

## **7. TRANSPORTATION**

### **7.1 Introduction**

7.1.1 This Chapter considers the environmental impact of the proposed development in terms of traffic and transport. It has been prepared by Pinnacle Transportation Limited on behalf of CALA Homes (South) Limited.

### **7.2 Site Description**

7.2.1 Winchester is the county town of Hampshire and is located approximately 20km north of Southampton.

7.2.2 The site is located within 2km of Winchester city centre, which is a major employment area with the usual services and facilities that can be expected in a city centre location.

7.2.3 The application site is bounded by the western highway boundary of the B3420 Andover Road to the west, the northern highway boundary of Well House Lane to the north, a railway line to the east and residential properties on Park Road to the south. The site also includes for a five metre wide corridor to the east of the railway line associated with a permissive footpath to Worthy Road.

#### **Local Highway Network**

7.2.4 The B3420 Andover Road provides a connection to the Three Maids Roundabout approximately 2km to the north of the site and to City Road within Winchester city centre approximately 900m to the south from the southernmost corner of the site. The location of the site in relation to the local highway network is illustrated on Figure 7.1.

7.2.5 The scope of the highway network to be considered within this ES in terms of the impact of development traffic on the operation of the highway network has been agreed with the Highway Authority and is also defined by Figure 7.1.

7.2.6 The Three Maids Roundabout is a five-arm roundabout. It provides access to the A34, to Headbourne Worthy via Down Farm Lane, Littleton via an unnamed single carriageway local road, the A272 and also B3420 Andover Road.

7.2.7 The A34 is a trunk road providing a strategic north-south link and locally between Junction 9 of the M3 and Oxford. Winchester is accessed from the A34 via two junctions, the Well House Lane roundabout to the north and where it meets Junction 9 of the M3 to the east.

7.2.8 Within the transport ES study area, the speed limit on B3420 Andover Road varies between 30 and 50mph. It is generally 40mph, but it increases to 50mph north of The Old Dairy Cottage (in the vicinity of Henry Beaufort School) and it reduces to 30mph south of Stoney Lane.

7.2.9 Andover Road is, for the majority of its length, a 6.3m wide single carriageway road with street lighting. However, between Henry Beaufort School and the access to the Barracks the road is a dual carriageway. The dual carriageway section of road includes the staggered four-arm crossroad junction with Well House Lane and Harestock Road. This junction provides sheltered storage capacity within the physical central island for one vehicle to turn right out of or into Harestock Road or Well House Lane.

7.2.10 To the south of Henry Beaufort School, the junctions of Andover Road with Stoney Lane and Bereweke Road are simple priority junctions. Approximately 750m south of the site, Andover Road forms the major arm of a ghost island priority junction with B3047 Worthy Road.

7.2.11 Well House Lane is a single carriageway road which varies in width between around 7.3 and 5.5 metres. Street lighting is not present. Well House Lane provides an east-west link between Andover Road to the west and Headbourne Worthy to the east. To the immediate west of

Headbourne Worthy, Well House Lane passes under the rail line. The rail overbridge reduces headroom to 3.65m and width to 5.5m.

7.2.12 To the east of the site, the B3047 Worthy Road runs in a south to north-east direction between Kings Worthy and the city centre. Worthy Road is a 6m wide single carriageway road for the majority of its length. There are no direct vehicular connections between the site and Worthy Road.

### **Pedestrian and Cycle Accessibility**

7.2.13 There are a number of established footpaths and cycle routes/lanes in the vicinity of the site. These are illustrated on Figure 7.2 which also shows a 400, 800 and 2,000m walk and 1,600m cycle distance from the centre of the site.

7.2.14 The location of cycle routes and lanes is based on the "Cycle Routes and Lanes in Winchester" map, prepared by Winchester City Council in 2007.

7.2.15 It is clear from Figure 7.2 that much of the site is within a comfortable walking and cycling distance of the city centre. The centre of the site is approximately a 25 minute walk from the rail station and the northern edge of the city centre. This provides the opportunity for people to live and work in Winchester without reliance on the private car, or without having to out commute.

### **Public Rights-of-Way**

7.2.16 An unlit public right-of-way connects Headbourne Worthy to Harestock in an east-northwest alignment through the site. This footpath passes under the rail line via an underpass. To the west of the site and Andover Road, this footpath heads west in the vicinity of Henry Beaufort Secondary School, serving residential areas and Harestock Primary School. The section of path to the west of Andover Road has a metalled surface and is street lit.

7.2.17 An additional unlit, permissive footpath dissects the site and provides an east west link between Barton Farm and Worthy Road in Abbots Barton, via the underpass.

### **Well House Lane**

7.2.18 There are no footways or formal cycle facilities on or adjacent to Well House Lane or Down Farm Lane. Well House Lane is however identified as a suggested route for cyclists on the Winchester City Council cycle map.

### **Harestock Road**

7.2.19 Harestock Road connects Andover Road with the B3049 Stockbridge Road to the west of Winchester. There is an unlit footway along the southern side of the road, which varies between 1 and 2m in width.

### **Andover Road**

7.2.20 The B3420 Andover Road between the city centre and Harestock Road has a footway of variable width between 0.5 and 2m along its western side. Between Harestock Road and the Henry Beaufort School, the footway width is less than 1m but is separated from the road by a grass verge of up to 4m in width. On the eastern side of the road is a narrow footway which is separated from the road by a 3m wide tree lined grass verge. The footway on the eastern side of Andover Road provides a continuous link between the site and the city centre except for a section of approximately 100 metres at the rail bridge near Athelstan Road. Street lighting is present along Andover Road in the vicinity of the site frontage.

### **Stoney Lane/Berewecke Road**

7.2.21 Both Stoney Lane and Berewecke Road have footways with street lighting on either side of the carriageway. The width of the footway typically varies between 1.5 and 2m wide.

