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Transport Assessment

Proposed housing development at

Roundstone Lane
Angmering

On behalf of

Barratt David Wilson Southampton

July 2012

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1 Non Technical Summary

1.1 This Transport Assessment has been prepared on behalf of Barratt David Wilson Southampton in support of a Planning Application for the development of land on the east side of Roundstone Lane, Angmering as a development site for housing.

1.2 This Assessment is to be read in conjunction with all planning, architectural and other reports that accompany the Planning Application for the proposed development.

1.3 This Assessment addresses the following areas:

- Sustainability of the site for residential development
- Audit of existing transport infrastructure
- Cycle and car parking provision and parking strategy
- Proposed form of access and highway safety
- Multi modal development trip generation
- Routes to the site and effect on Angmering Village
- Vehicular trip impact
- Effect on A27 Trunk Road

1.4 The location of the site provides adequate access to a range of local services and can be accessed without dependency on use of a private car. Rail services are beyond the recommended minimum walking distance but can be accessed by bus from the site.

1.5 The site access proposals are suitable to accommodate large vehicles and the provision of new crossings and sections of pedestrian footway on the east side of Roundstone Lane will provide for pedestrian access to the existing public footpaths and nearby bus stops.

1.6 In accordance with local Highway Authority policy a Stage 1 Road Safety Audit of the access proposals has been undertaken and the comments incorporated into the final design. A raised junction form of traffic calming is proposed to replace the existing kerbed buildout priority feature.

1.7 The level of onsite car parking is in accordance with the parking standards and appropriate for the anticipated parking demand at the site.

1.8 Traffic modelling of T junctions within Angmering, roundabouts on the A259 together with the road links in between confirms that there is sufficient road capacity to accommodate traffic associated with the development.

1.9 The level of traffic increase associated with the development does not materially impact the workings of the local highway network.

1.10 Although the section of A259 single lane carriageway adjacent to Angmering experiences peak time congestion it has sufficient lane capacity to accommodate the current flow and the addition of development traffic. The widening of this section of Highway is not warranted as a consequence of the proposed development.

1.11 There is a perception amongst some local residents of a road capacity problem within the village however other than the blocking back effects on the A259 at peak times traffic flows through the village are relatively free flowing with any delay caused quite purposefully with the traffic calming priority features designed to restrict through traffic between the A259 to the south and A27 to the north as part of the measures to promote use of the A280 Angmering Bypass.

1.12 A review of traffic calming for dissuading an increase in vehicle flows through the village centre for routes to and from the A27 is being investigated by West Sussex County Council in consultation with Arun District Council, Angmering Parish Council and other stakeholders and can be contributed towards financially by the development.

1.13 A residential Travel Plan will provide sustainable travel information and incentives to the new residents at the development.

2 Local Transport Policy Context

2.1 National Planning Policy Framework

2.1.1 The National Planning Policy Framework sets out Central Government's current planning policies for England and replaces all previous planning policy guidance and statements (PPGs and PPSs).

2.1.2 Section 4 of the National Planning Policy Framework which was published in March 2012 replacing PPG 13 aims to promote sustainable transport.

2.1.3 The Policy Framework requires all developments that generate significant amounts of movement to be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of:

- *'The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure*
- *Safe and suitable access to the site can be achieved for all people*
- *Improvements can be undertaken within the transport network that can effectively limit the significant impacts of the development*
- *Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.'*

2.1.4 It also requires that developments are located and designed where practical to:

- *'Accommodate the efficient delivery of goods and supplies*
- *Give priority to pedestrian and cycle movements and have access to high quality public transport facilities*
- *Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians avoiding street clutter and where appropriate establishing home zones*
- *Incorporate facilities for charging plug in and other ultra low emission vehicles*
- *Consider the needs of people with disabilities by all modes of transport.'*

2.1.5 The Framework states that '*key facilities such as primary schools and local shops should be located within walking distance of most properties.*'

2.2 National Transport Assessment Guidance

2.2.1 The Communities and Local Government / Department for Transport Guidance on Transport Assessment (2007) has been used as the basis of this Transport Assessment.

2.2.2 The Guidance on Transport Assessment sets out the Principles of Assessment as follows:

'Encouraging environmental sustainability

- *Reducing the need to travel, especially by car - reducing the need for travel, reducing the length of trips, and promoting multi-purpose or linked trips by promoting more sustainable patterns of development and more sustainable communities that reduce the physical separation of key land uses.*
- *Tackling the environmental impact of travel - by improving sustainable transport choices, and by making it safer and easier for people to access jobs, shopping, leisure facilities and services by public transport, walking, and cycling.*
- *The accessibility of the location - the extent to which a site is, or is capable of becoming, accessible by non car modes, particularly for large developments that involve major generators of travel demand.*
- *Other measures which may assist in influencing travel behaviour (ITB) - achieving reductions in car usage (particularly single occupancy vehicles), by measures such as car sharing/pooling, High Occupancy Vehicle (HOV) lanes and parking control.*

Managing the existing network

- *Making best possible use of existing transport infrastructure - for instance by low-cost improvements to the local public transport network and using advanced signal control systems, public transport priority measures (bus lanes), or other forms of Intelligent Transport Systems (ITS) to improve operations on the highway network. It should be noted that the capacity of the existing public transport infrastructure and footpaths is finite, and in some areas overcrowding already exists.*
- *Managing access to the highway network - taking steps to maximise the extent to which the development can be made to 'fit' within the available capacity by managing access from developments onto the highway network.*

Mitigating residual impacts

- *Through demand management - using traffic control measures across a wide network to regulate flows.*

- *Through improvements to the local public transport network, and walking and cycling facilities - for example, by extending bus routes and increasing bus frequencies, and designing sites to facilitate walking and cycling.*
- *Through minor physical improvements to existing roads - it may be possible in some circumstances to improve the capacity of existing roads by relatively minor physical adjustments such as improving the geometry of junctions etc. within the existing highway boundary.*
- *Through provision of new or expanded roads - it is considered good transport planning practice to demonstrate that the other opportunities above have been fully explored before considering the provision of additional road space such as new roads or major junction upgrades.'*

2.3 Manual for Streets and Manual for Streets 2

2.3.1 Manual for Streets [MfS] March 2007 supersedes Design Bulletin 32 and its companion guide Places, Streets and Movement which are now withdrawn in England and Wales.

2.3.2 MfS emphasises a shift in design attitude towards higher priority for pedestrians and cyclists and reduced priority for private vehicle based movement to create higher quality environment residential streets with greater respect paid to the 'place' function rather than 'movement' function of streets.

2.3.3 Manual for Streets 2 [MfS2] September 2010 builds upon MfS and explains how the principles of MfS can be applied more widely effectively closing the perceived gap between MfS and the Design Manual for Road and Bridges [DMRB] by proving a greater level of design guidance for those highways which fall between the classification of Estate Roads and Trunk Roads.

2.3.4 MfS2 states in terms of Status and Application that '*DMRB is the design standard for Trunk Roads and Motorways in England, Scotland, Wales and Northern Ireland. The strict application of DMRB to non-trunk routes is rarely appropriate for highway design in built up areas, regardless of traffic volume.*'

2.3.5 Design criteria and principles within MfS / MfS2 will also be used as standards and guidance in the design of the onsite streets within this development.

