HCC Highways consultation report

22 October 2013

Recommendation: Grant with Conditions:

Condition 1: Prior to the submission of any reserved matter application.

a. A site wide phasing Programme shall be submitted to the Local Planning Authority for approval in consultation with the Highway Authority. The phasing programme shall include details of the proposed sequence of the development across the entire site, the extent and location of individual development phases including reference to the type and any development envisaged in each phase and a description.

b. The phasing programme shall state when each of the following will be delivered:

    i) Major access infrastructure including roads, footpaths and cycle ways

    ii) Off-site highway infrastructure including highway improvements

    iii) The delivery of public transport infrastructure within the site and external to the development.

Reason
In order to ensure that the approved development takes place in a co-ordinated manner having regard to highway safety and accessibility.

Condition 2: No development shall commence until the phasing programme has been approved in writing by the Local Planning Authority on consultation with the Highway Authority. The provision of all elements in the phasing programme shall be carried out in accordance with the approved phasing programme and the time triggers specified in it, unless otherwise agreed in writing by the local planning authority**.**

Reason
To provide clarification on how the development will be delivered to assist determination of reserved matter and to ensure that necessary infrastructure provision and environmental mitigation is provided in time to address the impact and needs of the development.

Condition 3: Prior to the commencement of each phase of development in the phasing plan, detailed plans of all proposed new highway infrastructure or modifications to existing highway infrastructure shall be submitted to the Local Planning Authority for approval in writing. This must include all works external to the site, details of the internal road layout and car parking layout and the extent of proposed road adoption and drainage provision.
Reason
To ensure that all highway works and internal roads are built to Highway Authority standards and requirements.

Condition 4: Construction of the approved external highway works shall not commence until the applicant enters in to the relevant legal agreement for road works as set out in the Highways Act 1980.
Reason
In the interests of highway safety and public liability.

Condition 5: Prior to commencement of each phase of the development, the details of all materials to be used for hard surfaced areas within the site, including roads, drainage details, driveways and car parking areas shall be submitted to the Local Planning Authority for approval in writing.
Reason
To ensure that internal roads, drainage and parking areas are built to Highway Authority standards and requirements.

Condition 6: Prior to commencement of the development the applicant shall submit a construction management plan to the Local Planning Authority for approval in writing. The construction management plan shall contain the phasing of the development, programme of works on site, area for construction vehicle parking and storage and delivery of materials within the development site, construction vehicles wheel washing facilities and details of construction vehicle routing to and from the site.
Reason
To minimise impact of construction process on the on local environment and local highway network.

Condition 7: Prior to commencement of any development the submission and agreement of a mechanism of continual review of the transport impacts of the development to include (but not be restricted to) the installation of traffic counters upon each access, travel plan monitoring and regular dialogue between developer, planning authority and Highway Authority. The findings of this work shall be shared between all interested parties with a view to remedying any problems arising directly from the construction or occupation of the development.

Reason
To ensure that the development is appropriately militated against to ensure impacts are no worse at any time during the construction phase and on completion of the development.

Condition 8: The development shall not commence until details of the Travel Plans for the development as a whole have been submitted to and agreed in writing by the Local Planning Authority. The travel plans shall make provision for relevant surveys, review and monitoring mechanisms, targets, additional mitigation measures, timescales, phasing programme and on-site management responsibilities. It shall be implemented and subject to regular review in accordance with the above approved details. (The agreed travel plans are to be appended to the S106 agreements).
Reason
To ensure that the development traffic is within the predicted levels in transport assessment, to promote sustainable transport measures and maintain the free and safe flow of traffic.

Informative

1. Prior to commencement of relevant highway works the applicant shall promote and obtain all necessary permanent and temporary Traffic Regulation Orders. This is to ensure adequate safety measures are provided during construction and use of the development.

2. Before commencement of the development the applicant shall submit to the relevant road and foul drainage authorities, details of the design, construction and adoption of the proposed drainage systems. This is to ensure that the development's drainage is built to the appropriate standards and legislation.

1. Introduction

This response provides a combined response to the two separate planning applications which collectively form the Bishop's Stortford North Development (BSN), namely:

District Ref: 3/13/0075/OP Site: Land at Bishop's Stortford North, Bishop's Stortford (Also referred to as ASRs 1 to 4)

Outline application for:

The erection of up to 2,200 dwellings inclusive of affordable housing; green infrastructure, amenity and formal and informal recreational space; landscaping; development of 2 mixed use local centres on 4.1 hectares of land providing up to 21,000sq.m (gross) commercial floorspace (use classes A1, A2, A3, A4 and A5) up to a maximum of 1,200 sq.m (gross) and the potential for other community/cultural/leisure (use class D1 and D2) if required (floorspace to be agreed); two primary schools and associated facilities; a park and ride facility for approximately 100 vehicles; 4 new junctions (A120, Hadham Road, Rye Street and Farnham Road); estate roads and public transport route (including a link along Dane O'Coys Road); footpaths/cycleways; site profiling/earthworks; a noise bund with barrier; a sustainable drainage system; utilities services including foul water pumping stations; 2 residential garden extensions; and the demolition of 221 Rye Street and 164 and 166 Hadham Road (all matters reserved except vehicular access).

District Ref: 3/13/1501/OP Site: Land Between, Hazelend Road and Farnham Road, Bishop's Stortford (Also referred to as ASR 5)

Outline application for:

Urban extension comprising up to 450 new dwellings (of a range of sizes, types and tenures including affordable housing) and public open and amenity space together with associated landscaping, access, highways (including footpaths and cycleways), parking, drainage (including a foul water pumping station), utilities and service infrastructure works (no matters reserved for Phase 1 (130 dwellings) all matters reserved except for access for Phase 2 onwards).