### ***Park Road***

7.2.22 To the south of the site, there are footways and street lights provided on both sides of Park Road, with the exception of at the bridge where Park Road crosses the railway line.

### ***Worthy Road***

7.2.23 To the east of the site, a 1m wide shared facility for pedestrians and cyclists runs along Worthy Road between its junctions with Bedford Lane and Park Road. Footways and street lighting are present along both sides of Worthy Lane into the city centre. There are three pedestrian refuges along Worthy Road, one either side of Arthur Road and one at the junction with Park Road.

### ***National Cycle Network Route No 23***

7.2.24 To the southeast of the site, the National Cycle Network Route No 23 provides a link between Reading and Southampton via the Itchen Valley. This is accessed within Winchester City Centre from Wells Street and Easton Lane.

### **Proximity to Local Services and Amenities**

7.2.25 The location of the site is such that a good mix of services, facilities, amenities and public transport opportunities which are likely to be required on a daily basis are already located within walking and cycling distance. It provides the opportunity to reduce the number and length of in-commuting vehicular trips by enabling people to live closer to where they work, and in particular, Winchester city centre. This is likely to result in an increase in walking and cycling trips to the city centre with a subsequent reduction in number and length of car journeys. The site is within walking distance of the city centre and the numerous services and places of employment it has to offer. Some of these are set out below. Measures will be introduced to encourage walking and cycling trips to the city centre, given their close proximity and these are discussed later in this chapter. It is also noted that the development itself will provide new employment, retail, leisure, education and community facilities within the site.

### ***Employment Opportunities***

7.2.26 The site offers good accessibility to a range of employment types. These include extensive commercial, retail and office areas within Winchester City Centre, approximately 2km to the south of the centre of the site.

7.2.27 In addition, Winnall Industrial Estate is located approximately 1.75km to the southeast of the centre of the site, in the vicinity of Junction 9 of the M3.

### ***Retail Facilities***

7.2.28 Similarly, Winchester City has most of the facilities and national retail multiples that one would expect from a city centre.

7.2.29 Local shopping facilities are also available on Priors Dean Road and Stoney Lane. It is anticipated that a large proportion of retail trips of new residents will be undertaken within the site given the new retail facilities being proposed.

### ***Leisure Facilities***

7.2.30 Winchester City Centre has a variety of leisure and recreational facilities including bars, restaurants, libraries, museums, theatres. Sport and community facilities are present within a 2km walk of the site located within the Harestock and Hyde Districts of Winchester.

7.2.31 Allotments, childrens playground and Winchester Rugby and Athletics ground is located within the Abbots Barton district approximately 1.5km south of the centre of the site.

## **Schools**

7.2.32 There are two primary schools located within reasonable walking distance from the centre of the site: - Harestock County Primary School and Weeke Primary School. A new primary school is proposed as part of the development.

7.2.33 There are two secondary schools located in close vicinity of the site. The Henry Beaufort School, which fronts Andover Road and also the Westgate School in the vicinity of Stockbridge Road and Bereweeke Road.

## **7.3 Assessment Methodology**

### **Assessment Methodology**

7.3.1 The Environmental Statement Scoping Report identified that the following traffic and transport issues should be investigated within the Transportation Assessment:

- the magnitude and consequences of changes in traffic flows on the local road network, including operational and safety impacts as a result of the proposed development;
- the implications of the proposed development traffic on traffic flows at, the proposed Andover Road and Harestock Road three arm signalised junction, proposed three arm signalised junction between Andover Road and Well House Lane, proposed three arm signalised junction between Andover Road and Stoney Lane, B3420 Andover Road/Bereweeke Road priority junction and B3430 Andover Road five-arm signal controlled junction with City Road/Sussex Street/Station Hill/Stocksbridge Road;
- pedestrian/cycle accessibility;
- public transport accessibility;
- linkages to existing and future planned development;
- car parking;
- Travel Plan obligations; and
- construction and traffic routes.

7.3.2 The Scoping Opinion from Winchester City Council contained responses from key transportation stakeholders. These responses are included in detail within the consultation section of this Chapter and are considered either as part of the Environmental Statement or within the Transportation Assessment as appropriate.

7.3.3 The realignment of Andover Road is subsequently considered as this proposal post dates the Scoping Report document.

7.3.4 The pertinent issues for the ES in terms of transportation are the magnitude and consequences of changes within the study area as a result of the development on:

- Vehicular traffic flows;
- Pedestrian flows;
- Cycle flows; and
- Public transport patronage.

7.3.5 The ES will consider the change in vehicular traffic at each junction in terms of its environmental significance. Figure 7.1 illustrates the area of influence of development related traffic. The TA considers the operational capacity of junctions within the study area.

### **Study Area**

7.3.6 The study area for the traffic assessments is outlined below, as agreed with Highway Officers:

- the proposed Andover Road and Harestock Road three arm signalised junction;
- proposed three arm signalised junction between Andover Road and Well House Lane;
- proposed three arm signalised junction between Andover Road and Stoney Lane;

- the existing B3420 Andover Road/Berewecke Road priority junction; and
- the existing B3430 Andover Road five-arm signal controlled junction with City Road/Sussex Street/Station Hill/Stocksbridge Road.

7.3.7 The vehicular study area is illustrated on Figure 7.1.

7.3.8 The study area for non-car modes is constrained to the reasonable travel distance to facilities within this area of Winchester from the redevelopment site. The furthest extremities of this cordon are no more than a two kilometre walk from the centre of the redevelopment site. Guidance within PPG13 Transport considers that journeys to facilities up to two kilometres can be carried out by modes other than the private car. The two kilometre walk distance cordon from the centre of the redevelopment site is illustrated on Figure 7.2.