2.4 The Localism Act

2.4.1 The Localism Bill was published in December 2010 and was enacted on 15 November 2011.

2.4.2 The Act will abolish the South East Plan and will introduce neighbourhood plans intended to give local councils and communities more control over the

development of the communities in which they live. A programme for this is not yet available.

2.5 The South East Plan 2009

2.5.1 The South East Plan dated May 2009 is the Regional Spatial Strategy (RSS) for the South East of England which sets out the long term spatial planning framework for the region over the years 2006-2026 including spatial policies for:

- the scale and distribution of new housing
- priorities for new infrastructure and economic development
- the strategy for protecting countryside, biodiversity and the built and historic environment
- tackling climate change and safeguarding natural resources, for example water and minerals

2.5.2 The South East Plan replaced the saved policies which had been extended by the Secretary of State in the West Sussex Structure Plan and incorporates the Regional Transport Strategy (RTS).

2.5.3 It is noted that the RSSs are due to be abolished under the Localism Act which will remove the South East Plan. It has been made clear to Planning Authorities in letters to Chief Planning Officers that it is a material consideration that the RSSs are due to be revoked.

2.6 Arun Local Development Framework and Development Plan Documents

2.6.1 The LDF documents have yet to be completed by the Local Authority and the proposals map is due to be drawn up after the Core Strategy is adopted, currently anticipated to be in October 2012.

2.6.2 Until the LDF documents are adopted the saved policies of the Local Plan remain in use although consideration of proposals will also take account of emerging policy.

2.6.3 The site is not identified on the Local Plan proposal map for any specific type of development.

2.6.4 The site is however identified in the Arun Core Strategy Options for Growth Consultation document dated 12 February - 2 April 2009.

2.6.5 The document notes that Angmering is a large village with a reasonable range of local facilities and that the area in which the site lies is accessible to a good range of local facilities within 800-1600 metres.

2.6.6 The document does however note that public transport in the area is generally poor but concludes that the site is potentially suitable for strategic development.

2.6.7 The site is specifically identified in the Strategic Housing Land Availability Assessment (SHLAA) 2008-2009 as a part of site number 80 which could accommodate a mix of dwellings of 301 units.

2.6.8 The Strategic Housing Land Availability Assessment was recently updated to the 2012 version by Peter Brett Associates.

2.6.9 The site is still identified as part of site number 80 and described as "*suitable as a larger comprehensive development with adjacent land. If planned comprehensively this site could accommodate a mix of dwellings of about 290 units which could be started in about 2018 and completed by 2022.*"

2.7 Arun District Council Local Plan Saved Policies

2.7.1 The Arun District Council Local Plan was adopted on 17 April 2003. The Plan provides a framework for development and the saved polices will remain effective until replaced by the LDF documents.

2.7.2 **Saved Policy GEN7 – The Form of New Development** confirms that 'development will be permitted provided it

(iii) promotes sustainable development, including the effective use and conservation of energy and reducing the need to travel, particularly by private car;

(vii) allows for the safe movement of pedestrians and vehicles, giving priority to pedestrians.'

2.7.3 **Saved Policy GEN12 - Parking in New Development** states that '*parking provision in excess of the District Council's Parking Standards will not be permitted.*' The Parking Standards are in Appendix 2 of the Local Plan.

2.7.4 **Saved Policy GEN15 - Cycling and Walking** confirms that *'where appropriate, new development will be required to provide safe and attractive facilities for cyclists and pedestrians, both within the site and in the form of links to the surrounding area.'*

2.8 The West Sussex Transport Plan 2011-2026 (LTP3)

2.8.1 The LTP3 sets out the aspirations of the Highway Authority. The priorities and main objectives are stated as follows:

'Our highest priorities will tackle the key issues we face and bring about radical improvements to quality of life for the people and businesses in the County. Our highest priorities are:

1. *Improvements to the A27 trunk road and complementary public transport improvements to the current bottlenecks at Chichester, Arundel and Worthing (not currently programmed) to increase capacity, improve reliability and safety and increase the competitiveness of local businesses and attract investment.*
2. *Programmed improvements to the A23 trunk road at the current bottleneck between Handcross and Warninglid to increase capacity and improve the safety record.*
3. *Maintaining the highway network.*
4. *Whilst major schemes are a high priority for us, they are likely to take many years to deliver. It remains important that alongside these priorities we continue to work with our community to improve the safety record on our local roads, increase usage of healthy and sustainable modes of transport, and provide access to services.'*

'Our main objective is to improve quality of life for the people of West Sussex by helping to provide:

- *a high quality transport network that promotes a competitive and prosperous economy in all parts of the County*
- *a resilient transport network that complements the built and natural environment whilst reducing carbon emissions over time*
- *access to services, employment and housing*
- *a transport network that feels, and is, safer and healthier to use'*

2.8.2 There is no specific policy or proposal for Angmering or the key roads in the vicinity of the site. The A259 (from A29 Bognor Regis to Angmering bypass) and A280 Angmering Bypass are identified as part of the County's Strategic Road Network.

2.8.3 The implementation plan for Arun District includes the following aspirations:

- *'All new development should be designed to promote 'local living', for example shops, jobs and homes all being within easy reach of each other.'*

- *'All new development should provide enough secure cycle parking to meet the needs of the development and be within close proximity to public transport.'*
- *'Parking provision at new residential development should provide enough spaces to accommodate the expected number of vehicles at the site or provide measures such as car clubs which reduce the number of vehicles to match the space available.'*
- *'Developing opportunities through new development to improve the access along the A259 including improvements that will achieve better bus journey times.'*

2.9 Parking Standards

2.9.1 The West Sussex County Council Standards are set out in the Supplementary Planning Guidance adopted by West Sussex County Council in November 2003 entitled 'Revised County Parking Standards and Transport Contributions Methodology'. From September 2010 revised guidance applies to parking in residential developments which is calculated on a site-specific basis using West Sussex County Council's Car Parking Demand Calculator.

2.9.2 Arun District Council's Supplementary Planning Guidance – Parking Standards is included as Appendix 2 of the Local Plan and for residential developments of over 16 units based upon maximum parking standards are as follows:

Dwelling Type	Maximum Car Parking Standard	Minimum Cycle Parking Standard
Dwellings – House 1, 2 or 3 bedrooms	2 spaces per house plus 0.2 per house for visitors	1 space per 8 car parking spaces
Dwellings – House 4 or more bedrooms	3 spaces per house plus 0.2 per house for visitors	1 space per 8 car parking spaces

Table 1: Parking Standards

2.10 Committed Developments

2.10.1 There are no committed local developments which materially affect highways and transport matters associated with this site.

3 The Site and the Surrounding Area

3.1 Site Location and Surroundings

3.1.1 The proposed housing development is located on the eastern side of Angmering Village on land to the east of Roundstone Lane to the west of the Angmering Bypass 700m – 1,100m to north of the A259 Roundstone Bypass.

3.1.2 Angmering Railway Station is located 1.5km to the southwest and the A27 Arundel Road passes the site approximately 1.5km to the north.