The combined impact of these two developments have been considered by the Highway Authority. The respective applicants have also based their Transport Assessments on the outputs from a single traffic model, the scope of which was agreed would be sufficient to assess the traffic impacts of both developments.

The land known as Bishop's Stortford North lies to the north of A1250 Hadham Road, to the west of B1004 Rye Street, and within the A120 northern by-pass. The application sites totalling 156 hectares in area were identified in the East Herts District Council Local Plan April 2007 and safe guarded as land for future development. The land was identified as Areas of Special Restraint (ASR) 1-5.

As highlighted above, planning applications have been received by East Herts District Council for two separate developments. ASRs 1-4 are to be

developed by a consortium of house builders (Bovis Homes, Taylor Wimpey, Persimmon, Kier and The Fairfield Partnership) and Area 5 is to be developed by Countryside Properties.

Hertfordshire County Council as Highway Authority is a statutory consultee to the planning applications. In assessing the development proposals the Highway Authority has reviewed the proposals to ensure that the development is in accordance with relevant transport policies and assessed the impacts of generated traffic in terms of congestion and delay and safety, and also to ensure accessibility is supported by sustainable transport measures.

This report records the findings of this review. It confirms the proposals and the policies that these have been reviewed against, describes the local highways context and assesses the impact of the proposals on local transport.

The review has been based on the following key documents submitted as part of the developer's applications:

ASRs 1-4

a. Indicative Layout
b. Summary of Proposed Development
c. Design and Access Statement
d. Environmental Statement - Transportation
e. Planning Statement
f. Site Access Drawings
g. Transport Assessment

ASR 5

a. Illustrative Masterplan
b. Summary of Application
c. Supporting Planning Statement
d. Site Access Drawings
e. Transport Assessment

The documentation has been assessed against the transport elements of the following national and local policies;

- National Planning Policy Framework (NPPF) March 2012
- Local Transport Plan (LTP3) 2011-2031

- East Herts Local Plan Second Review - April 2007 (current adopted policy)
- Vehicle Parking Provision at New Development
- Bishop's Stortford Transport Study 2006
- Eastern Herts Transport Plan 2007 and Bishop's Stortford

Transport Strategy

Bishop's Stortford Town Council are currently in the process of developing a Neighbourhood Plan for Silver Leys and Meads, however, this has yet to be formally consulted on and is currently not adopted policy.

The National Planning Policy Framework requires all developments that generate significant amounts of movements to be supported by a Transport Assessment or Transport Statement and the applicants have submitted detailed Transport Assessments along with Travel Plans as set out in NPPF and DfT guidance. The transport issues associated with the two developments are clearly interlinked. It is not possible to confirm the eventual phasing of construction of the two developments at this stage, for example the application for ASR 5 is for 450 dwellings however the development is dependent on community facilities to be provided as part of the application for ASRs 1-4. In view of this, separate Transport Assessments have been produced for each development which assess the impact of both the standalone applications and the combined impacts.

The ASRs 1-4 development proposals involve the implementation of following elements of new or modified transport infrastructure:

Access to Development Site:

- A120 Roundabout
- Hadham Road Roundabout
- Rye Street Priority Junction
- Farnham Road Priority Junction

Off –Site Highway Works:

- Capacity improvements to A120 / A1250 / B1184 roundabout
- Capacity improvement to A120 / B1383 roundabout
- Resigning / remarking works and optimisation of the signals to M11 Junction 8
- Hadham Road Signal Controlled Pedestrian Crossing
- Rye Street Signal Controlled Pedestrian Crossing

It is proposed that the transport impacts of the development will be mitigated by the provision of the following measures aimed at ensuring sustainable access to the site. These measures are to be secured through S106 agreement:

- A financial contribution of £84,730 towards improvements to the Little Hadham Traffic Signals.
- A financial contribution of £60,000 towards proposed cycle corridor improvements.
- A financial contribution of £3,250,000 towards the provision of dedicated bus service for a period of 13 years.
- A financial contribution £100,000 to upgrade bus stops on the new bus route external to the site (on Patmore Close, Maple Avenue, Thornfield and North Street) to ensure they are DDA compliant and have new bus shelters incorporating real time information displays.
- On-site travel planning with the appointment of a Travel Plan Co-ordinator
- A bond to HCC for £100,000 for travel plan mitigation measures available to support further measures if targets in the travel plans are not achieved.
- Smarter Choices campaign for the whole of Bishop's Stortford to be funded by the developer.
- A bond for £200,000 for further mitigation measures if the Smarter Choices campaign targets are not met.

The mitigation measures originally included the provision of Park and Ride facility however this has now been removed from the proposal in favour of more housing.

The ASR 5 development proposals involve the implementation of following elements of new or modified transport infrastructure:

Access to Development Site:

- Hazelend Road Roundabout
- Hazelend Road Priority Junction

Off –Site Highway Works:

- Rye Street Corridor Improvements (bus, cycle and pedestrian enhancements)

We understand the ASR 5 applicant is contributing the costs of some of the highway infrastructure improvements and the Smarter Choices campaign proposed as part of the ASRs1-4 development, via a separate

agreement with the ASRs 1-4 applicant. The ASR 5 applicant refers to the same highway infrastructure improvements e.g. new A120 roundabout junction and capacity improvements to the existing A120 roundabouts and the Smarter Choices campaign in their own Transport Assessment. The details of this financial arrangement are not known to the Highway Authority it is a private agreement between the two developers.

2.0 Highways Context

2.1 Existing Highway Network

The application sites consist of predominantly agricultural land with woodland. The land is therefore a greenfield site and is identified as greenbelt in the 2007 local plan review. It is reasonable to assume that at present there are few vehicular trips associated with the site and all trips resulting from the development would be new trips on the local road network. The vehicular trips currently generated by Foxdells will be relocated.