### **Temporal Scope**

7.3.9 Traffic surveys have been carried out in October 2008 for the junctions identified within the study area. Growth factors in order to obtain future year traffic flows have been obtained from the industry standard TEMPRO computer program. The temporal scope for the assessment is set out below:

- 2009 – Year of registration of planning application;
- 2013 – Year of First completions (5% of total development);
- 2018 – Mid Point of Development (50% of total development) and
- 2023 – Completion of Development (100% of total development).

7.3.10 Personal Injury Accident records have been considered for the five year period between July 2003 and June 2008 has been analysed for the study area comprising Andover Road and its associated junctions between the Three Maids roundabout to the north and the City Road signal junction to the south.

### **Consultation**

7.3.11 The following consultations of note have been carried out, in particular reference to the Transportation Assessment and the traffic and transportation section of the Environmental Statement. These are summarised in Table 7.1.

7.3.12 This enabled the transport related issues to be identified and agreement reached regarding the scope of the transportation chapter of the Environmental Assessment at an early stage.

7.3.13 In advance of the planning application being prepared, a series of Technical Notes have been prepared and submitted to Highway Officers in order to resolve as many highways and transportation issues as possible. Various discussions subsequently took place with Highway Officers as early as May 2008 and have been ongoing on a regular basis. During April 2009 and October 2009 public exhibitions were held, a stakeholder workshop was held in September 2009 and a residents letter and leaflet for the benefit of residents on Andover Road was also issued in September 2009. These illustrated the emerging proposals, which have been refined to take onboard comments from key stakeholders and interested parties.

**Table 7.1 Consultations**

<b>Consultees and Date Consulted</b>	<b>Comments of Consultees and Date Responded</b>	<b>Response in ES</b>
Hampshire County Council – 2 April 2009	(i) Details provided within ES scoping report would be sufficient	(i) ES to be carried out in accordance with this agreed scope.
Winchester City Council – 2 April 2009	(i) Scoping Report to be prepared before preparing TA (ii) consider highway capacity impact on surrounding network and safety; (iii) agreement of trip generation (iv) consideration to public transport, walking and cycling (v) consideration of a Travel Plan (vi) consider Park-and-Ride proposal (vii) consideration to parking standards	(i) Scope agreed with Officers at HCC as Highway Authority. WCC Officers consulted throughout TA/ES process. (ii) Considered within TA (iii) Considered/agreed within TA (iv) Considered as part of TA (v) TP will support TA (vi) A park-and-ride facility will be included within application; (vii) Current HCC and WCC parking guidance considered within TA
Highways Agency 25 November 2008	(i) Provide HA with TA and TP prior to submission of application (ii) Consider M3 Junction 9 and A34/A272 junction within TA (iii) Quantification of the proposed trip attraction to the site (iv) Consider traffic distribution and assignment; (v) Consider accident data (vi) TP should include targets, monitoring and enforcement	(i) It is anticipated that TA and TP will be circulated to the HA, WCC and HCC prior to the submission of the application (ii) Development traffic flows to J9 of M3 will be provided. A34/A272 operational assessment will be provided (iii) within TA (iv) within TA (v) within TA (vi) Included as part of TP

## Sources of Baseline Information

7.3.14 The sources of baseline information are included in Table 7.2.

**Table 7.2 Baseline Information**

Baseline Topic	Data Source	Date
Weekday Traffic Surveys	K&M Traffic Surveys (Independent Traffic Survey specialist, appointed by the applicant)	October 2008
Automatic Traffic Count Surveys	K&M Traffic Surveys	October 2008
Topographical Survey	Ground Surveys Limited	2004
Highway Search	Hampshire County Council	October 2008
Personal Injury Accident Data	Hampshire County Council	October 2009
Public Transport Information	Local Bus Operators website, Hampshire County Council website and information at bus stops	Data collected between 2008 to present
Base Mapping	Ordnance Survey	Between 2004 to present
Pedestrian and Cycle Information	Hampshire County Council and Winchester City Council and Sustrans	Various through production of the Transportation Statement

## Prediction of Impact Magnitude

7.3.15 There are four levels of impact magnitude considered, which are negligible, minor, moderate and major. The Institute of Environmental Assessments "Guidelines for the Environmental Assessment of Road Traffic" states that there may be significant environmental impact when traffic flows increase by more than 30% or in sensitive areas by at least 10%.

7.3.16 Our definitions of magnitude have been based on these guidelines and are shown in Table 7.3. In each instance the peak hour is defined as the 2023 base peak hour traffic.

**Table 7.3 Impact Magnitude**

Magnitude	Construction Traffic	Development Traffic
Major positive	Over 300 vehicles below peak hour flow or more than 75 less HGVs in the peak hour	Over 30% less peak hour vehicles
Moderate positive	160-300 vehicles below peak hour flow or 38-75 less HGVs in the peak hour	16-30% less peak hour vehicles
Slight positive	64-160 vehicles below peak hour flow or 15-38 less HGVs in the peak hour	6-15% less peak hour vehicles

<b>Magnitude</b>	<b>Construction Traffic</b>	<b>Development Traffic</b>
Negligible positive	Up to 64 vehicles below peak hour flow or up to 15 less HGVs in the peak hour	Up to 5% less peak hour vehicles
Neutral	No additional daily vehicles	No additional daily vehicles
Negligible negative	Up to 64 vehicles above peak hour flow or up to 15 more HGVs in the peak hour	Up to 5% additional peak hour vehicles
Slight negative	64 -160 vehicles above peak hour flow or 15-38 more HGVs in the peak hour	6-15% additional peak hour vehicles
Moderate negative	160-300 vehicles above peak hour flow or 38-75 more HGVs in the peak hour	16-30% additional peak hour vehicles
Major negative	Over 300 vehicles above peak hour flow or more than 75 more HGVs in the peak hour	Over 30% additional peak hour vehicles

7.3.17 Consequently, this 30% threshold has been used as a benchmark at which development traffic increases are considered to have a magnitude which is major. Therefore, for example, the Andover Road junction with Stoney Lane will be associated with a two-way flow of 1,618 vehicles in the 2023 AM peak hour baseline scenario. For the level of development traffic to be considered to have a major negative magnitude impact at this junction there would need to be at least 2,103 vehicles in the AM peak hour.