3.1.3 Beyond the A280 Angmering Bypass to the east lie Ecclesden Manor and Ecclesden Mill together with agricultural fields. There is a rugby football pitch and agricultural nursery glasshouses to the south and Avenals Farm to the north. To the west lies a residential area and Angmering Village centre.

3.1.4 A location plan which identifies the site is attached in Appendix 1 at the rear of this report.

3.2 Key Local Services, Amenities and Employment Centres

3.2.1 The site is situated on the edge of an established residential area and would create an expansion of Angmering village.

3.2.2 The site is within a short walk of Angmering village centre which has a small selection of shops including a small food store, Post Office, GP Surgery and Dental Practice, Pharmacy and Library. Other key services such as schools, larger food stores, doctors and dentists are located within approximately 1.5km.

3.2.3 There are also shops adjacent to Angmering Railway Station on Station Road and a supermarket on New Road A259 approximately 2km walk from the site.

3.2.4 There are four banks in Rustington on The Street. The nearest major hospital is in Worthing.

3.2.5 There are limited employment opportunities within Angmering Village and East Preston / Rustington to the south. The main employment centres are expected to be in surrounding towns such as Littlehampton, Worthing, Bognor Regis, Chichester and the Brighton and Hove to Shoreham by Sea area.

3.2.6 Plans showing the location of key local amenities and pedestrian routes are located in Appendix 2 at the rear of this report.

3.3 Site Description and Use

3.3.1 The site is approximately 6.8ha in area and comprises agricultural fields.

3.3.2 To the southwest of the site is the residential property of Pound Place and to the north is the Manor Nurseries Garden Centre.

3.3.3 The site is bounded a public footpath and Worthing Rugby Football Club to the south, a Public Byway and Footpath and the A280 Angmering Bypass to the east and Roundstone Lane to the west.

3.3.4 Vehicular and pedestrian access to the site is currently available from the Public Byway at the northeast corner of the site.

3.3.5 An existing layout plan is located in Appendix 3 at the rear of this report.

4 Accessibility and Local Transport Infrastructure

4.1 Pedestrian and Cycle

4.1.1 The main pedestrian and cyclist desire lines would be northwest towards Angmering Village centre and southwest towards Angmering Railway Station and West Preston.

4.1.2 There is a 1.8m wide footway along the full length of the west side of Roundstone Lane.

4.1.3 There is a 1.8m wide footway on the east side of Roundstone Lane which extends northwards from the northwest corner of the site to Angmering High Street and also from the southwest corner of the site which extends to the public footpath on the north side of the rugby field. There is currently no footway along the western site boundary.

4.1.4 These footways provide links to the wider network of footways within Angmering and the surrounding area which are generally hard paved with adequate width for wheelchairs and prams to pass and include drop kerbs and tactile paving at crossing points.

4.1.5 There is a traffic signal controlled pedestrian crossing on the A259 on the route towards Angmering Railway Station together with several other uncontrolled crossing points at the junctions with Roundstone Lane and Angmering Bypass and a footbridge over the A259 Roundstone Bypass adjacent to Station Road.

4.1.6 In addition to the public footways there are public footpaths along the southern and eastern boundaries which connect with Roundstone Lane to the west, the A259 to the south and a short section of public byway (open to all traffic) from the northeast corner of the site to the High Street to the north.

4.1.7 There is a segregated footway cycleway through the residential estate to the west. There are also dedicated off road cycle routes to the south of the site following the alignment of the A259 and an off carriageway shared cycle route along the A280 Angmering Bypass between Water Lane and the A27.

4.1.8 The location of current public footpaths and cycle routes is shown on the pedestrian and cycle infrastructure plan attached in Appendix 4 at the rear of this report.

4.2 Access by Public Buses

4.2.1 Stagecoach and Compass Bus operate bus services in the vicinity of the site.

4.2.2 The closest bus stop is located immediately outside the site boundary on the west side of Roundstone Lane to the site and comprises a single pole and sign.

4.2.3 There are also stops on both sides of Roundstone Lane approximately 200m further south at the intersection of the footpath which follows the southern site boundary with Roundstone Lane. These stops provide access to the Stagecoach number 9 bus which offers an hourly service between Southwick and Littlehampton as well as Angmering and Rustington centres and Angmering Railway Station.

4.2.4 Compass Bus number 84 can be accessed from the Village Green approximately 1km walk to the west and provides two services Mondays to Saturdays to Arundel and Chichester.

4.2.5 The Stagecoach 700 Coastliner Service stops on Littlehampton Road 1km to the south of the site and provides up to 6 services per hour in each direction between Brighton and Southsea including Ferring, Goring, Worthing, Lancing, Shoreham, Portslade and Hove to the east and continuing to Rustington, Littlehampton, Arundel, Yapton, Bognor Regis, Chichester, Bosham, Southbourne, Emsworth, Havant, Hilsea and Portsmouth to the west.

4.2.6 The remaining services within Angmering provide access to schools and supermarkets and are typically one service per day which can be accessed from either the Village Green or Dell Drive to the west of the site.

4.2.7 Average bus journey times to likely destinations including walking times to and from bus stops are as follows:

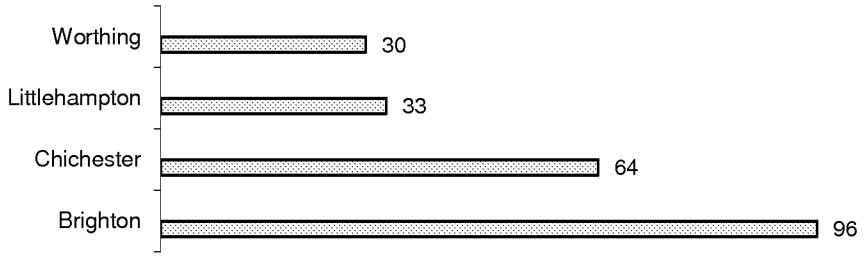

Figure 1: Bus Journey Times in Minutes

4.2.8 Although not sufficient to justify a new service the increase in passengers from the development would assist making bus routes through Angmering more commercially viable in the future.

4.2.9 The locations of bus stops which serve the site are identified on the public transport infrastructure plan attached in Appendix 4 at the rear of this report.

4.3 Access by Railway

4.3.1 Angmering Railway Station is located approximately 2km walking distance from the site and is part of the south coast mainline between Portsmouth and Brighton which also provides direct services to London and Southampton.

4.3.2 Angmering Railway Station is beyond commonly recognised maximum walking distances described as accessible but the number 9 bus can be used to access from directly outside the site and has an hourly frequency. For able bodied residents the distance represents a 25 minute walk or 12 minute cycle.

4.3.3 There is a well established pedestrian route to Angmering Railway Station via a traffic signal controlled pedestrian crossing on the A259 together with direct bus services. There is little scope to upgrade access to rail services.

4.3.4 Trains from Angmering Station travel west to Littlehampton, Chichester, Portsmouth and Southampton and east to Worthing, Hove, Brighton, Gatwick and London Victoria.

4.3.5 During weekday peak hours there are typically two direct services per hour to London Victoria, three per hour to Brighton and two per hour to Portsmouth.