The ASRs 1-4 application site is bounded by the A120 Bypass, the A1250 Hadham Road, the B1004 Rye Street and Farnham Road. ASR 5 is bounded by the A120 Bypass, Farnham Road and Hazelend Road. The A120 and A1184 form a bypass to the town.

The A120 is a single carriageway 6.5m wide (except for a small section of dualling) which links A10 settlements to the M11 motorway and through to Essex and Stansted Airport. The road is often congested during peak hours with limited opportunity for overtaking. The A120 is classified as a primary route within HCC's road hierarchy. The section of the A120 located east of its junction with the A1184 (Tesco Roundabout) through to the junction with the B1383 and on to the M11 provides a northern bypass to the town. The A1184 runs along the west and south west of the town.

An existing pinch point which experiences significant congestion in the region is the staggered crossroads junction in centre of Little Hadham. This junction operates under traffic signal control and regularly experiences congestion and lengthy delays and queuing during peak hours. The signal junction operates under MOVA control (Microprocessor Optimised Vehicle Activation). This technology is an established strategy for the control of traffic light signals at isolated junctions - i.e. junctions that are uncoordinated without any neighbouring signals. MOVA ensures the most efficient use of the limited capacity at the junction.

The signal cycle time in Little Hadham is varied by the technology depending on the demand. The maximum green time however can be up to 130 seconds on the A120 with green time to the side roads sometimes limited to as little as 17 seconds, hence all arms experience delays and queuing. The total cycle time for the whole junction can be up to 6 minutes depending on the prevailing traffic conditions.

The A1250 Hadham Road and B1004 Rye Street are key routes in to Bishop's Stortford town centre from the north (and the proposed development). Other routes of note that will be affected by additional traffic generated by the development are the A1059 and B1383. All of these routes are narrow two lane single carriageways typical of an old market town, with in places on-street parking on either both or one side of the road. The built environment provides very limited, if any, scope for localised road widening.

The A1250 has various street names. It starts as Hadham Road from its junction with A120/A1184 roundabout, it then becomes the Link Road, The Causeway, and Hockerill Street respectively as you travel the route into the town centre, before becoming Dunmow Road as you exit the town centre travelling east.

The Hadham Road section of this route is similar to many other town centre bound routes in that the two lane single carriageway has a number of adjoining priority junctions and small/mini roundabouts along its length. During the off-peak the Hadham Road operates without any real congestion or delay. However, congestion is present during peak periods for traffic travelling into the town centre.

The A120/A1250/A1184 (Tesco) roundabout junction operates adequately at present without any noticeable congestion or delays.

The B1004 Rye Street is a single carriageway two-way road approximately 6m wide with urban, suburban and rural character from South to North. The speed limit is 40mph to the north of the Bourne Brook Bridge and 30mph south of this point towards town. Rye Street represents an important pedestrian and cycle route between the ASR 5 site and the centre of Bishop's Stortford, however footway widths along the route are constrained at a number of locations and vehicle speeds often exceed the speed limit.

Traffic congestion is experienced regularly during peak periods on roads within the town centre. The numerous junctions along A1250 corridor into the town result in delays and queuing the most notable being on the

Causeway from the junction of Hockerill Street and Dane Street to the junction with Aldderley Road, and also in the opposite direction and the Dane Street / Station Road / Anchor Street Bus Station corridor.

The most congested junction within the town centre is the Hockerill Street junction. The A1060 London Road/A1250 Hockerill Street/B1383 Stansted Road/A1250 Dunmow Road (Hockerill Cross) converge at this point at a signalised crossroads, which forms a pinch point in the town centre road network. The junction currently runs under MOVA traffic signal control. The approach arms at present operate at or above capacity. The physical road layout is constrained by surrounding buildings and a lack of the availability of additional land. Hence, there is no scope to improve capacity via localised widening. Traffic congestion at this location has been the subject of various transport studies over recent years without identifying any realistic opportunity for relieving congestion. The only options for adding capacity to the junction involve the banning of certain turning movements. The right turn from London Rd would deliver the most benefit, however the results of this and any other turning bans would result in significant re-routing of traffic with unacceptable impacts on surrounding routes.

The Hockerill Street Junction has been declared an Air Quality Management Area (AQMA) by East Herts District Council.
HCC are this year investing in the introduction of SCOOT (Split Cycle Offset Optimisation Technique) at nine existing signal installations across Bishop's Stortford Town Centre. SCOOT is a tool for managing and controlling traffic signals in urban areas and is an adaptive system that responds automatically to fluctuations in traffic flow through the use of on-street detectors embedded in the road. This provides additional intelligence to the traffic signals enabling them to run at optimum efficiency and if there is any spare capacity in the network to assign this to where it is most needed e.g. a particular arm that experiences the highest demand during a peak period.

Though the SCOOT system will help ensure traffic using the road network does so in an efficient manner, the only realistic means of mitigating against increasing traffic demand in the town centre is to introduce measures aimed at encouraging a shift in travel habits away from the car to more sustainable modes of transport via a combination of hard and soft measures.

2.2 Personal Injury Accidents

A study of Personal Injury Accidents (PIA's) records confirms there are no hazardous sites within the direct vicinity of the BSN developments.

Along A120 between Tesco Roundabout and Stansted Road Roundabout the speed limit is 60mph and the geometry of the road is an arc which encloses the BSN development sites. The five year accident record from 1st Nov 2007 to 31st October 2012 shows that there were 20 accidents along this section of the A120 involving 49 vehicles with 33 casualties, where two resulted in fatal injuries, four serious and 27 slight. Clusters of accidents have occurred on either side of Bourne Brook Bridge involving fatal and serious injuries. Though not a formal hazardous site, it is noted that level of accidents on this section of A120 is nevertheless considered to be high.

Records show there have been four accidents A120/A1250/A1184 (Tesco) roundabout junction, where one involved serious injury. Along Stansted Road between Oaklands Park and Michael's Road there have been 5 slight injury accidents.