#### **Assessment of Impact Significance**

7.3.18 There are three categories of impact significance considered, which are **Minor** (or slight) significance, ie not noteworthy or material; **Moderate** significance, ie noteworthy or material and **Major** (or substantial) significance, ie extremely noteworthy or material. The situation with and without mitigation measures will be considered. These are considered in Table 7.4.

**Table 7.4 Impact Significance**

<b>Subject Area</b>	<b>Impact Significance</b>		
	<b>Major</b>	<b>Moderate</b>	<b>Minor</b>
Traffic Flow within the Study Area	Traffic associated with the development increases peak hour traffic within the Study Area by 10% or more	Traffic associated with the development increases peak hour traffic within the Study Area by between 5 and 10%	Traffic associated with the development increases peak hour traffic within the Study Area by less than 5%
Pedestrians & Cyclists	Pedestrian and Cycle activity associated with the development increases peak hour pedestrian and cycle activity by 10% or more within the study area.	Pedestrian and Cycle activity associated with the development increases peak hour pedestrian and cycle activity by between 5 and 10% within the study area.	Pedestrian and Cycle activity associated with the development increases peak hour pedestrian and cycle activity by less than 5% within the study area

Subject Area	Impact Significance		
	Major	Moderate	Minor
Bus Passengers	The number of bus passengers associated with the development increases peak hour bus patronage by 10% or more within the study area.	The number of bus passengers associated with the development increases peak hour bus patronage by between 5 to 10% within the study area.	The number of bus passengers associated with the development increases peak hour bus patronage by less than 5% within the study area.
Construction Traffic	Increase of 106 or more vehicles or 25 or more HGVs within the Study Area during the AM or PM peak hour.	Increase of between 53 and 106 vehicles or between 13 and 25 more HGVs within the Study Area during the AM or PM peak hour.	Increase of 52 or less vehicles or 12 or less HGVs within the Study Area during the AM or PM peak hour.

## 7.4 Planning Policy

7.4.1 The traffic and transportation aspects of the scheme have been carried out in accordance with "Guidance on Transport Assessments", prepared by the Department of Transport (DfT) in March 2007, Guidelines for the Environmental Assessment for Road Traffic, Institute of Environmental Assessment and the Design Manual for Roads and Bridges (DMRB), Highways Agency.

7.4.2 The proposals have also been considered in the context of the following documents:

- Planning Policy Statement (PPS1): Delivering Sustainable Development (2005);
- Planning Policy Statement 3 (PPS3): Housing (2006);
- Planning Policy Guidance 13 (PPG13): Transport (2001);
- The South East Plan (RSS) (2009);
- Hampshire County Council Structure Plan 1996-2011 - July 2004;
- Adopted Winchester City Council Local Plan Review (2006);
- Hampshire County Council Local Transport Plan 2006-2011 (2006);
- Hampshire County Council Guide to Development Related Travel Plans (2008);
- Hampshire County Council Adopted Car and Cycle Parking Standards (2002);
- Winchester City Council Draft Residential Parking Standards (2009).

7.4.3 The main thrust of up-to-date policy contained within these documents is to reduce car dependency by making walking and cycling trips easier and by encouraging public transport trips between housing and jobs, shops and services. In particular the RSS aspires to encourage development that is designed and located to reduce average journey lengths.

## 7.5 Baseline Conditions

### Local Highway Network

7.5.1 The baseline local highway network and pedestrian and cycle facilities are assessed in Section 7.2.

### Public Transport Provision

#### Bus Services

7.5.1 The bus services in the area are generally provided by Stagecoach South. Service provision in the vicinity of the site is good, with frequent services to Winchester, Alresford, Farnham and Guildford.

7.5.2 Local bus services operate on Andover Road and Worthy Road, providing a link to the north of the site towards Basingstoke and south towards Winchester city centre.

7.5.3 The nearest bus stops are located on both sides of Andover Road in the vicinity of Mountbatten Court and in the vicinity of the Stoney Lane junction. Worthy Road has bus stops on both sides of the road in the vicinity of its junction with Park Road. Figure 7.3 illustrates the locations of bus stops and local bus routes.

7.5.4 Bus stop provision on Andover Road at Mountbatten Court consists of a bus shelter for southbound services and a bus stop flag only for northbound services. These bus stops are located approximately 500 metres from the centre of the site.

7.5.5 Bus stop provision on Andover Road at Stoney Lane consists of a bus bay, bus cage and a bus boarder and the southbound stop also includes timetable information. These bus stops are located approximately 700 metres from the centre of the site.

7.5.6 Bus Stop provision on Worthy Lane includes a bus shelter and timetable information. These bus stops are located approximately 1km from the centre of the site.

7.5.7 Bus service details and timetable information have been obtained from the Stagecoach bus map of Winchester produced in April 2007. Existing local bus services are summarised on Table 7.5 and 7.6.

**Table 7.5 Summary of Existing Bus Services – Andover Road**

Service	Route Description	Operator	Daily Frequency		
			Daytime	Evening	Sunday
7	Winchester Bus Station– Bereweke Avenue–Littleton– Sparsholt	Stagecoach	Hourly	N/A	N/A
86	Basingstoke–Overton– Whitchurch–Winchester	Stagecoach	Hourly	Hourly	2 per Day

**Table 7.6 Summary of Existing Bus Services – Worthy Road**

Service	Route Description	Operator	Daily Frequency		
			Daytime	Evening	Sunday
The Spring	Winchester Bus Station– Worthy Road–Kings Worth– Springvale	Stagecoach	20 mins	30 mins	Hourly
94/95	Winchester–Springvale–East Stratton–Kempshott	Mervyn Coaches	1 return trip Mon/Wed/Fri		
64	Winchester Bus Station– Kings Worthy–Cart and Horses–Itchen Abbas– Alresford	Stagecoach	Hourly	N/A	Every Two Hours

7.5.2 From the Tables 7.5 and 7.6 above, it can be determined that during the daytime, there are approximately two buses per hour in each direction utilising the Andover Road corridor and approximately four buses per hour in each direction utilising the Worthy Road corridor.