4.3.6 There will be no need to improve rail service or facilities to accommodate increases in passenger numbers from development proposals of this scale.

4.3.7 Average train journey times between Angmering Station and key destinations are as follows:

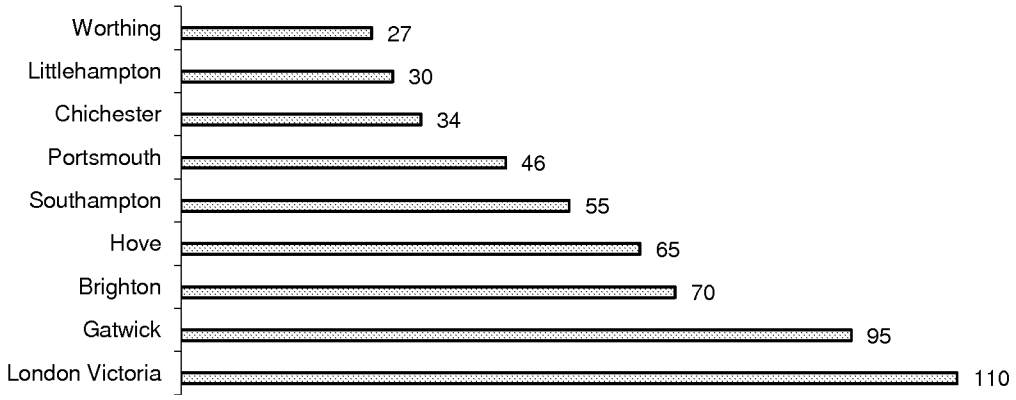

Figure 2: Train Journey Times in Minutes

4.3.8 Angmering Railway Station has the following facilities:

- A staffed ticket office which is open Monday to Friday between 06:25 and 19:35, Saturday between 06:40 and 20:05 and on Sunday between 08:10 and 15:45.
- The station is accessible by bicycle and wheelchair. There is a step free route between platforms and accessible self service ticket machines.
- Car parking with 75 spaces including 2 disabled spaces.
- There are two bus stops located directly outside the station which are serviced by the number 9 bus in both directions.
- A taxi rank and office is located outside the station.

4.3.9 The location of Angmering Railway Station is shown on the public transport infrastructure plan located in Appendix 4 at the rear of this report.

4.4 Local Highway Network and Routes

4.4.1 The B2225 Roundstone Lane on the western boundary of the site links to Angmering High Street at its northern end and to the A259 at its southern end at a roundabout junction.

4.4.2 The gated access to the site from the public byway at the northeast corner of the site joins the High Street to the north.

4.4.3 The A259 Roundstone Bypass (part of the Strategic Road Network) is accessed via a roundabout at the southern end of Roundstone Lane which links to the southern end of the A280 Angmering Bypass at a further roundabout, the next junction to the east and Station Road, the next junction to the west.

4.4.4 The A280 Angmering Bypass connects with the A27 and can be accessed from Roundstone Lane either via the A259 to the south or via Weavers Hill and Water Lane to the north.

4.4.5 The A27 can also be accessed from the B2225 Arundel Road via Angmering High Street although it is restricted to operating left in left out only. There is no direct access to the A27 from Dappers Lane which also cannot be entered from the north.

4.4.6 Traffic calming in the form of highway buildouts is present on Station Road, Water Lane and Roundstone Lane with a 20mph zone in the village centre creating a restriction to through traffic using local village roads.

4.4.7 The local highway network and relevant features are shown on the highways infrastructure plan attached in Appendix 4 at the rear of this report.

4.5 Angmering Bypass and Angmering Village Traffic Calming

4.5.1 The Bramley Green Housing Estate completed in 2005 is located to the west of Roundstone Lane to the southwest of the proposed development and comprises approximately 600 homes.

4.5.2 The A280 Angmering Bypass was constructed between 2001 and 2003 and opened in February 2003 built with developer funding from the Bramley Green development.

4.5.3 The bypass was initiated through a West Sussex County Council scheme which had undergone a Public Inquiry in 1993/1994. This improvement was intended to reduce traffic flows through Angmering Village and allow the closure of central reservation gaps in the A27. Subsequently improvements on the A27 provided the grade separated junction into which the Angmering Bypass now connects.

4.5.4 Further to monitoring of the effects of the bypass and as part of the measures to encourage the use of the A280 Angmering Bypass over routes through Angmering Village WSCC devised a traffic calming scheme in consultation with Angmering Parish Council and using developer funding from the capital works fund for the Bypass.

4.5.5 The following works were constructed between July and November 2004:

- Station Road – extension of the 30 mph speed restriction, a gateway feature at the southern end of the proposed 30 mph speed restriction, priority give way features.

- Arundel Road – waiting restrictions, gateway feature, priority give way features.
- Water Lane – extension of the 30 mph speed restriction, gateway feature, priority give way features.
- Dappers Lane – extension of the 30 mph speed restriction, gateway feature.
- Roundstone Lane – speed cushions, priority give way feature.
- The Square - 20 mph speed limit, parking restrictions, kerb realignments.

4.5.6 The right turn facility on the A27 at Hammerpot was closed by the Highways Agency in February 2004 and a one way system was introduced at the northern end of Dappers Lane under the A27 bridge in March 2004.

4.5.7 Studies were undertaken by WSCC in July 2004 and July 2005 which reported that the Angmering Bypass and Angmering Village traffic management schemes were operating successfully in tandem encouraging through traffic away from Angmering Village.

4.5.8 The Bramley Green Estate was designed for a 20mph speed limit. Raised junctions and priority give way features were incorporated into the street layout.

4.5.9 Following problems with onstreet parking and vehicle speeds in excess of the 20mph limit additional traffic calming and waiting restrictions were proposed, consulted on and approved in 2011. The traffic calming includes three new 75mm raised speed tables; two on Nursery Road and one on Bramley Way to the south.

4.5.10 Concern has been expressed to the Applicant through public consultation about increased traffic flow through the Village Centre and routes to the A27 to the north. There is a perceived need to restrict further vehicle use of these routes unless problems on the A259 can be resolved. There is some local support for the removal of the traffic restrictions within the village and replaced with speed reducing rather than capacity reducing measures.

4.5.11 It is understood that there are ongoing discussions between local residents / the Parish Council and WSCC Highway Authority regarding the location and form of the traffic calming in the village and how to strike an appropriate balance between traffic calming and capacity restriction to discourage through traffic whilst not unduly impeding local traffic particularly to and from local schools.

4.6 Local Road Safety Record

4.6.1 Road traffic accident records for a three year period up to June 2011 have been sourced from Sussex Police.

Angmering Village

4.6.2 There are no recorded incidents at any existing entrances to the site or in the vicinity of the site on Roundstone Lane and High Street.

4.6.3 There are three incidents recorded as slight severity at the southern end of Roundstone Lane, one at the junction of Mayflower Way the other two at the entrance to the roundabout at the A259 Roundstone Bypass. All are due to driver error not connected to highway layout.

4.6.4 There are three recorded incidents on Water Lane / Station Road in the vicinity of the Village Centre and 20mph zone, one a rear end shunt, the other two involving pedestrians crossing the road. All were recorded as slight severity. None indicate excessive speed although the ATC traffic survey undertaken on Water Lane adjacent to the junction with High Street shows passing speeds in excess of the 20mph posted speed limit.