A study of the accident history along Rye Street from the junction with A1250, Michaels Road to B1004 junction over the period from November 2007 for a period of 5 years confirms there have been a total of 15 accidents, 13 of which involved slight injuries, 2 serious and none fatal. Most accidents were at junctions. A small number involved loss of control, some in icy conditions. Five accidents involved pedestrians, four involved cyclists and four involved motorcyclists. Most accidents involving pedestrians and cyclist are towards the town centre where footpaths are particularly narrow and of poor quality.

2.3 Sustainable Transport Modes

2.3.1 Rail Service

Bishop's Stortford is served by a train station located in the town centre, which is approximately 2.0km from the application sites. The railway station is on the line to London Liverpool Street and Cambridge with services to Stansted Airport and Stratford. The frequencies of services during peak hours and off peak hours are very good; however, service frequency reduces on Sundays. The Rail station provides 549 car parking spaces at the station and cycle parking facilities on site. An application for some further 300 parking spaces at the Goods Yard site has been approved by EHDC which would provide benefits to rail users.

The Highway Authority plans to invest in a new bus interchange at the Station. A scheme is under development that has an estimated cost of £350,000. The Highway Authority has made a capital bid for funding for the scheme with a view to implementing the scheme next year.

2.3.2 Bus Service

The existing bus service to Bishop's Stortford is poor. The main bus service is the No. 510 operated by Arriva, which runs between Stansted and Harlow via Bishop's Stortford at 20 min intervals from early morning to late evening from Monday to Saturday. On Sundays this service is reduced to an hourly provision. The No. 308 bus service runs from Bishop's Park to Stansted at 30 minute intervals from Monday to Saturday and at 60 minutes intervals on Sundays. During weekdays there are a number of other bus services linking Bishop's Stortford to Hertford or Stansted running at a two hourly frequency.

The Bishop's Stortford Transport Study identifies that the reliability of bus services suffers as a result of traffic congestion in the town. Bus infrastructure is also generally poor with inadequate bus shelter provision and a lack of information facilities.

The Highway Authority is currently in the process of upgrading a number of bus stops within the town centre to ensure they are DDA compliant and where space permits include appropriate quality bus shelters and Real Time Information displays. A forward programme of bus stop upgrades is being rolled out during 2014.

2.3.3 Pedestrian and Cycle Routes

Pedestrian facilities vary in quality across the town. A number of routes suffer from narrow and poor quality footways, particularly along Bridge Street, Potters Street, North Street and area around Corn Exchange. Existing facilities for cyclists are poor and hence the use of cycles in Bishop's Stortford is generally low in comparison with other towns. Farnham Road is designated as an on-road cycle route.

2.4 Existing Travel Behaviour

Car ownership in Bishop's Stortford is very high with 78% of households owning at least one car and 11% owning three or more cars. Use of the private car remains the dominant mode of transport for those that live in, work in and visit the town. The 2001 census data shows that 14% of local residents travel to work by train, mainly to London. Travel by bus

accounts for only 2% for journeys made by both local residents and local workers. Some 9% however use the bus service for shopping trips.

2.5 Parking Provision

The current planning applications are outline planning applications with a variety of land uses and housing mix. The Local Planning Authority (LPA) is responsible for determining the level of on-site parking provision. The level of on-site parking will have a bearing on the internal road widths. Any on-street parking within the development may lead to problems associated with emergency services access.

In discussion with local residents as part of this application the lack of town centre parking provision is a key concern to them. There are however approximately 1400 parking spaces within the town centre which excludes the Railway Station and Goods Yard site parking facilities. The existing parking spaces within the town are a combination of both short stay and long stay spaces. It is recognised that provision of any additional parking within the town centre would exacerbate the existing congestion and delays on the local road network.

3.0 Analysis

3.1 Policy Context

On 27th March 2012 the government published the National Planning Policy Framework (NPPF). The document sets out the Government's planning policies for England and how these are expected to be applied. It emphasises the fact that the purpose of planning is to help achieve sustainable development. It also places significant weight on the need to support economic growth through the planning system.

Key requirements of the NPPF to note when considering the impact of development on Transport are:

- The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice of how they travel.
- Major developments to be supported by Transport Assessment, which should take into account:
    a. Opportunity for sustainable modes of transport
    b. Safe and sustainable access to the site
    c. Developments should be prevented or refused on transport grounds only where the residual cumulative impacts of the development are severe.

Hence, a key factor to consider when assessing the impact of development on the transport network is how severe this impact will be and whether this will introduce unacceptable operational or safety issues on the highway network as a direct result of the increased trip generation from the development.

Overall the NPPF is in favour of locating developments where they reduce the need to travel and where development protects and exploits opportunities for use of sustainable transport modes for movement of goods and people. The NPPF states that all developments which generate significant amounts of movement should be required to provide a "Travel Plan".

HCC's Transport policies are set out in its Local Transport Plan 3 (LTP3) 2011-2031. The policy recognises that the design of new developments will have a major impact on the connectivity of development and the degree that sustainable modes can take the place of car journeys. The strategy places a strong emphasis on supporting sustainable modes and facilities attractive to bus movements, cycle and walking trips.

Prior to publication of NPPF, the Government's Planning Policy Guidance on Transport (PPG 13) emphasized that a balance has to be struck between encouraging new development in town centres and potentially increasing traffic congestion caused by too many cars.