## Rail Services

7.5.3 Winchester Rail Station is located approximately 1.75km from the centre of the site. The station provides passengers with regular local and regional services to locations such as Poole, London, Portsmouth, Bournemouth, Reading, Weymouth, Birmingham and Southampton.

7.5.4 Table 7.77 provides details of direct rail services available from Winchester Rail Station.

**Table 7.7 Summary of Existing Rail Services**

Destination	Typical Journey Time	Frequency		
		Daytime	Evening	Sunday
Eastleigh	10 mins	20-30 mins	20-30 mins	30 mins
Basingstoke	16 mins	20 mins	20 mins	20 mins
Southampton	16 mins	20 mins	20 mins	20 mins
Reading	35 mins	Hourly	Hourly	Hourly
Bournemouth	55 mins	Hourly	Hourly	Hourly
Portsmouth	60 mins	Hourly	Hourly	Hourly
Poole	70 mins	Hourly	Hourly	Hourly
London Waterloo	75 mins	20 mins	20 mins	20 mins
Weymouth	117 mins	Hourly	Hourly	Hourly
Birmingham New Street	135 mins	Hourly	Hourly	Hourly

7.5.5 Bus services also operate from Winchester Rail Station to Romsey Bus Station and Winchester city centre.

**Baseline Traffic Flows**

7.5.6 Manual Classified turning counts were carried out by K&M Traffic Surveys during the extended AM and PM peak periods on Thursday 9 October 2008 at the following six junctions in the vicinity of the proposed development. It was agreed with the Highway Authority that this date provided typical traffic conditions, not affected by any roadworks.

- Three Maids Hill five-arm roundabout (A272/A34/Down Farm Lane/B3420 Andover Road/Local Road);
- B3420 Andover Road/Well House Lane/Harestock Road staggered four-arm crossroad junction;
- B3420 Andover Road three-arm priority junction with Stoney Lane;
- B3420 Andover Road three-arm priority junction with Bereweeke Road; and
- B3420 Andover Road five-arm signal controlled junction with City Road/Sussex Street/Station Hill/Stocksbridge Road.

7.5.7 Analysis of the manual turning count data identifies the morning and evening peak hours as being 07.45-08.45 and 16.30-17.30.

7.5.8 In addition to the manual turning counts, Automatic Traffic Counts (ATC) were carried out between 4 and 10 October 2008 at the following locations to enable the daily and weekly traffic flow profile to be determined.

- ATC across B3420 Andover Road in the vicinity of the Henry Beaufort Secondary School;
- ATC across Well House Lane to the west of the rail bridge;
- ATC across Stoney Lane to the east of its junction with Bereweeke Avenue; and
- ATC across Bereweeke Road to the east of its junction with Bereweeke Avenue

7.5.9 Table 7.8 sets out the baseline two-way traffic flows for the study area.

**Table 7.8 2008 Baseline Traffic Flows**

Junction		Baseline Total Traffic Flow	Baseline Number of Heavy Goods Vehicles (HGVs) [with %age of total flow]	
Three Maids Roundabout	AM Peak Hour	2,219	120	[5.4%]
	PM Peak Hour	1,753	96	[5.4%]
Andover Road/Well House Lane/Harestock Road	AM Peak Hour	1,758	106	[6.0%]
	PM Peak Hour	1,557	84	[5.4%]
Andover Road/Stoney Lane	AM Peak Hour	1,348	88	[6.5%]
	PM Peak Hour	1,178	63	[5.3%]

Andover Road/Berewecke Road	AM Peak Hour	1,360	88	[6.5%]
	PM Peak Hour	1,297	65	[5.0%]
Andover Road/City Road/Sussex Street/Station Hill/Stockbridge Road	AM Peak Hour	1,874	101	[5.4%]
	PM Peak Hour	1,967	88	[4.5%]
Andover Road ATC	Average 24hr flows	7,989	272	[3.4%]
Well House Lane ATC		3,615	139	[3.8%]
Stoney Lane ATC		5,251	144	[2.7%]
Berewecke Road ATC		3,953	100	[2.5%]

NOTE: - HGVs included within total traffic flow

### Personal Injury Accidents

7.5.10 Personal Injury Accident (PIA) data has been obtained from Hampshire Constabulary. The five year period between January 2004 and July 2009 has been analysed for the study area comprising Andover Road and its associated junctions between the Three Maids Roundabout to the north and the City Road signal junction to the south.

7.5.11 A total of 65 PIAs were recorded within the study area of which 56 were slight injury accidents, 8 serious and one fatal injury accident. The location and severity of the PIAs are illustrated on Figure 7.4. Table 7.9 summarises the severity and whether vulnerable road users were injured for the PIAs which occurred at a cluster site. For the purposes of this assessment, a cluster site is considered to be any location where three or more PIAs have occurred in a five year period.

