIC TRANSPORT

BUS SERVICES & INFRASTRUCTURE

5.4.1 Based on Census data the mode share of bus travel within the wards of Sleaford is 3.1%. It is anticipated that the proposed development will contribute to bus travel in the local area, particularly for links to the north and nearby settlements.

5.4.2 Whilst no direct infrastructure measures are proposed in order to encourage travel by bus, the increased demand for travel by bus is likely to increase the economic viability of local bus services.



RAIL SERVICES & INFRASTRUCTURE

5.4.3 Similar to bus travel, existing rail travel within the Sleaford wards is around 1%, however it is anticipated that the proposed development will contribute to increased travel by rail, given the location of the site and ease of access to places such as Nottingham where strict parking controls promote non-car travel.

5.4.4 With increased travel by rail it is likely that the proposed development will contribute to the viability and vitality of rail travel from Sleaford station. In order to encourage use of local rail services foot and cycle routes between the site and the rail station will be improved, namely the access road to the Sleaford Maltings site.

5.5 PREDICTED TRAFFIC FLOWS

5.5.1 As mentioned previously, manual classified counts were undertaken by an independent consultant in December 2007. For areas north of the railway traffic flows were obtained Lincolnshire County Council and factored by local growth rates and furnished to reflect current flows. The results of these surveys are summarised on Figures 6 and 7 and attached in Appendix C.

5.5.2 The development traffic impact has been assessed during the estimated opening year. Further sensitivity tests will be produced using the SATURN model as directed by LCC once such information is available.

5.5.3 An opening year has been assumed based on the earliest available occupation (2012) without the bridge works being complete. This assumption has been undertaken to ensure that any delays encountered in delivering the bridge and associate highway improvements can be accommodated.

5.5.4 Sensitivity assessments of the design year 2020 will be taken from the SATURN model. It is understood that the model includes all anticipated committed developments, including the Tesco development, and the likely highway improvements, such as the bridge.

5.5.5 The distribution and assignment of traffic has been identified from earlier versions of the SATURN model. The arrival and departure distributions for the morning peak hour are illustrated on Figures 8 and 9, whilst the arrival and departure distributions for the evening peak hours are illustrated on Figures 10 and 11.

5.5.6 In order to distribute and assign both the permitted development flows and the proposed development flows, the distributions from the SATURN model have been considered. Adopting the same approach the resulting distribution and assignment of permitted development traffic is illustrated on Figures 12-16 for the morning and evening peak hours.

2012 OPENING YEAR

5.5.7 In order to forecast baseline traffic flows to the earliest year of occupation 2012, growth factors have been derived from a combination of national growth factors from the National Road Traffic Forecast (NRTF) and local growth factors for Lincolnshire/Sleaford, from within TEMPRO. Table 5.1 sets out the resulting growth factors for the morning and evening peak hours reflecting circa 9% growth in five years. Given current economic conditions and network constraints this may reflect conditions beyond 2012 and will be used to represent the opening year.

Table 5.1 – Growth Factors

	AM Peak	PM Peak
2007-2012	1.092	1.094

Source: NRTF / Temprow

5.5.8 Based on data supplied by LCC these growth rates typically exceed those roads within the study area. However the growth factors in Table 5.1 are applied to the 2007 baseline traffic flows illustrated on Figures 6 and 7, the resulting 2012 Forecast Base Flows for the morning and evening peak hours are provided on Figures 16 and 17 without the Bass Maltings.

5.5.9 Given that the Bass Maltings could generate traffic associated with a B2 use, the Permitted traffic flows set out in Table 3.1 have been added to Forecast Base flows. The resulting “With Permitted Traffic Flows” are illustrated on Figures 18 and 19 for the morning and evening peak hours.

5.5.10 For the purpose of identifying “With Development” traffic flows, the development flows have been added to the forecast base traffic flows. The 2012 resulting “With Development” flows are shown on Figures 20 and 21 for the morning and evening peak hours.