The Government's guidance on Transport Assessment states that if a TA confirms that a development will have material impact on the highway network, the level of impact at all critical locations on the network should be established. A particular example of material impact would be a worsening of congestion. In congested areas, the percentage traffic impact that is considered significant or detrimental to the network may be relatively low (possibly below the average daily variation in flow). The Institute of Highways and Transportation Guidance on Traffic Impact Assessment suggests a threshold of 5 per cent as the level of development traffic that has a 'material' impact and though no longer applied as a standard methodology (since it creates an incentive in favour of locating development where high levels of background traffic already exist) however it does provide a potential measure of a material increase in traffic volume. In the context of local roads where the traffic flows can be low, a 5% increase in traffic may not have any material impact. However, when the local road network is already congested as in Bishop's Stortford case a 5% increase in traffic should be considered 'material' or significant.

The East Herts Local Plan Second Review is consistent with HCC Transport policies on investment in passenger transport and promoting sustainable transport. The purpose of the Local Plan is to guide development and the use of land in East Hertfordshire.

The Bishop's Stortford Transportation Study 2006 was commissioned by a partnership of East Herts Council, Hertfordshire County Council and GO-East in April 2005. The study analysed the transport situation in Bishop's Stortford and investigated the impact of proposed developments on the town's transport system. A draft transport strategy was developed for the town designed minimise the negative effects of additional traffic demand generated by future growth and associated new development in the town. The transport strategy was produced to act as framework for the future development of the town and the significant development pressures anticipated over the next 10 to 15 years.

It recognised that these pressures would present both challenges and opportunities for investment in transport infrastructure. The draft transport strategy would ensure that investment in transport infrastructure would be undertaken in a co-ordinated and effective way to ensure that the town achieves its vision and objectives and that transport improvements are not undertaken in a piecemeal ad-hoc fashion as individual development proposals are brought forward.

It acknowledged that the draft strategy would require considerable further development, not least through increased public involvement, but also through necessary further technical work to undertake feasibility and detailed design of the strategy elements.

The strategy identified a number of objectives as listed below together with associated measures.

- Reduce car use – encourage modal shift
- Reduce town centre congestion – improve traffic circulation for shoppers
- Protect town's economy
- Minimise impact of new developments
- Reduce impacts of through traffic
- Reduce cars driven to work
- Improve accessibility by non-car modes
- Encourage the use of Passenger Transport

- Minimise environmental impact
- Protect historical heritage of town
- Improve air quality
- Improve safety
- Reduce negative impacts of
- parking – long-stay and airport

The Eastern Herts Transport Plan was developed as part of the Hertfordshire County Council initiative to develop integrated, sustainable transport facilities which will serve the needs of the current population of East Herts whilst protecting the interests of future generations. The Eastern Herts Transport Plan covers the major settlements of Bishop's Stortford and Sawbridgeworth, and includes the surrounding rural area approximately bounded by the A10 in the west, the A120 to the north, and the County boundary to the south and the east. The Plan is a long term plan providing a framework on which transportation improvements over the next 15 - 20 years will be focused.

The Eastern Herts Transport Plan specifically highlighted the following for consideration as part of the ASR sites access strategy:

- New bus services connected with Park and Ride
- Protection of the Rye Street corridor
- A new A120 junction
- Flagship walking and cycling schemes

The 'Bishop's Stortford Transport Strategy' was produced as a supplementary document to East Herts Transport Plan. During the development of the Area Plan EHDC published the results of a Master Planning Study carried out on proposed development of the ASRs. The report specifically commented on the poor capability of the existing town centre highway network to cater for an increase in traffic volumes. It also highlighted the need for a specific 'town transport plan'. As a way forward a separate 'Town wide study' was commissioned by East Herts District Council, working in partnership with Hertfordshire County Council and Government Office for the East of England. The purpose of the commissioning the study was to seek a 'whole town' solution to a complex set of problems and issues facing the town of Bishop's Stortford. The local authorities were seeking, through the study, to

develop a town-wide 'blueprint' for the development of a new transport policy approach, which would:

- Encourage modal shift within the town from the private car onto passenger transport, walking and cycling.
- Propose both policy and engineering solutions to the congestion problems within the town.
- Identify a town-wide car parking policy solution.
- Propose measures to minimise the traffic impact of new developments within the town centre and on peripheral sites.

Work on an updated Urban Transport Plan for Bishop's Stortford and Sawbridgeworth is expected to resume in the Spring 2014 when the preferred sites consultation on EHDC Local Plan has concluded. A key aim of this work will be to enable the towns to adequately deal with the existing and future pressures of growth and development and thus will need to consider the impact of major developments such as the ASR sites in the longer term and the mitigation of these impacts over time.

3.2 Trip Generation

The Highway Authority held various pre-application discussions with both the applicants transport consultant's to agree appropriate person trip rates. These have been distributed by journey purpose and mode. Trip rates are a key component of the Transport Assessment and have been assessed to reflect trips associated with private and social housing, B1 office and other employment, education, shopping, visitor, leisure and internal etc. The proposed development is a mix development which would generate number of internal trips as well.

The trip rates in the model reflect the applicant's proposals to provide improved bus services, Travel Plans for residential, schools and employment, a Smarter Choices campaign, together with complimentary improvements for bus users, pedestrians and cyclists aimed at supporting the achievement of modal shift from the private car to other more sustainable modes of travel.

It is reasonable for the applicant to assume a reduction in car trips to and from the development at peak times on the account of these mitigation measures. The applicant has based the reductions in the model on census data, national data on travel planning outcomes and local school travel plan data.

Local residents have suggested that the 20-25 % reduction assumed in the modelling work is optimistic and requested that a sensitivity test with no travel planning reduction should be included in the Transport Assessment. We do not consider this would be a realistic scenario as Travel Planning is recognised means of encouraging modal shift which is used nationally and now forms a fundamental part of new development proposals under the NPPF. It is highlight unlikely that travel planning with the complimentary mitigation measures will not result in any modal shift. The reductions in travel planning assumed within the modelling work will also form the basis of the targets identified in the respective travel plans and the monitoring and review process thereafter, which will be linked to requirements for further mitigation measures should the targets not be met.