**Table 7.9 Summary of Personal Injury Accidents**

Location	Severity			Vulnerable Road User		
	Slight	Serious	Fatal	Motor Cycle	Cycle	Pedestrian
A272/A34 (Slip Roads)	8	-	-	1	-	-
A272/B3420 (Three Maids Roundabout)	-	-	1	1	-	-
Well House Lane/Andover Road/Harestock Road	7	1	-	1	-	-
Andover Road/Stoney Lane	4	-	-	1	-	1
Andover Road Nr Petrol Filling Station	5	1	-	-	2	2
Andover Road/Worthy Lane	5	1	-	-	2	2
Andover Road/Hyde Close	3	-	-	2	-	-
Andover Road/City Road	6	2	-	-	1	5

7.5.12 The following trends were identified at the cluster sites set out in Table 7.9:

- At the A272/A34 slip roads, five of the PIAs involved rear shunts notably at junction merges. Such accidents are relatively common at merges and given that there are three merge junctions within this cluster the number and severity of accidents within the five-year period does not represent a material safety concern;
- The fatal accident at the Three Maids Roundabout occurred when an elderly driver lost control of his car during the hours of darkness in fog/mist on a wet road surface and collided with street furniture;
- All of the PIAs occurred when drivers failed to give way at the Well House Lane/Andover Road/Harestock Road junction;
- There is no obvious trends to the PIAs which occurred at the Andover Road/Worthy Lane junction. The PIAs include vehicles colliding with pedestrians (one when reversing, one when overtaking stationary traffic), two involving cycle collisions with vehicles, rear shunts and fail to give way type PIAs;
- Eight of the PIAs were recorded at the Andover Road signal controlled junction with City Road. Five of these PIA's involved pedestrians crossing the road. However, signal controlled pedestrian phases are installed across all arms of the junction.

7.5.13 It is concluded that the accident statistics do not indicate a specific problem with the existing highway network.

## **7.6 Identification and Evaluation of Key Impacts**

7.6.1 The Transportation Assessment which supports the planning application has considered the adequacy of both car based and non-car based transport and the highway elements of the scheme, which include access, capacity and safety. As well as using the DfT guidelines, the assessment has been supplemented by matters raised by Highway Officers, Planning Officers, key stakeholders and interested parties during meetings and public consultation.

7.6.2 The development proposal will realign the B3420 Andover Road within the site from its existing junction with Harestock Road in the north, to south of Stoney Lane in the south. The existing Andover Road will be downgraded to a pedestrian and cycle route with vehicular access to frontages only. It will be closed to through vehicular traffic. It will provide considerably enhanced pedestrian and cycle access to Winchester City Centre from Harestock, Weeke and the proposed development. Existing bus services on Andover Road will be rerouted to the new Andover Road, with public transport provision enhanced by the provision of a new 10-15 minute service between the development and the city centre. This Chapter consider the impacts of this.

7.6.3 The following criteria/impacts have been considered as part of the Transportation Assessment:

- the existing traffic flows within the study area;
- the forecast base traffic flows in 2009 and 2023;
- the traffic that would be generated by the proposed development;
- the impact traffic generated by the proposed development has within the study area;
- the number of non-vehicular trips that would be generated by the proposed development;
- the impact of non-vehicular trips generated by the proposed development within the study area; and
- a package of measures to mitigate the impact of the development and to improve safety and encourage trips by bus, cycle and on foot, including a Travel Plan.

7.6.4 In addition, in order to consider matters specifically relevant to an Environmental Statement, such as identifying impact level and importance, nature of impact, impact magnitude and impact significance, an additional assessment methodology has been adopted. This compares the increase in traffic flows within the study area as a result of the development, both in the construction phase and when operational.

### **Assessment of Project Phase**

7.6.5 Once the development has been completed the key potential impacts to be considered are summarised below. These potential impacts were agreed within the scoping exercise with Hampshire County Council, Winchester City Council, the Highways Agency within the Environmental Statement Scoping Document.

7.6.6 The ES considers:

- (i) The magnitude and consequence of changes in traffic flows on the local road network as a result of the development;
- (ii) sustainable travel, safety and amenity for pedestrians and cyclists; and
- (iii) sustainable travel, safety and amenity for bus passengers.

7.6.7 The remaining items considered within the Scoping Opinion from HCC, WCC have been fully considered within the comprehensive Transportation Assessment and Travel Plan which have been submitted to support the planning application.

7.6.8 Tables 7.10-7.12 set out the significance of traffic flow increases as a result of the development (item (i) above). Items (i) to (iii) are covered in Table 7.14 in Appendix 17.1, for which no significant impacts have been identified following the implementation of appropriate mitigation measures.

7.6.9 In the tables below –ve refers to a negative impact magnitude and +ve refers to a positive impact magnitude.

**Table 7.10 2013 Forecast Study Area Total Traffic Flows**

Junction		Base Total Traffic Flow	Base + Development Total Traffic Flow	Impact Magnitude	Impact Significance
Three Maids Roundabout	AM Peak Hr	2,350	2,430	Negligible -ve	Minor
	PM Peak Hr	1,858	1,874	Negligible -ve	Minor
Andover Road/ Harestock Road	AM Peak Hr	1,862	1,764	Slight +ve	Moderate
	PM Peak Hr	1,650	1,593	Negligible +ve	Minor
New Andover Road/ Well House Lane	AM Peak Hr	1,375	1,409	Negligible -ve	Minor
	PM Peak Hr	1,134	1,176	Negligible -ve	Minor
New Andover Road/Stoney Lane	AM Peak Hr	1,428	1,447	Negligible -ve	Minor
	PM Peak Hr	1,249	1,272	Negligible -ve	Minor
Andover Road/Berewecke Road	AM Peak Hr	1,440	1,455	Negligible -ve	Minor
	PM Peak Hr	1,375	1,392	Negligible -ve	Minor
Andover Road/City Road/Sussex Street/Station Hill/Stockbridge Road	AM Peak Hr	1,985	1,995	Negligible -ve	Minor
	PM Peak Hr	2,085	2,097	Negligible -ve	Minor