2020 DESIGN YEAR

5.5.11 The SATURN model will be used to assess highway network conditions in 2020 with all developments and LCC’s desired highway improvements in place.

5.6 TRAFFIC IMPACT

5.6.1 This section assesses the potential traffic impact of the mixed use development compared to the potential extant use of the Sleaford Maltings works.

5.6.2 The access road onto Mareham Lane has been assessed using the priority junction assessment programme PICADY, whilst the signalised crossing between Grantham Road / Mareham Road and South Gate has been assessed within LINSIG version 2.

5.6.3 The operation of the site access / Mareham Lane priority junction has been undertaken for the “With Permitted” and “With Development” scenarios. The results of these assessments are summarised in Tables 5.3 and 5.4. The full PICADY outputs are attached in Appendix D.

Table 5.3 –2012 Site Access / Mareham Lane Priority Junction - With Permitted Development

Arm	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	RFC	Max Queue	RFC	Max Queue
Site Access to Mareham Lane (north)	0.048	1	0.280	1
Site Access to Mareham Lane (south)	0.013	1	0.061	1
Mareham Lane (south) to Site Access	0.054	1	0.009	1

Source: PICADY



5.6.4 With the permitted use of the site, the site access / Mareham Lane priority junction would operate with a maximum ratio of flow to capacity (RFC) of 0.280 in the evening peak hour and a maximum queue of one vehicle at each arm of the junction.

Table 5.4 –2012 Site Access / Mareham Lane Priority Junction - With Proposed Development

Arm	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	RFC	Max Queue	RFC	Max Queue
Site Access to Mareham Lane (north)	0.234	1	0.394	1
Site Access to Mareham Lane (south)	0.038	1	0.092	1
Mareham Lane (south) to Site Access	0.104	1	0.032	1

Source: PICADY

5.6.5 From Table 5.4 it can be seen that with the proposed development the operation of the existing priority junction would continue to operate within capacity with no increase in queue length on any arm compared to the permitted use of the site. During both the morning and evening peak period increases in RFC are small, such increases are unlikely to have a material effect on the operation of the priority junction.

5.6.6 The signal modelling programme LINSIG has been used to assess the signalised crossing of Mareham Lane / Grantham Road / South Gate. The modelling of the junction follows the approach used by Jacobs in the SATURN model based on five cycles, one of which includes the level crossing closed for 90 seconds. Parameters within the LINSIG modelling are based on detailed signal controller data acquired from LCC.

5.6.7 Tables 5.5 and 5.6 summarise the average modelled results for the 2012 “With Permitted” and 2012 “With Development” scenarios. The full LINSIG outputs are attached in Appendix D.



Table 5.5 – LINSIG Result – 2012 With Permitted

Arm	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	% Sat	Average Delay	Mean Max Q	% Sat	Average Delay	Mean Max Q
Mareham Lane Right	48.4	58	8	64.5	76	8
Mareham Lane Ahead	11.1	20	3	20.6	25	4
South Gate Left	38.1	55	7	43.5	50	10
South Gate Right	52.4	58	12	66.2	61	19
Grantham Road Ahead	29.1	36	3	36.6	38	5
Grantham Road Left	16.3	23	6	24.3	21	10
PRC	71.7			35.9		
Cycle Time	450			450		

Source: LINSIG Report

5.6.8 With permitted development flows the average operation of the junction is shown to operate within capacity with average delays of around 1 minute on Mareham Lane and South Gate. With average delays of around 1 minute queues of up to 12 PCUs are likely to occur on South Gate in the morning peak hour.

5.6.9 In the evening peak hour the average delay on South Gate Road is shown to exceed 1 minute with queues extended to 19 PCUs or 109 metres with permitted development traffic.