Whereas travel planning is targeted at residents of the new development, the proposed Smarter Choices campaign targets existing residents of Bishop's Stortford with established travel patterns and behaviours. The proposed campaign consists of area wide personal travel planning consultations aligned with a travel awareness campaign to be applied across the urban area as a whole. The net impact of this (based on evidence from the sustainable travel town work in towns such as Gloucester) is to reduce the overall number of vehicle trips in the town. In the model this reduction has been estimated as approx 3% or 700 vehicles over the peak period.

In this instance, the developers were asked to run a sensitivity test within the overall modelling work with the reduction in trips as a result of Smarter Choices campaign removed. The results are included in the Transport Assessments as a worst case scenario. The Highway Authority accept however that a well managed Smarter Choices campaign based on the specification proposed can achieve a level of success in line with the assumptions in the model.

3.3 Transport Modelling

With developments of the scale of Bishop Stortford North an area wide traffic model is required to assess the impact of additional traffic over a wider area and on specific key routes and junctions. At an early stage the Highway Authority agreed with the applicants transport consultant's that a Paramics micro simulation model was the most appropriate type of model to use, on the basis that the model would assess:

- The routing of development traffic away from the site

- Identify changes in traffic flow, queue lengths and journey times on key routes and at key junctions
- Take account of drivers' behaviour and how they adapt to the prevailing road conditions i.e. avoidance of congestion
- Inform the design and assessment of highway improvements

It was agreed that the model should cover the northern half of Bishop's Stortford. Including A120, A1250, Rye Street and Stansted Road corridors as well as the Hockerill junction. Beyond this, there was the option to determine the wider impact through use of the sub regional Harlow Stanstead Gateway Model (HSGTM). The impact on the M11 Junction 8 and the Little Hadham crossroads would be determined using a LINSIG model of the traffic signal operation.

The assessment for ASRs 1-4 along with ASR 5 was carried out using the Paramics model built, calibrated and validated by the applicant's transport consultants working for the consortium. The study area and extent of the modelling work was agreed through discussion by Hertfordshire County Council as the Highway Authority and East Herts District Council as the LPA with the respective transport consultants acting for the Consortium and Countryside Properties. The Highways Agency was consulted as a result of the need to assess the impact on Motorways and Trunk roads and the development's close proximity to the M11. Essex County Council as a neighbouring authority was also consulted due to the potential impacts on their local road network.

The time periods and tests covered in the modelling work were based on the following:

AM peak period 0700 -1000 hours, with peak hour 0800 - 0900 hour
PM peak period 1600 -1900 hours, with peak hour 1700 - 1800 hour

Options Tested:

Base Year 2012 – check on accuracy against observed data

Do Nothing – future year growth with committed developments

Do Minimum – future year growth with development traffic and access points but no improvements.

Do Something – future year growth, development traffic for ASRs1-4 and ASR 5, identified highway mitigation measures and Smarter Choices campaign.

Do Something – future year growth, development traffic for ASRs 1-4 and ASR 5, identified highway mitigation measures with no Smarter Choices campaign.

Do Something – future year growth, development traffic for ASRs 1-4 and ASR 5, identified highway mitigation measures with no Smarter Choices campaign and no direct access to A120.

The 'Do Something' future year growth, development traffic for ASRs 1-4 and ASR 5, identified highway mitigation measures with no Smarter Choices campaign was tested as a worst case scenario, however, it is unrealistic to assume Smarter Choices would have nil impact on modal shift to more sustainable modes of travel.

3.4 Modelling Outputs

The data referred to be below summarises the typical traffic impacts of the BSN Development after implementation of the proposed packages of mitigation measures. i.e. takes account of the proposals for infrastructure improvements, travel planning and Smarter Choices campaign.

3.4.1 Impact on the A120 Bypass

With the A120 development access there is an increase in two-way flow of 340 vehicles in the AM peak hour and 390 in the PM peak.

Proposed Mitigation: Capacity improvements proposed to the junction of the A120/A1250 west and A120/B1383 junctions reduce queuing and delay below the existing situation without development. Eastbound journey times would reduce by 22% in the AM peak and 9% in the PM peak. Hence, following mitigation there is nil detriment on this route.

3.4.2 Impact on the M11 Junction 8

Modelling work has been undertaken by the Highways Agency to assess the operation of the junction with ASRs 1-4 and ASR 5, Stansted G1 and a development at Elsenham.

Proposed Mitigation: Resigning/remarking works and optimisation of the signals to the satisfaction of the Highways Agency.

3.4.3 Impact on Little Hadham Traffic Signal Junction

Traffic Towards Little Hadham
Max Flow Change AM Peak Hour: 42 Westbound to LH
Max Flow Change PM Peak Hour: 40 Westbound to LH
% change in flow AM Peak Hour: 4%
% change in flow PM Peak Hour: 5%

Local residents have expressed concern that the additional traffic flow resulting from the BSN Development will result in a significant increase in queuing on the approaches to the Little Hadham junction. It has been suggested that these queues could extend to 3km and back a far as the A120/A1250 (Tesco's) roundabout.

The applicant's traffic model shows that comparing the flow spreadsheets for the 'Do Something' ASRs 1-5 (with no Smarter Choices campaign i.e. worst case scenario) with the 'Do Nothing' (without development scenario) indicates that there are predicted to be an extra 74 vehicles (two way) heading from the Tesco's roundabout in the AM peak hour 0800-0900 and 84 in the PM peak hour (1700-1800).

These figures have been used to model the Little Hadham crossroads itself using a standalone LINSIG model incorporating the estimated additional trips identified above. In 2023 without the BSN Development this predicts mean max queues of around 183 vehicles on the A120 E in the AM peak (equating to around 1.09km) and 172 vehicles on the A120 W (1.03km) and delays of around 12 - 12.5 minutes. Adding the ASR development flows is shown to increase queues by up to 28 vehicles (a further 170m) on the A120 E and by a further 21 vehicles (126m) on the A120 W. It is therefore recognised that this additional traffic will add to existing long queues that regularly occur at this location. This is based on the current signal operation of the junction (which is assumed to be as efficient as it can be).