NOTES: - HGVs included within total traffic flow

**Table 7.11 2018 Forecast Study Area Total Traffic Flows**

Junction		Base Total Traffic Flow	Base + Development Total Traffic Flow	Impact Magnitude	Impact Significance
Three Maids Roundabout	AM Peak Hr	2,503	2,677	Slight -ve	Moderate
	PM Peak Hr	1,980	2,127	Slight -ve	Moderate
Andover Road/Harestock Road	AM Peak Hr	1,985	2,106	Slight -ve	Moderate
	PM Peak Hr	1,758	1,972	Slight -ve	Major
New Andover Road/Well House Lane	AM Peak Hr	1,461	1,804	Moderate -ve	Major
	PM Peak Hr	1,203	1,617	Major -ve	Major

New Andover Road/Stoney Lane	AM Peak Hr	1,541	1,708	Slight -ve	Major
	PM Peak Hr	1,330	1,555	Slight -ve	Major
Andover Road/Berewecke Road	AM Peak Hr	1,547	1,684	Slight -ve	Moderate
	PM Peak Hr	1,468	1,640	Slight -ve	Major
Andover Road/City Road/Sussex Street/Station Hill/Stockbridge Road	AM Peak Hr	2,116	2,218	Negligible – ve	Minor
	PM Peak Hr	2,221	2,340	Slight -ve	Moderate

**Table 7.12 2023 Forecast Study Area Total Traffic Flows**

Junction		Base Total Traffic Flow	Base + Development Total Traffic Flow	Impact Magnitude	Impact Significance
Three Maids Roundabout	AM Peak Hr	2,628	2,905	Slight -ve	Major
	PM Peak Hr	2,077	2,383	Slight -ve	Major
Andover Road / Harestock Road	AM Peak Hr	2,083	2,454	Moderate -ve	Major
	PM Peak Hr	1,844	2,370	Moderate -ve	Major
New Andover Road / Well House Lane	AM Peak Hr	1,532	2,217	Major – ve	Major
	PM Peak Hr	1,263	2,091	Major – ve	Major
New Andover Road/Stoney Lane	AM Peak Hr	1,618	1,976	Moderate -ve	Major
	PM Peak Hr	1,396	1,850	Major -ve	Major
Andover Road/Berewecke Road	AM Peak Hr	1,624	1,912	Moderate -ve	Major
	PM Peak Hr	1,536	1,892	Moderate -ve	Major
Andover Road/City Road/Sussex Street/Station Hill/Stockbridge Road	AM Peak Hr	2,221	2,425	Slight – ve	Moderate
	PM Peak Hr	2,331	2,569	Moderate – ve	Major

7.6.10 Environmental impact will occur as a result of vehicular traffic associated with the development proposals. The implications are increases in traffic at all junctions (with the exception of at the Harestock Road junction in 2013, as a result of the removal of Well House Lane from the junction). Increases in traffic at junctions will result in an increase in delay and queuing and can also result in a reduction in highway safety.

7.6.11 The Impact Significance set out in Tables 7.10 and 7.12 as a result of the proposed development is based on the definition of Impact Significance defined in Table 7.4.

7.6.12 The levels of Impact Significance are consistent with that which would be expected of a development of this magnitude. However, the location of this development is such that a good mix of services, facilities, amenities and public transport opportunities which are likely to be required on a daily basis are located within walking and cycling distance. It therefore will provide the opportunity to reduce the number and length of in-commuting vehicular trips by enabling people to live closer to where they work, and in particular, Winchester City Centre. This is likely to result in an increase in

walking and cycling trips to the city centre with a subsequent reduction in number and length of car journeys. The site is within walking distance of the city centre and the numerous services and places of employment it has to offer. Measures considered within the Mitigation Section of this chapter will therefore be likely to have a greater impact in reducing Impact Significance at this development than they potentially would at other sites of similar magnitudes in less sustainable locations.

### **Assessment of Construction Phase**

7.6.13 The development is proposed to be constructed in phases. Subject to planning, the first phase would be complete in 2013. This would provide around 5% of the total development. The development would be 50% complete by 2018 and the development is anticipated to be complete in 2023. The key potential impacts of construction traffic to be considered are:

- unsocial hours disturbance;
- additional large vehicles on the local highway network;
- mud on the roads; and
- dust, noise and air quality nuisance.

7.6.14 The working hours will generally be 0800-1800 Monday to Friday and 0800-1300 on Saturday. As no working is proposed at night, it is considered that noise related to construction traffic movements will not give rise to disturbance to local receptors.

7.6.15 The construction vehicular access route to the development will be via either:

- (i) Well House Lane to the north of the development; or
- (ii) Andover Road to the south of the development.

7.6.16 The precise route taken will depend on the particular phasing of the construction of the development. This will be defined within the Construction Management Plan which will be approved prior to the start of construction.

7.6.17 It is envisaged that the peak construction traffic movements associated with the development will result in around 250 vehicles per day of which around 25% could be large/heavy vehicles.

7.6.18 Based on a typical 10 hour working day and assuming that the proportion of construction traffic arriving and departing the site is uniformly distributed within this period, around 25 additional light vehicles and six additional large/heavy vehicles would be present on the local highway network within the peak hours. Based on the Impact Significance definitions in Table 7.4, the impact of construction traffic is considered to be of Minor Significance. Further details of impacts and mitigation are included in Table 7.13 in Appendix 17.1.