Table 5.6 – LINSIG Result – 2012 With Development

Arm	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	% Sat	Average Delay	Mean Max Q	% Sat	Average Delay	Mean Max Q
Mareham Lane Right	56.7	59	11	68.2	79	9
Mareham Lane Ahead	12.9	18	3	21.5	23	5
South Gate Left	59.0	72	9	57.3	59	12
South Gate Right	63.2	73	12	73.5	70	20
Grantham Road Ahead	34.6	35	4	39.8	37	5
Grantham Road Left	16.9	24	6	24.7	21	10
PRC	42.5			22.5		
Cycle Time	450			450		

Source: LINSIG Report

5.6.10 From Table 5.6 it can be seen that the average delay at the crossing in the morning peak hour increases by up to 15 seconds on South Gate whilst the queue remains at 12 PCUs. In the evening peak hour the average delay is shown to increase by 9 seconds on South Gate with the queue increasing by just one PCU.

5.6.11 An increase of 15 seconds in average driver delay and an increase of one PCU are unlikely to have a material impact on driver delay at the junction. However, suitable mitigation measures will be considered in Section 5.8, relative to the impact of the proposed development.

5.7 LEVEL CROSSING

5.7.1 Reviewing the predicted traffic conditions it is evident that the proposed development will have a small impact on the level crossing in terms of traffic flow.

5.7.2 Within the Railway Safety Principles and Guidance it states “There is no limit to the amount of road traffic, but the road layout, profile and traffic conditions should be such that road vehicles are not likely to become grounded or block back obstructing the railway.” The local topography confines many of the residual risks associated with grounding. Therefore we believe that any increase in traffic at the level crossing would only be material if there is an increased likelihood of traffic blocking back onto the railway line.



5.7.3 Other research for the HMRI suggests that appreciable HGV traffic on level crossings can increase the maintenance requirements for rail infrastructure at level crossings. Accepting the extant use could generate appreciable HGV traffic some enhanced maintenance could otherwise be required.

5.7.4 Whilst Network Rail recognises the level crossing is already one of the safest available, measures could be taken to reduce the risk of vehicles blocking back onto the crossing. Whilst network traffic increases and more importantly the extant use would increase this risk, it is reasonable to suggest that the development could increase this risk slightly. To assess this risk observations have been made of traffic patterns at the level crossing.

5.7.5 Typically southbound movements rarely if ever block back into the level crossing due in the main to the enlarged Grantham Road / London Road junction. Most queues appear to occur on South Gate north of the railway for the following reasons:

- Turning vehicles at Station Road and Advanta/Turnbulls site access;
- Pedestrian crossing demands at the South Gate zebra crossing;
- Vehicle loading/unloading on South Gate; and
- Traffic queues extending back from Boston Road junction, particularly following a level crossing closure, are due to sudden saturation of traffic flows

5.7.6 The redevelopment of the Advanta site by Tesco would remove some of the traffic at the junction north of the level crossing, offering a small improvement.

5.7.7 LCC has a programme of Safe Routes to School and School Travel Plan with monies committed in the LTP. Given the affects of traffic growth it would be reasonable for LCC to replace the Zebra crossing with a signal controlled (Puffin) crossing by 2012. Such an improvement could be linked to the adjacent signals to reduce the risk of traffic blocking back.

5.7.8 Vehicles loading / unloading on South Gate pose some concern. There appears to be no Traffic Regulation Orders (TRO) limiting loading times which may contribute to increased risks during peak periods.


5.7.9 Northbound traffic is delayed by the zebra crossing and the Boston Road junction. As traffic flows are broadly equal it is possible to reconfigure the priority of the South Gate / Boston Road junction to ensure northbound traffic is given priority.