Proposed Mitigation: A financial contribution of £65,000 towards proposed improvements, proportional to the traffic impact. It should be noted that a Bypass for Little Hadham remains a priority scheme for HCC and we are in the process of preparing a business case to seek part funding from the Local Transport Body, for delivery of the project by 2019. Further funding will be required from other sources.

3.4.4 Impact on A1250 Corridor

Journey times along the route increase by 3 minutes in the eastbound direction in the AM peak and 4 minutes in the PM peak. Most of the increased delay occurs on Hadham Road between the Tesco Roundabout and the B1004 Rye Street junction with additional queuing and delay occurring at the Bells Hill Junction and at the right turn into Maze Green Road.

Bells Hill Junction
Max Flow Change AM Peak Hour: 43 Bells Hill to A1250 W
Max Flow Change PM Peak Hour: 43 A1250 E to W
% change in flow AM Peak Hour: 2%
% change in flow PM Peak Hour: 5%

Maze Green Road
Max Flow Change AM Peak Hour: 49 A1250 E to W
Max Flow Change PM Peak Hour: 96 A1250 E to W
% change in flow AM Peak Hour: 7%
% change in flow PM Peak Hour: 10%

The Hockerill Junction currently operates at capacity and the routing of additional traffic due to the BSN Development is limited as a result of this. Hence, the modelling indicates only a limited increase in queues on the A1250 eastbound approach to the junction in the AM peak. In the PM peak there is a noticeable increase in queues on the westbound approach.

The Causeway/Hockerill Street/Dane Street
Max Flow Change AM Peak Hour: 30 Causeway W to Dane St
Max Flow Change PM Peak Hour: 19 Hockerill St to Dane Street
% change in flow AM Peak Hour: 1%
% change in flow PM Peak Hour: 2%

Hockerill Junction
Max Flow Change AM Peak Hour: 13 Dunmow Rd to London Rd
Max Flow Change PM Peak Hour: 8 Dunmow Rd to London Rd
% change in flow AM Peak Hour: -3%
% change in flow PM Peak Hour: 0%

Proposed Mitigation: No physical mitigation measures are proposed by the applicant. The road corridor is physically constrained and the assessment work relies on successful application of a Smarter Choices campaign to encourage modal shift and thereby a reduction in general traffic volumes. Taking the effects of the Smarter Choices campaign into account journey times are still expected to increase by around 1.5 minutes in the eastbound direction in the AM peak.

3.4.5 Impact on B1004 Rye Street

ASRs 1-4 and ASR 5 would result in additional two-way traffic flows of up to 112 vehicles during the AM peak. Two new development access points are proposed on Rye Street. Without Smarter Choices there is

approx. a 2.5 minute increase in journey time and increased queuing on the approach to Hadham Road junction in the AM peak.

Hadham Road/Rye Street
Max Flow Change AM Peak Hour: 81 Rye St to A1250 E
Max Flow Change PM Peak Hour: 102 Rye St to A1250 E
% change in flow AM Peak Hour: 4%
% change in flow PM Peak Hour: 7%

Proposed Mitigation: Taking the effects of the Smarter Choices campaign into account the increase in journey time is reduced to approx. 1 minute.

The carriageway width on Rye Street varies between 5.5m and 8.0m from kerb to kerb along its length and existing physical constraints prevent any localised widening of the road. Improvements in vehicle capacity are therefore not possible due to the physical constraints of the route.

The speed limit on Rye Street from the A120 towards the town centre is 40mph up to the Bourne brook bridge at which point it reduces to 30 mph. The road changes in character from rural to sub urban and then urban as you travel along its length from north to south. Actual traffic speeds on Rye Street often exceed the speed limit and existing pedestrian and cycle facilities along the road are poor. Rye Street is also a main bus route in to Bishop's Stortford town centre.

Proposed Mitigation: The ASR 5 applicant has agreed to implement a scheme of highway improvements adopting a 'route strategy' approach along Rye Street aimed at delivering better speed management and to develop the route's status as a bus friendly corridor, with high quality cycle and walking links into the town centre. The applicant will consult local residents on the measures proposed in advance of their implementation.

3.4.6 Impact on Stansted Road

ASRs 1-4 and ASR 5 would result in the AM peak in an increase in traffic flows on the approach to the Hockerill Junction of up to 65 vehicles, adding to journey time by approx. 4.5 minutes. PM peak journey times would increase by approx. 2.5 minutes.

A120 / B1383 Stansted Road
Max Flow Change AM Peak Hour: 161 A120 EB
Max Flow Change PM Peak Hour: 119 A120 EB

% change in flow AM Peak Hour: 6%
% change in flow PM Peak Hour: 8%

Proposed Mitigation: Taking the effects of the Smarter Choices campaign into account the AM peak increase in journey time would reduces to approx. 2 minutes and in the PM peak there would be no increase in journey time.

3.4.7 Impact Across the Wider Bishop's Stortford Area

A further test of ASRs 1-4 and ASR 5 without Smarter Choices was undertaken using the HSGTM model. The results of this further modelling have confirmed that:

a. The main traffic impacts of the development are limited to the area covered by the scope of the Paramics model.
b. The modelled confirmed a reduction in stress on the A120 with the proposed improvements to A120/A1250 junction and the A120/B1383 junction.
c. Some additional delay and queuing on Dunmow Road/Birchanger Lane junction not identified in the Paramics Modelling.
d. The model confirmed the development does not introduce any new congestion on the A1184 Bishop's Park Way. Similarly no problems are identified on A1184/B1383 London Road junction. A limited increase in delay was identified on the approaches to the Bishop's Parkway roundabout near Hillmead School.
e. The Hockerill Street junction is at capacity without the ASR development. With the development traffic additional delays are expected southbound on Stansted Road in the AM peak, and London Road northbound in the PM peak. There is limited change in the east and westbound directions. This again supports the outputs from the Paramics model.
f. In the town centre there is some additional delay at the South Street/Dane Street junction. Overall however the impact on the wider town centre is limited.
g. The development leads to additional traffic on the Haymeads Lane/Beldams Lane, mainly in the eastbound direction in the AM peak.