A259 Roundstone Bypass

4.6.5 There are two incidents recorded as severe on the A259 at the junction with Roundstone Lane both involving cyclists but not similar causes.

4.6.6 There are several incidents recorded on the A259 approaching and at the roundabout junction with Station Road all of which were recorded as slight severity and include a cluster of incidents on the eastern arm. Of the ten incidents within 200m of the roundabout three involved cyclists being knocked off by cars, three were pedestrians hit by cars, two involved lane changing errors and two were rear end shunts.

4.6.7 The ATC survey undertaken on the A259 between the junctions with Station Road and Roundstone Lane shows mean and 85th%ile speeds within the posted speed limit and none of the incidents are reported as due to excessive speed.

4.6.8 There are pedestrian / cyclist desire lines to Angmering Railway Station and nearby shops in West Preston from Angmering via Station Road and Angmering School on the north side of the A259 from West Preston. Pedestrians are served by a footbridge on the eastern arm of the roundabout. The incidents involving pedestrians all appear to be teenagers / adolescents crossing the A259 not via the footbridge. A Toucan Crossing at this location has been

promoted in the past. This route is unlikely to be the main desire line from the proposed development on Roundstone Lane.

Angmering Bypass and A27

4.6.9 There are two incidents recorded as slight severity at the junction of Water Lane and the A280 Angmering Bypass both of which were rear end shunts on the minor arm.

4.6.10 There are two incidents recorded as slight severity at the roundabout at the northern end of the A280 Angmering Bypass at the Titnore grade separated junction with the A27. Both were rear end shunts one of which involved drink driving.

4.6.11 There are no recorded incidents at the junction of Arundel Road and the A27 at the left turn only Hammerpot T junction.

4.6.12 None of the incidents analysed are attributable to deficiencies in visibility or geometry and in all cases the proportionate increase in traffic due to development is small and the statistical increase in incidents due to development is negligible.

4.6.13 Copies of the accident records together with a plan showing the location and severity is attached in Appendix 5 at the rear of this report.

5 Proposed Development

5.1 Description of the Proposed Development

5.1.1 The development proposals are for the construction of 150 residential dwellings together with on site highways and parking spaces.

5.1.2 The schedule of accommodation is as follows:

	Private Market	Affordable Housing	**Total**
1 Bed	1		1
2 Bed	9	15	24
3 Bed	40	30	70
4 Bed	45		45
5 Bed	10		10
Total	**105**	**45**	**150**

Table 2: Schedule of Accommodation

5.1.3 The development will include car and cycle parking in accordance with current policy together with onsite streets and public open space.

5.1.4 A copy of the proposed site layout plan is located in Appendix 6 at the rear of this report.

5.2 Onsite Streets

5.2.1 The onsite highway will be formed as a main loop with segregated footways on both sides accessed from Roundstone Lane forming a spine road off which several cul-de-sacs, private drives and shared surfaced areas are accessed.

5.2.2 The proposed layout is adequate to cater for swept paths of large vehicles, visibility at junctions and around corners, alignments and traffic calming for speed restraint with adequate provision for non motorised users.

5.2.3 The main onsite streets will be built to adoptable standards with the detailed design of Home Zones and shared surface areas progressed in consultation with the Highway Authority as part of the adoption process.

5.2.4 Vehicle tracking confirms the onsite streets are suitable for emergency and service access and is provided separately to support the Planning Application.

5.3 Pedestrian and Cycle Access

5.3.1 Footways incorporated into the proposed highway accesses will be extended onto highway land a short distance along the site frontage sufficiently to allow

for dropped kerb pedestrian crossings to access the existing footway on the western side of Roundstone Lane.

5.3.2 There is no footway on the eastern side of Roundstone Lane to the north of the site to connect to and the level difference and third party land issues along the site frontage and to the south of the site restrict the ability to promote a new pedestrian footway on the eastern side of Roundstone Lane to the south of the site.

5.3.3 Additionally pedestrian links are proposed to the public footpath on the southern site boundary, to the footpath on the eastern site boundary and to the byway at the north east corner of the site.

5.4 Access for Construction Traffic

5.4.1 Access for construction vehicles will be from Roundstone Lane via the A259 and vehicles will not approach or leave via the High Street or Water Lane.

5.4.2 The permanent access would be constructed to serve as the construction access.

5.5 Permanent Highway Access

5.5.1 A new 5.5m wide T junction from Roundstone Lane is proposed providing a 5.5m carriageway with footways both sides into the site.

5.5.2 The preliminary design for the new site entrance is shown on the Highway Access Plan attached in Appendix 6 at the rear of this report.

5.5.3 Visibility splays of 2.4m x 43m in accordance with Table 7.1 of Manual for Streets are available and the junction would be constructed to the standard geometry suitable to accommodate the turning movements of large removal lorries and emergency service vehicles.

5.5.4 There is a level difference of approximately 1.6 metres from the carriageway level to top of bank within the adjacent field which will require some reduction in site levels in this area together with retaining walls which should not need to be more than one metre high. There will be a gradient along the new access road into the site of between 1:20 and 1:12 to accommodate this change in level.

5.5.5 A preliminary levels design is provided with the Planning Application which confirms this is achievable.

5.5.6 The existing gated field access serviced by the Public Byway accessed from High Street would no longer be accessible to motorised vehicular traffic.

5.6 Safety Audit

5.6.1 A Stage 1 Safety Audit was undertaken by Halcrow in February 2012 and is attached together with a Designer's Response in Appendix 7 at the rear of this report.

5.6.2 The Audit raised the issue relating to the presence of the existing traffic calming buildout opposite the proposed site access with the potential for traffic to ignore the priority system leading to conflicts between vehicles approaching the junction. The recommendation is to remove the buildout.

5.6.3 The proposal is to remove the buildout in accordance with the audit recommendation and replace it with a raised junction to replace the speed reducing function of the current arrangement.

5.7 Effect on Roundstone Lane Traffic Calming

5.7.1 In the vicinity of the proposed development site on Roundstone Lane between the junctions with High Street and Nursery Road there are three sets of 75mm high tarmac speed cushions either side of a priority give way feature which gives priority to southbound vehicles.

5.7.2 There is an 80m gap between the two sets of speed cushions in which a 10m long kerbed buildout (priority feature) 45m from the northern set of cushions and 25m from the southern set has been constructed.

5.7.3 The narrowing is on the western side thereby restricting the northbound flow when conflicting with southbound vehicles providing a stronger speed restriction than the speed cushions particularly to the northbound flow.

5.7.4 There is a difference in speed between the two directions that southbound traffic has an uninterrupted passage and clear forward visibility to oncoming traffic which allows higher vehicles speeds whereas northbound traffic has to give way to southbound traffic and ensure their path is available before negotiating the narrowing producing lower speeds.

5.7.5 The vehicle speeds demonstrate that the presence of the build out does have a speed reducing effect.

5.7.6 Accident records obtained and included in the Transport Assessment show there have been no recorded accidents on this stretch of road or in the surrounding streets in the vicinity of the development over a three year period.