5.7.10 Should these remedial measures not address the impact on the level crossing a red light camera could be used in conjunction with the existing traffic signals. Based on research by TRL² the introduction of red light cameras at the junction could also contribute to safety improvements. Research³ shows that the introduction of a red light camera is likely to cost in the order of £10,000 and will have the following affects:

- Reduce approach speeds by on average 4.2mph
- Reduce accident rates by 0.48 per annum at the junction

² Vehicle Driver Behaviour at Level Crossings, R96, 1996

³ Cost benefit analysis of traffic light & speed camera, Police Research Series Paper 20, 1996



5.7.11 Taking account of the proposed highway measures which may be brought forward by Tesco and the proposed development discussed above, it is considered that no material change in traffic conditions would result from the proposed development.

5.8 ROAD NETWORK

5.8.1 LCC have identified potential highway improvements in Sleaford in the form of a new link road and bridge over the railway east of the existing crossing. The modelling undertaken by Jacobs reveals that the proposed development of all three sites can be effectively mitigated through the provision of these works.

5.8.2 WSP D/T accepts that the identified highway improvements provide one potential solution to congestion within Sleaford. Gladedale Special Projects Division has therefore endeavoured to facilitate these highway works in the design of the proposed development. As there are several possible solutions that would be more in keeping with the Council's transport policies and the community's wishes to achieve an integrated transport network it is felt that these improvements should be identified through the Local Development Framework and Local Transport Plan as a protected road line scheme.

5.8.3 The surrounding road network is constrained by the Mareham Lane / Grantham Road / South Gate junction, given that its operation is impacted by the level crossing. As a result of the proposed development it is forecast that development traffic will route north toward the town centre via the crossings and therefore increasing driver delay by up to 15 seconds in the evening peak hour.

5.8.4 Notwithstanding the development viability it is not considered necessary to provide a bridge and associated highway improvements in order to mitigate an additional 15 seconds in average driver delay from the proposed development.

5.9 ROAD SAFETY


5.9.1 It has been identified that Sleaford town centre can become congested to the north of the railway. Local planning documents, such as LCC's LTP2, suggest that trips generated for the purpose of education are significant in causing congestion on the local highway network.

5.9.2 The proposed development will increase the volume of traffic using local roads, and intensify the use of the existing priority junction between the site access and Mareham Lane.

5.9.3 In order to first reduce trips by private vehicle to local schools north of the railway, and second to improve safety for pedestrians and cyclists, pedestrian / cycle refuges are proposed on Grantham Road and Boston Road. The connectivity of pedestrian and cycle routes to schools and employment areas to the north will enhance walking and cycling in the town and contribute towards network reductions in traffic in accordance with the Council's policies.

5.9.4 For vehicle trips from the site, the existing access is considered to provide sufficient theoretical capacity to accommodate the proposed development traffic.

5.10 FRAMEWORK TRAVEL PLAN



5.10.1 A Travel Plan has not been requested within scoping discussions with LCC however it is assumed that one would be required as part of the planning obligations at the Maltings. This section outlines obligations in the form of a Framework Travel Plan which will be produced in order to **reduce the number and length of private motor trips** and promote sustainable travel to and from the proposed development. This will involve analysing the travel modes of residents, staff and visitors and, with a toolkit of measures, deliver effective modal shift.

TRAVEL PLAN

5.10.2 A Travel Plan will be prepared in order to promote the use of non-car modes of transport for those travelling to and from the development. This will help to reduce the use of private car and, therefore, minimise the associated traffic and environmental problems.

5.10.3 The policy guidelines which will inform this travel plan are listed below:

- A Guide on Travel Plans for Developers (DfT March 2005)
- Making Residential Travel Plans Work: Guidelines for New Development (DfT September 2005)
- Making Residential Travel Plans Work Summary (DfT June 2007)
- Encouraging Sustainable Commuting: A guide for London's Local Authorities in Delivering Effective Travel Plans (TfL January 2007)
- Using the Planning Process to Secure Travel Plans: Best Practice Guide (DfT July 2002)

5.10.4 Accessibility to key services and facilities is important to consider when implementing a Travel Plan. As such the Travel Plan will evaluate, for each of the development types, the likely journeys and the extent to which these can be accessed through modes of travel other than by private vehicle.