## **7.7 Enhancement and Mitigation Proposals**

### **Project Phase**

7.7.1 It has been agreed with Highways Officers at Hampshire County Council and Winchester City Council, that contributions will be sought through S106/S278 Agreements as appropriate, to mitigate the impact of the development on the local highway network. As such, the following mitigation measures, as illustrated on Figure 7.5 will be provided to alleviate the impacts of the development:

- The provision of a new 10-15 minute frequency circular bus service serving the development and the city centre;
- The provision of a Park-and-Ride Light Site in the northwestern corner of the development for use by commuters to Winchester;
- A reduction in the speed limit of New Andover Road to 30mph;
- A reduction in the speed limit of Well House Lane between the Park-and-Ride Light Site and the rail bridge to 40mph;
- The downgrading of existing Andover Road to a pedestrian and cycle route, with vehicular access for local frontages only;

- The provision of a combined footway/cycleway to the east of the railway line along the route of the existing permissive path to provide an improved facility between the site and the existing established cycle route on Worthy Road;
- The provision of controlled pedestrian and cycle crossing phases at the new signal controlled junction between Stoney Lane and New Andover Road;
- The provision of controlled pedestrian and cycle crossing phases at the new signal controlled junction between Well House Lane and New Andover Road;
- The removal of Well House Lane from the junction with Andover Road and Harestock Road and the signalisation of the Andover Road/Harestock Road junction to provide a highway safety and capacity benefit;
- local widening of the Andover Road/Berewecke Road junction to enable a small right turn bay to be provided to enhance safety and capacity;
- local improvements to existing pedestrian and cycle provision along Andover Road southern corridor between Park Road and Worthy Lane (see Transportation Assessment for further details);
- The provision of a short inbound bus/cycle lane on Andover Road between the rail bridge and Worthy Lane; and
- A Travel Plan including measures such as a sustainable travel discount vouchers, secure cycle parking and a local information guide will be provided to assist in reaching an agreed target number of car trips.

### **Residual Impacts**

7.7.2 Table 7.14 sets out the Impact Significance of the project phase both before and after consideration of the mitigation measures set out at paragraph 7.7.1. In summary, the mitigation measures are forecast to reduce the residual impact of the project phase by one level of significance. For example, the impact of traffic flows at the Stoney Lane junction as a result of the project phase will reduce from Major Significance to Moderate Significance.

7.7.3 The exception to the above is existing Andover Road. The downgrading of Andover Road to a pedestrian and cycle route with vehicular access to local frontages only will provide a benefit of Major Significance in terms of a significant decrease in traffic flows and a significant increase is expected in pedestrian and cycle flows.

### **Construction Phase**

7.7.4 A Construction Management Plan will be implemented during the construction phase of the project. The aim of the Plan is to minimise the impact of the construction phase on local residents, businesses and the highway network. It will contain a package of agreed mitigation measures which are expected to include:

- an obligation that the main site contractor will operate the site in line with an approved Health and Safety Plan, which will comply with requirements of the Construction (Design and Management) Regulations 2007. Furthermore the main contractor will be expected to join the Considerate Contractors scheme;
- the site contractor organising local press releases and residents meetings as necessary in order to keep local residents informed of progress. In addition, these will be used to provide advance warnings of any significant planned events;
- details limiting the hours of site operation and the routing of construction traffic to protect local residential districts from construction traffic, especially from HGVs where possible. This will be discussed at the appropriate time and if considered necessary by the Council these could be secured separately by means of a Planning Condition;
- the introduction of wheel washing facilities before allowing vehicles to return to the local highway. In addition a road sweeping vehicle will be available to remove any site residue upon the local roads; and
- the site will be secured with solid panel hoarding, this will provide protection and minimise dust and nuisance to local residents and the general public. Dust creation will be monitored closely throughout the scheme and appropriate measures taken when and if required to prevent nuisance. Artwork could be provided to the hoardings to soften the environmental impact of the hoardings/works.

## Residual Impacts

7.7.5 Table 7.13 sets out the Impact Significance of the construction phase both before and after consideration of the mitigation measures set out above. In summary, the mitigation measures are generally forecast to reduce the residual impact of the construction phase by one level of significance. For example, the impact of unsociable working hours in terms of adverse effect on living conditions for local residents within the study area as a result of the construction phase will reduce from Moderate Significance to Minor Significance.

## 7.8 Summary

7.8.1 This Section has considered the environmental impact of the proposed development in terms of traffic and transportation. It has been prepared with consideration to the Scoping Opinion from Winchester City Council which contained responses from key transportation stakeholders.

7.8.2 The study area for the purposes of assessing the transportation impacts of the development has been defined to include the Three Maids Roundabout, the northern highway boundary of Well House Lane, the western highway boundary of School Road, B3047 Worthy Road between School Road and Colley Close, Courtenay Road, Park Road between Courtenay Road and the railway embankment, City Road, Sussex Street, and B3420 Andover Road, including its junctions with Berewecke Road, Stoney Lane and Harestock Road. The study area is illustrated on Figure 7.1.

7.8.3 The location of this development is such that a good mix of services, facilities, amenities and public transport opportunities which are likely to be required on a daily basis are located within walking and cycling distance. It therefore will provide the opportunity to reduce the number and length of in-commuting vehicular trips by enabling people to live closer to where they work, and in particular, Winchester City Centre. This is likely to result in an increase in walking and cycling trips to the city centre with a subsequent reduction in number and length of car journeys. Furthermore, the provision of a 10-15 minute frequency bus service between the development, the park and ride site and the City Centre will offer a real alternative to journeys which may otherwise have been made by car.

7.8.4 Impact Magnitudes have been defined for the development and construction phases with regard to "Guidelines for the Environmental Assessment of Road Traffic", which states that a significant environmental impact may occur when traffic flows increase by more than 30%. This has, for the purposes of this assessment, been considered to represent a major negative impact magnitude.

7.8.5 Impact Significances have been defined further to the above. For the purposes of this assessment a 10% increase in traffic flows is considered to represent a major significance.

7.8.6 The forecast traffic flows when the development is anticipated to be completed in 2023 will generally have a major impact significance, but with varying impact magnitudes. A package of measures has been proposed to mitigate any adverse impacts such that no major significant adverse residual impacts would remain. Measures will include a Travel Plan, a new bus service, new and improved pedestrian and cycle routes/crossing facilities and a Park-and-Ride Light site.

7.8.7 The impact significance of the construction phase is considered to be of minor significance, although mitigation will be provided in the form of a Construction Management Plan to reduce the impacts of the construction phase.

7.8.8 There are therefore no highways or transportation environmental reasons which should prevent the proposed development of this site.