5.7.7 Replacing the buildout with a raised junction would retain the strong traffic calming feature and also reduce vehicle speeds equally in both directions along

Roundstone Lane providing a safer environment for the increased pedestrian movements at the new junction.

5.8 Public Transport

5.8.1 It would be an advantage to residents at the development to increase accessibility to the 700 Coastliner Service by diverting and extending the route to pass through Angmering closer to the site however this would be impractical due the extended length of the route and inevitable effects to the timetable in other areas and Stagecoach has confirmed that they would not support this porposal.

5.8.2 The increase in bus passengers on the Stagecoach Number 9 Service which travels in both directions on Roundstone Lane will assist with the ongoing viability of that service.

6 Parking Strategy and Provision

6.1 Car Parking Standards

6.1.1 Current car parking standards as set out in Arun District Council's Supplementary Planning Guidance - Parking Standards are as follows:

Dwelling Type	Number of Units Proposed	Maximum Number of Spaces per Unit	Maximum Total Provision
House up to 3 bed	95	2.2 spaces	209
House 4 bed +	55	3.2 spaces	176
			385

Table 3: Maximum Car Parking Provision

6.2 Car Parking Demand

6.2.1 The West Sussex County Council Residential Car Parking Demand Calculator indicates a total parking demand from the development proposals of 395 spaces based on 2 spaces allocated to houses with up to 3 bedrooms and 3 spaces allocated to the 4 and 5 bedroom houses, a total of 355 allocated spaces and the remainder being unallocated.

6.3 Parking Provision

6.3.1 Onsite parking provision is provided for within the layout in accordance with Arun District Council's parking standards on the basis of 2 spaces per houses with up to 3 bedrooms and 3 spaces per house of 4 bedrooms or more.

6.3.2 Additional parking is provided for the 40 additional spaces identified by the West Sussex County Council Residential Car Parking Demand Calculator in an unallocated manner thereby negating any potential for overspill or displaced parking.

6.4 Cycle Parking

6.4.1 Cycle parking will be provided for each property within garages and sheds.

7 Development Travel Demand

7.1 Existing Travel Demand

7.1.1 The travel demand of the current site use is taken as negligible and no trip generation is offered.

7.2 Proposed Development Travel Demand

7.2.1 The proposed residential development will produce new trips on the local and wider network being new homes and therefore growth in travel demand rather than an attractor of existing trips.

7.3 TRICS Datasets

7.3.1 Multi modal TRICS data has been reviewed for comparable residential developments of privately owned housing located in village environments.

7.3.2 Of the datasets available two comparable sites were identified one of which, located in Derbyshire, was within 1km walking distance of a railway station and the other, located in East Sussex, located 3km to a railway station.

7.3.3 The site in East Sussex provides the only truly comparable data set available given its type and location to public transport infrastructure but the survey was undertaken while the site was under construction and only two thirds occupied and is therefore ruled out.

7.3.4 In the absence of a suitable comparable site the modal share identified by National Census data for the local area has been applied to an average of privately owned housing data sets located outside London, Ireland and Scotland and surveyed within the last 8 years.

7.4 Trip Generation

7.4.1 Weekday peak hour trips are estimated for 150 dwellings as follows:

	AM Peak 08:00-09:00		**PM Peak 17:00-18:00**		Total Weekday
	Inbound	Outbound	Inbound	Outbound	
Pedestrians	3	12	8	5	118
Cyclists	2	8	6	4	82
Public Transport	3	10	7	4	101
Vehicles	29	101	71	45	1,013
Vehicle Passengers	3	9	6	4	90
Motorcycle	1	2	2	1	24
Ordinary Goods Vehicles	1	1	0	0	4

Table 4: Development Trip Generation

7.4.2 The modal share provided by local statistics is as follows:

Pedestrians and Cyclists	14.0%
Public Transport	7.0%
Vehicle Driver	70.1%
Vehicle Passenger	6.3%
Other	2.6%

Table 5: Modal Share

7.4.3 Despite being data from 2001 the local statistics reflect the local circumstances and availability of public transport and in this case represents the best available method of determining residential modal choice whilst trip rates are taken from representative TRICS sites.

7.4.4 TRICS survey data and Trip Generation Calculations are located in Appendix 8 at the rear of this report.

7.5 Construction Traffic

7.5.1 The phasing of the development is not currently known and will influence the numbers and frequency of construction traffic movements.

7.5.2 It is not anticipated there will be abnormal generators of large quantities of HGV construction traffic movements such as significant earth moving operations.

8 Traffic Impact Analysis

8.1 Area of Influence and Detailed Study Area

8.1.1 The local travel to work statistics show approximately 90% of the resident population travel to a workplace within 30km of their home. This includes employment centres of Brighton and Hove, Shoreham-by-Sea, Lancing, Worthing, Horsham and Burgess Hill to the east and north. Littlehampton, Bognor Regis, Arundel and Chichester to the west.

8.1.2 Beyond 30km trips are likely to be to major towns and cities. Trips to Central London are likely to be via train. Portsmouth and Southampton are also accessible by train.

8.1.3 The main south coast routes of the A27 and A259 would be used to access all employment centres beyond a few kilometres from the site. The A259 would be used predominantly for areas along the south coast at a distance where there is no benefit to using the A27 which is generally a faster route over longer distances.

8.1.4 Development traffic using the A27 would travel either via the Village Centre and Arundel Road, the A280 via Weavers Hill and Water Lane or potentially via the A259 and Angmering Bypass to avoid travelling through the village although this adds 2km to the journey.

8.1.5 Development traffic using the A259 would all travel via the roundabout at the southern end of Roundstone Lane.

8.1.6 The following junctions were included in the detailed study area:

- Roundabout at A259 Roundstone Bypass with Station Road
- Roundabout at A259 Roundstone Bypass with Roundstone Lane
- Roundabout at A259 Roundstone Bypass with A280 Angmering Bypass
- T Junction at Station Road / Water Lane with Arundel Road
- T Junction at Water Lane with High Street
- T Junction at Water Lane with Weavers Hill
- T Junction at Water Lane with A280

8.1.7 Traffic generated by the proposed development can access the A27 via the grade separated junction which has sufficient capacity and does not suffer delays or queuing and has therefore not been included.

8.1.8 The junction of Arundel Road and the A27 is a left turn only junction and therefore limits the use of this junction by development traffic to those travelling

towards the west that would not use the A259. This is a small proportion and in traffic numbers less than 30vph peak hour. This junction has therefore also been omitted from detailed traffic impact modelling.

8.1.9 The overall effect on the A27 is expected to be negligible with no more than one vehicle per minute in peak hours in any direction and has therefore been omitted from further consideration.

8.2 Existing Network Traffic

8.2.1 Automatic Traffic Counter (ATC) surveys of traffic volume and speed were carried out on the A259 Roundstone Bypass between the junctions with Station Road and Roundstone Lane and on Water Lane adjacent to the junction with High Street commencing 10 November 2011 for seven days. A further ATC survey was carried out adjacent to the kerbed buildout priority feature on Roundstone Lane adjacent to the development site commencing on 18 June 2012 for seven days.