5.10.5 Aims and Objectives

5.10.6 The aim of the Travel Plan is 'to reduce single-occupancy car travel to and from the site through promoting and encouraging the use of alternative, more sustainable modes of transport amongst residents and visitors'.

5.10.7 The following objectives will be adopted for the Travel Plan:

- To ensure all residents and visitors are made aware of alternatives to driving to and from the site by car;
- To promote walking and cycling as a healthy lifestyle choice;
- To actively encourage travel to and from the site by alternatives to single-occupancy car use;
- To encourage occupiers to be involved with the implementation, monitoring and evolution of the Travel Plan;
- To increase the opportunity for residents, staff and visitors using services to have alternative methods of travel to car use;



- To monitor and audit the success of the travel plan for a period of 5 years after first occupation.

5.10.8 The objectives will work towards the aim of the Travel Plan by informing a package of measures that focus on promoting access to the site by sustainable modes of transport as an alternative to the private car right from the outset.

TOOL KIT OF MEASURES

5.10.9 A series of 'hard' and 'soft' measures will be implemented. These will be put forward within the Travel Plan to ensure that there is the opportunity and incentive to travel by sustainable methods of travel. Soft measures are likely to include:

- A website containing detailed public transport information;
- Car share schemes for employees;
- (New) Resident welcome packs which will include important contact details, as well as bus and train timetables, car pool / car share databases, and incentives offered to residents to utilise sustainable transport;
- Discounted cycle equipment;
- Appropriate levels of cycle parking; and
- Showers and changing facilities;

5.10.10 Travel Plan Co-ordinators will be appointed in order to ensure that the Travel Plan is effectively managed and adhered to. The Co-ordinators will be representatives from the residential, health and employment sectors of the development. Therefore they will be able to efficiently promote the strategy given their first hand knowledge of the development and of those who will be travelling to and from it. It may be that, on a rotational basis, a collective representative of the Travel Plan Co-ordinators will then oversee management of the Travel Plan for the development as a whole.


5.10.11 The Travel Plan Co-ordinators will need to identify the existing travel patterns. In order to do this they could conduct surveys that can help to understand the destinations and frequencies of journeys of those travelling to and from the proposed development, for example providing questionnaires in reception/waiting areas to obtain a representative sample of visitors.

5.10.12 The Co-ordinators, based on the analysis of the survey results, will then identify quantifiable targets for the travel plan in order to monitor its success. These targets can be established so to increase the proportion of non-car journeys available.

5.11 PLANNING OBLIGATIONS

5.11.1 The proposed development will result in a small increase in transport demand compared to the permitted use. It is accepted that improvements to the existing transport network will be necessary at some point. To ensure that the Bass Maltings does not continue to decay it is hoped that the development can proceed on the basis that these improvements are delivered before the scheme's completion in 2015.

5.11.2 Given the site's sustainable location, the proposed development is expected to foster high levels of non-car travel. To optimise sustainable travel the Travel Plan will be developed with potential and future occupiers to minimise traffic impacts in the area.



5.11.3 We believe that the highway obligations suggested in the SPD conflict with Policy 44, 45 and 53 of RSS8 and does not pass the 'reasonableness' tests defined in Circular 05 / 05 in terms of scale. Compared to the permitted use the proposed development would result in a modest increase in traffic and substantially detract from the viability of the regeneration of this important listed building complex. On this basis the only transport obligations identified is the production of a Travel Plan.

5.12 CONSTRUCTION MANAGEMENT PLAN

5.12.1 This section of the Transport Assessment considers the likely impact of construction traffic and therefore the required mitigation measures during the restoration and construction of the proposed development. It is understood from Gladedale Special Projects Division that construction and restoration process will take place over a period of approximately 5 years. It is anticipated that a construction management plan will be phased in from the start of this construction / restoration period.

CONSTRUCTION TRAFFIC


5.12.2 It is likely that there will be several phases to the construction and restore the Bass Maltings. These are likely to be:

- The first phase will include remedial and weather tightness work, re-roofing and masonry repairs, as well as the clearing and making safe of the buildings and surrounding areas.
- Phase 2 will include: North part of buildings 5, 6 and 7 for healthcare use.
- Phase 3 will include: South part of buildings 5, 6 and 7 (including courtyards) for residential and ground floor retail / restaurant use.
- Phase 4 will include: Enabling work and new build housing.
- Phase 5 will include: Buildings 8 and 9 for new housing and car parking (including new multi storey car park).
- Phase 6 will include: Buildings 2, 3 and 4 for new housing, car parking and commercial / retail.
- Phase 7 will include: Building 1 for office use.
- Phase 8 will include: Buildings 10-14 and external landscaping.

5.12.3 Based on the comparison of the proposed and permitted uses detailed in Table 3.5 it is likely that the development will result in increases in traffic on the highway network during Phase 6.

5.12.4 In order to minimise the number of construction vehicles using the public highway, the following factors will be considered within the construction management plan:

- Excavator spoil to be used on site when possible, largely utilised to level the site topography;

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- Demolition material to be re-cycled on the site when possible, largely utilised for foundation and sub base purposes;
 - Prefabrication of construction components off-site to reduce the volumes of material deliveries of smaller components when possible; and
 - Use of cast units to reduce the requirement for concrete, reinforcement, pumps, formwork, scaffolding, deliveries etc when possible.

5.12.5 Given the mitigation measures above, on an average day it is expected that there will be no more than a maximum of five to six HGV movements per day, which will equate to no more than twelve two-way HGV movements per day considerably less than the permitted use.

5.12.6 Over the period of the construction and demolition phases, on site worker numbers will vary. However, an estimate of based on current expected delivery would include no more than 40 workers on site at any one time.

5.12.7 Given these numbers, it is likely that only a few specialist contractors would arrive in groups thus the majority will arrive as single or two person vehicle trips, attracting approximately 70 two way movements per day, based on workers taking lunch on site. The majority of these would occur outside of the peak hour given the start and finish times on site.

5.12.8 A formal parking and turning area will be defined for on-site parking during the construction / demolition. Where possible the impact of employee traffic would be minimised by employing local labour, using local business to supply materials and encouraging car sharing to site.

5.12.9 To further mitigate the impact of the development on the local highway, the following will be undertaken:

- All construction and demolition traffic entering and leaving the site will be controlled. Vehicles making deliveries to the site or removing unutilised spoil or demolition material etc., will travel via designated routes, as far as possible at times outside the peak traffic hours, which will have been previously agreed with the Highway Authority;
- During construction phases traffic will be routed via the B1517 / B1518 and the A17, to avoid the majority of residential areas of Sleaford;
- Once on the B1517, access into the site will be via Mareham Lane via the priority junction with the access road. This will join with a long internal access in advance of access control to ensure no queuing takes place on the highway;
- Exceptional loads to be routed outside of peak hours;
- Any temporary road closures to be undertaken outside of peak hours / sensitive periods where possible; and
- The construction process will be 'environmentally aware', with focus upon housekeeping, good quality hoardings and landscaping, wheel washers and a clean work face.

5.12.10 The constructors will be required to follow the considerate constructor's scheme.



5.12.11 It would be expected that the working hours of the site would be subject to general Local Authority restrictions as indicated below:

“The hours of work for all contractors (and sub contractors) for the duration of the site development shall, unless otherwise agreed in writing by the local planning authority, be limited to 07:00 AM to 19:00 PM on Monday to Fridays, 07:30 AM to 14:00 on Saturdays, and no work shall be carried out on Sundays or Bank Holidays.”

5.12.12 In addition, the delivery and removal of materials shall be restricted during peak traffic times.

5.13 PHASING AND MITIGATION

5.13.1 The proposed development will be phased due to complexity of the works for the listed building. The development is therefore expected to take place in several phases taking approximately 5 years.