8.2.2 Peak hour traffic survey of key junctions including classified turning counts and queue lengths was carried out on Friday, 11 November 2011 for both AM and PM network peak hours.

8.2.3 A summary of the peak hour traffic count data is located in Appendix 9 at the rear of this report.

8.3 Trip Distribution and Assignment

8.3.1 A gravity model has been produced based on the size and proximity of urban areas with diminishing proportions as the distance increases informed by local resident population travel to work statistics from the National Census.

8.3.2 Traffic has been assigned to the most efficient route incorporating an allowance for diffusion on local streets on the basis that the drivers will know the area and will avoid unnecessary delay where possible.

8.3.3 There are no allocated or committed developments included in the model and no deduction has been made for the existing travel demand at the site.

8.3.4 Vehicle trip gravity model diagrams and tables together with schematic traffic flow diagrams are attached in Appendix 10 at the rear of this report.

8.4 Assessment Years

8.4.1 The effect of vehicular traffic associated with the development proposals has been assessed in the anticipated opening year of 2013 and in the future year 2017 being 5 years beyond the year of application.

8.4.2 Traffic models have been adjusted for future year scenarios using the Department for Transport's Regional Traffic Growth factors adjusted to suit the locality using TEMPRO in accordance with current guidance.

8.4.3 The most current Regional Growth Factors at the time of writing are the 2009 data and the most current version of TEMPRO is version 6.1.4.

8.4.4 The change in network traffic using this data and method produces increases of the order of 1% from 2011 to 2013 (Opening Year) and 3% from 2011 to 2017.

8.4.5 This contradicts the DfT National Travel Survey 2010 which reports a national decline in trip rates over three years from 2007 together with a general falling trend in miles travelled by private vehicle and a falling trend in proportion of trips by private vehicle.

8.4.6 The traffic growth factors and future year scenarios are therefore provided with the caveat that year on year increases in traffic growth are not sustainable particularly when applied to peak time models.

8.4.7 It should also be noted that the development flows are not likely to increase over time beyond our allowance and will therefore have no greater impact than in the opening year which is therefore the worst case in terms of development traffic impact.

8.5 Modelling Packages and Calibration

8.5.1 Modelling of junctions on the weekday morning and evening peak hours and the weekend peak hours has been undertaken using the TRL software package ARCADY 7 for the roundabout junctions and PICADY 5 for the T Junctions.

8.5.2 The T junction PICADY models required no calibration.

8.5.3 The ARCADY model was calibrated using observed queue lengths although very little alteration was required to produce a best fit.

8.6 Summary of Results

8.6.1 Future year scenario increases are proportionately less and therefore not the critical measure of traffic impact from the development. The opening year scenario traffic impacts are discussed below.

Water Lane Village Centre T Junctions

8.6.2 There are no capacity issues at any of the T junctions within the Village Centre or Weavers Hill either with or without the addition of development traffic.

T Junction at Water Lane with A280

8.6.3 The dedicated right hand turning lane from the A280 has capacity for 11 cars before blocking back of the main carriageway. Observed queue lengths show a maximum of 3 vehicles (average 1.7) AM peak and 7 vehicles (average 4.0) PM peak.

8.6.4 The addition of development traffic is expected to add no vehicles to the right turn queue AM peak and 1 vehicle PM peak worst case. Therefore the right turn lane length would not be exceeded by the queue.

8.6.5 Although practical capacity (0.85RFC) is exceeded with development flows in the opening year delay times to exit Water Lane remain below 40 seconds in all cases and queues of up to 8 vehicles are anticipated which do not cause any blocking back effects.

Roundabout at A259 Roundstone Bypass with Station Road

8.6.6 The Station Road Roundabout is within capacity during peak times and remains so with the addition of development traffic with marginal increases in delays and no increase in queues.

8.6.7 The opening year increases in delays caused by the predicted increase in vehicles is shown by the modelling to be minimal with the largest increase in delay being 2 seconds per vehicle on the Station Road (south) arm. All other increases in delay are below 1 second per vehicle. Delays on all arms remain below 30 seconds per vehicle.

8.6.8 The most significant increase in traffic due to development is 21vph on the eastern arm during the AM peak which causes negligible effects.

Roundabout at A259 Roundstone Bypass with Roundstone Lane

8.6.9 The Roundstone Lane Roundabout is within capacity during peak times and remains so with the addition of development traffic with marginal increases in delays and static queues.

8.6.10 The opening year increases in queues and delays caused by this increase in vehicles is shown by the modelling to be minimal with the largest increase in delay being 5 seconds per vehicle on the Roundstone Lane (north) arm. All other increases in delay are below 1 second per vehicle. Delays on all arms remain below 40 seconds per vehicle.

8.6.11 The most significant increase in traffic due to development is 56vph on the northern arm during the AM peak which causes negligible effects.

Roundabout at A259 Roundstone Bypass with A280 Angmering Bypass

8.6.12 The Angmering Bypass Roundabout is within capacity during peak times and remains so with the addition of development traffic.

8.6.13 The opening year increases in queues and delays caused by the predicted increase in vehicles is shown by the modelling to be minimal with the largest increase in delay being 3 seconds per vehicle on the A259 Littlehampton Road arm. All other increases in delay are below 2 seconds per vehicle. Delays on all arms remain below 35 seconds per vehicle.

8.6.14 The most significant increase in traffic due to development is 26vph on the western arm during the AM peak which causes negligible effects.

8.6.15 Junction capacity modelling summary results sheets are attached in Appendix 11 at the rear of this report.

8.7 A259 Calculatable Link Capacity

8.7.1 The DfT Design Manual for Road and Bridges document TA 79/99: Traffic Capacity of Urban Roads provides a standard method of assessment of road capacity in terms of vehicles per hour.

8.7.2 The A259 in the region of Roundstone Lane is classified in terms of TA 79/99 as UAP1 defined as 'High standard single/dual carriageway road carrying predominantly through traffic with limited access'.

8.7.3 TA 79/99 states that for a UAP1 road the capacity in terms of one way flow is 1860 vehicles for a road width of 9.0m and 2010 vehicles for a road width of 10.0m.

8.7.4 Interpolating between 9.0m and 10.0m the link capacity in terms of one way hourly flow would therefore be between 1,930 and 1,940 vehicles.

8.7.5 Based on the traffic count data for the A259 the maximum average hourly flows were 1,115 vehicles westbound (2pm – 3pm) and 1,126 vehicles eastbound (12noon – 1pm).

8.7.6 The greatest increase in traffic due to development on any part of the A259 is 26 vehicles in an hour during the morning peak hour and 19 during the evening peak hour.

8.7.7 This minimal increase would not necessitate widening the A259 links.

8.8 A259 Congestion

8.8.1 The congestion and queuing observable at peak times along the Roundstone Bypass are not caused by deficiencies in the local highway capacity but are a

blocking back effect from downstream congestion particularly to the east beyond Goring and into Worthing.

8.8.2 West Sussex County Council intends to undertake an A259 Goring to River Arun Transport Study which will inform on what future improvements should be made to that stretch of road.

8.9 Effect on Angmering Village Traffic Calming

8.9.1 Further to consultation with Angmering Parish Council and comments raised at public consultation the workings of the traffic calming priority feature on Station Road was investigated by use of video camera traffic survey.

8.9.2 The traffic video was taken over several days and shows the priority feature operating without creating significant queuing all times other than morning peak hour when the northbound flow into / through Angmering is restricted by the buildout and the resultant queue stretches back to the A259 which itself can be observed to be congested.

8.9.3 The effects of the development on the traffic calming priority features on Station Road cannot be assessed numerically but the additional traffic due to development passing the Station Road traffic calming is not expected to make a noticeable difference over the existing situation.

8.9.4 A review of traffic calming and through traffic prevention within Angmering is being undertaken by the Highway Authority in consultation with the District and Parish Councils.

9 Mitigation of Directly Attributed Transport Impact

9.1 Public Transport

9.1.1 The anticipated increase in passengers on public transport attributed to travel demand at the development as a total demand spread across the available services by bus and train does not require any increase in service.

9.2 Offsite Highways

9.2.1 No physical improvements to remote highway junctions or links are required to serve the increase in traffic due to development.

9.2.2 The Applicant is willing to contribute towards the Angmering Village Traffic Management Scheme for Angmering which is approved by the Joint Eastern Arun Area Committee and prioritised in the Joint Eastern CLC Infrastructure Plan.

9.2.3 The exact form of the improvements under the Angmering Village Traffic Management scheme are yet to be established by the Highway Authority but are programmed for a 2012 / 2013 study, 2013 / 2014 Design and 2014 / 2015 Build.

9.3 Construction Management Plan

9.3.1 A Construction and Waste Management Plan will be produced by the Applicant and approved by the Highway and Planning Authorities prior to construction to cover the following issues:

- Consideration of the local environment, site employees and construction vehicle movements and routing, days/hours of work, construction site lighting.
- The means of minimising the effects of noise, vibration, dust and construction waste.

9.4 Development Traffic and Travel Planning

9.4.1 A Residential Travel Plan is offered by the Applicant on the basis of incentives and promotion of green travel choices through sales literature and welcome packs. The key elements of the Travel Plan are discussed in the following section.

10 Travel Plan

10.1 Type and Scope

10.1.1 A residential Travel Plan will be implemented by Barratt David Wilson Southampton and will operate for a minimum of five years. The main objectives are:

- To provide sustainable transport choice for residents at the earliest opportunity.
- To aim to reduce single occupancy car use by 10% over a five year period. This can be achieved by a reduction of 2% each year.

10.1.2 The Developer will appoint and fund a Travel Plan Coordinator prior to occupation of the first dwelling to promote and update the Plan over a five year period.

10.1.3 The Travel Plan will be monitored three times over the five years following occupation using an appropriate Travel Survey which will be commissioned directly by the Travel Plan Coordinator on behalf of the Developer.

10.1.4 Updates to the Travel Plan will incorporate the findings of Travel Surveys undertaken through the lifetime of the Plan and targets will be monitored by the Travel Plan Coordinator on a biennial basis and updated where appropriate to set new modal choice targets.

10.1.5 The Travel Plan Coordinator will inform all residents and West Sussex County Council of progress and any new or revised targets for the subsequent years.

10.2 Introductory Travel Pack

10.2.1 The Travel Plan requires that an Introductory Travel Pack will be given to new owners of the properties and will include the following information:

- A plan showing pedestrian and cycle infrastructure and distances to public transport stops, shops, amenities and the village centre.
- Details of safe routes to local schools.
- Details of approximate journey times by foot, cycle, bus and rail to likely destinations.
- Information on bicycle maintenance and bike shops offering discounts to residents.
- Details of local businesses providing home delivery services.
- Information on the Liftshare.com car share scheme and any local car clubs.
- Contact details and information on local Taxi firms.

10.2.2 The Introductory Travel Pack will include a voucher valid for the purchaser at first occupation of each house which may be exchanged in full or in part for a suitable sustainable transport commodity.

10.2.3 An Interim Travel Plan document is attached in Appendix 12 as a basis to be agreed with the Highway Authority prior to occupation.

11 Summary and Conclusions

11.1 Accessibility

11.1.1 The site is located on the edge of a well established residential area and a range of amenities would be available for new residents with adequate footways and footpaths including crossing points of major roads available to access those amenities without the need for car borne travel.

11.1.2 The proposed site layout provides good permeability onto and through the site for pedestrians.

11.1.3 The site is served by a local bus service which stops adjacent to the site on Roundstone Lane and has a weekday hourly frequency. Rail services are available from Angmering Railway Station which is 2km walking distance from the site.

11.1.4 There is no scope for this size of development to reroute additional bus routes to serve Angmering or make improvements to rail services.

11.2 Parking Provision

11.2.1 Onsite car parking levels are within the levels set by the Parking Standards for the size of development and will be sufficient to serve the needs of the development without creating displaced parking on the surrounding streets.

11.2.2 Cycle parking will be provided within garages and sheds.

11.3 Highways Access and Road Safety

11.3.1 The proposed new highway access to the development site will enhance the existing traffic calming along Roundstone Lane.

11.3.2 The recommendation made in the Stage 1 Road Safety Audit has been addressed in the proposed design subject to Highway Authority approval.

11.3.3 No offsite highways safety issues are expected to be produced or significantly affected by the development proposals beyond a negligible statistical increase.

11.3.4 Traffic impact modelling of local junctions shows minimal effect from the development traffic and no highway improvement is warranted or offered on highway safety grounds.

11.4 Impact on Local Transport Network

11.4.1 The development will produce a travel demand from new residents at the site which will produce additional vehicle trips on the local highway network dependent on modal choice.

11.4.2 Junction capacity modelling demonstrates that the highway network does not need to be altered to accommodate the increase in traffic due to development.

11.4.3 There are existing traffic issues on Station Road waiting to pass the traffic calming priority feature adjacent to Angmering School blocking back on to the A259 and traffic on the A259 further to the west blocking back through junctions on Roundstone Bypass. These are pre-existing issues not caused by development traffic and will be mitigated by the Highway Authority using a contribution by the Applicant towards the Angmering Village Traffic Management scheme.

11.4.4 The Residential Travel Plan will involve sustainable travel incentives and a package of travel information being provided to each property as part of the Introductory Travel Pack.

12 List of Appendices, Tables and Figures

Appendix 1 Site Location Plan

Appendix 2 Local Amenities Plan

Appendix 3 Existing Site Layout Plan

Appendix 4 Accessibility Plans

Appendix 5 Accident Records and Plan

Appendix 6 Proposed Site Layout Plan

Appendix 7 Stage 1 Road Safety Audit and Designer's Response

Appendix 8 TRICS Survey Data and Trip Generation Calculations

Appendix 9 Summary of Traffic Survey Data

Appendix 10 Vehicle Trip Gravity Model and Traffic Flow Diagrams

Appendix 11 Junction Capacity Modelling Summary

Appendix 12 Interim Residential Travel Plan

Table 1 Parking Standards

Table 2 Schedule of Accommodation

Table 3 Maximum Car Parking Provision

Table 4 Development Trip Generation

Table 5 Modal Share

Figure 1 Bus Journey Times in Minutes

Figure 2 Train Journey Times in Minutes