5.13.2 The phasing plan will ensure that development traffic will be incremental over a pro-longed period reducing the affects of construction traffic and accommodating the LCC Bridge proposals.

5.13.3 The combined impact of Construction Traffic and Phase 6 is likely to exceed the level of traffic associated with the permitted use. Whilst the viability of the Bass Maltings development precludes the delivery of any highway improvements it is accepted that the occupation beyond Phase 6/7 could be reliant on specific obligations. These could include the delivery of transport improvements within Sleaford by LCC/Others or the delivery of a successful Travel Plan that ensures development traffic is no greater than the permitted use.

5.14 SUMMARY

5.14.1 In summary it is expected that the eight phases of construction will take approximately 5 years and that the impact of construction traffic on the local highway network during non-peak times would be negligible.

5.14.2 Wherever possible, construction traffic would be routed to avoid the residential areas of Sleaford, utilising the B1517, B1518, A17 and A15, at times outside the peak traffic hours and within designated operating times.



6 Summary and Conclusion

6.1 SUMMARY

6.1.1 It is proposed that the existing Sleaford Maltings complex is brought back into use for the purpose of residential, employment, health and community facilities.

6.1.2 It has been demonstrated that a wide range of facilities are currently located within Sleaford town centre and that there is access to these facilities for pedestrians, cyclists, public transport users and private vehicles. It is acknowledged that there are a number of constraints to the existing networks and these are highlighted within the county and district policy documents. Specifically, congestion surrounding the railway level crossing is noted as problematic, with LCC's LTP2 identifying school trips as a key contributor.

6.1.3 The proposed development promotes a range of uses which do not currently exist in the immediate area. The forecast trip generation from the site is likely to increase across the day with rises of up to one third during peak hours compared to the permitted use.

6.1.4 Through the provision of health care and community facilities, it is anticipated that trips to marginal areas outside of Sleaford will reduce, thus reducing the length of trips for health and leisure purposes. It is also considered that the Malting site will add to the historic amenity of Sleaford.

6.1.5 Aspirations for developments within Lincolnshire and specifically Sleaford should be provided in locations which provide safe and secure accessible to surrounding land uses. Priority should be given foot, cycle and public transport. This transport assessment has highlighted the accessible location of Sleaford Maltings by identifying rights of way, the routing of local bus services and the proximity of the site to Sleaford rail station.

6.1.6 As a result of the forecast trip generation, it is inevitable that congestion at the Mareham Lane / Grantham Road / South Gate signalised crossing will increase. Initial assessments of the signalised crossing suggest an additional 15 second delay for vehicles routing south from South Gate in the morning peak when the proposed development impact is greatest.

6.1.7 The viability statement submitted with the application identifies the redevelopment of the Bass Maltings is marginal, thereby precluding the delivery of any highway improvements. It is accepted that the occupation beyond Phase 6/7 of the development may be subject to wider transport network improvements. Gladedale Special Projects Division remains willing to explore the Council's needs to ensure an agreement can be identified.



6.2 CONCLUSIONS

6.2.1 It has been identified that there are a number of constraints to the existing pedestrian, cycle, public transport and highway networks. Whilst it is acknowledged that the traffic generation from the proposed development is likely to increase compared to the permitted use of the site, it is considered that the proposed development will contribute to reducing trip lengths for existing trips on the network and reduce the potential volume of HGV trips in the local area.

6.2.2 Within the limit of the permitted use a significant proportion of the development could be occupied without any adverse impact. The viability of the Bass Maltings development precludes the delivery of any highway improvements although it is accepted that the occupation beyond Phase 6/7 could be reliant on specific obligations. These could include the delivery of transport improvements within Sleaford by LCC/Others or the delivery of a successful Travel Plan that ensures development traffic is no greater than the permitted use.