In summary, for the AM peak the model recorded that:

- A1184 – delays in general are forecast to be relatively low. Delays on the southbound approach to Great Hadham Road are 17 and 18 seconds in the DM and DS scenarios respectively, the corresponding northbound delays are 23 and 29 seconds.

- A1060/B1383 – The northbound approach south of the A120 indicates delays of 37 and 15 seconds respectively for the DM and DS scenarios. Southbound delays at Hallingbury Road are under 10 seconds in both the DM and DS scenarios. For intermediate junctions delay reach a maximum of about 30 seconds per vehicle but with little change forecast between the DM and DS scenarios.

- Beldams Lane/Haymeads lane rat run – there are relatively small delays along this route in both the DM and DS scenarios.

- Dane street/train station area – there are low delays modelled along Dane Street in both the DM and DS scenario and only delays of a few seconds on some adjacent streets.

In summary, for the PM peak the model recorded that:

- A1184 – delays in general are forecast to be relatively low. Delays on the southbound approach to Great Hadham Road are 16 and 15 seconds in the DM and DS scenarios respectively, the corresponding northbound delays are 15 and 18 seconds.

- A1060/B1383 – The northbound approach south of the A120 indicates delays of 29 and 14 seconds respectively for the DM and DS scenarios. Southbound delays at Hallingbury Road are 14 seconds in the DM and 17 seconds in the DS. For intermediate junctions delay reach a maximum of about 30 seconds per vehicle but with little change forecast between the DM and DS scenarios.

- Beldams Lane/Haymeads lane rat run – there are relatively small delays along this route in both the DM and DS scenarios.

- Dane street/train station area – there are low delays modelled along Dane Street in both the DM and DS scenario and only delays of a few seconds on some adjacent streets.

A1250 Dunmow Road/Birchanger Junction
Max Flow Change AM Peak Hour: 122 A120 EB
Max Flow Change PM Peak Hour: 103 A120 WB
% change in flow AM Peak Hour: 5%
% change in flow PM Peak Hour: 7%

South Street/Dane Street Junction
Total Change in Junction inflow AM Peak Hour: 9
Total Change in Junction inflow PM Peak Hour: 27
Max Flow Change AM Peak Hour: 5 South Street NB
Max Flow Change PM Peak Hour: 25 South Street

A1184 St James Way/London Road
Total Change in Junction inflow AM Peak Hour: 89
Total Change in Junction inflow PM Peak Hour: 62
Max Flow Change AM Peak Hour: 52 London Road SB
Max Flow Change PM Peak Hour: 45 St James Way approach

Proposed Mitigation: None proposed. See comments below re Additional Mitigation Measures.

3.5 Modelling Outcomes

The results of the Paramics micro simulation model, the Harlow-Stansted Gateway Transport Model (HSGTM) Saturn model and the localised LINSIG models confirm in summary that:

- Mitigation measures along A120 results in nil detriment to the primary route network.
- Significant increases in traffic and congestion are anticipated on key routes into town and at key junctions. The mitigation of the impact of this additional traffic on the town is reliant on the achievement of modal shift through successful take up of the improved bus services and the successful application of travel planning and the Smarter Choices campaign.

4.0 Access Proposals

4.1 New A120 Roundabout

A new roundabout access is proposed on the A120 to the east of the existing lay-bys and to the west of the A120 Bridge over Bourne Brook.

The design of the access takes into account constraints associated with the location of the lay-bys, the Road Bridge and ground levels.

A120 is a key primary route in Hertfordshire. The Road Hierarchy and Network Development section of HCC's LTP3 states that the county council will develop and maintain strategies for roads within the urban and inter urban network that on Primary Routes will:

- Encourage through traffic and HGVs to use primary routes;
- Not allow existing or new developments to have direct access except where special circumstances can be demonstrated and such limitations will be rigorously applied.

The potential however of a direct access off A120 was identified in the 2006 Bishop's Stortford Transport Plan which was approved by HCC's Highways Transport Panel and East Herts District Council.

The proposal has been reviewed independently by transport consultant AECOM. As part of consideration of these applications. Their findings were:

i. The new direct access on to A120 would be utilised by a significant proportion of the development traffic. Without this access there will be pressure on the other two access points.

ii. The modelling work also indicates that the delays to through traffic on the A120 due to the new access roundabout will be small and will probably go unnoticed in terms of overall journey time. Furthermore the proposed improvements to the existing A120/B1383 Stansted Road Roundabout would more than offset this delay.

iii. Between Tesco roundabout and Stansted Road Roundabout, A120 is of 60mph speed limit and the geometry is an arc which encloses the ASRs1-5 sites. The five year accident from 1st November 2007 to 31st October 2012 shows that there were 20 accidents involving 49 vehicles and 33 casualties where there were two fatal, 4 serious and 27 slight. There are clusters of accidents on either side of Bourne Brook Bridge involving fatalities and serious casualties. The analysis of the reasons for accidents demonstrates that the key factors were due to speed and attempting to overtake. Introducing a new junction with a roundabout at the proposed location could improve the road safety by reducing speed and discourage overtaking. It is recognised that introducing a new junction could introduce

collisions occurring at the roundabout. However, this could be significantly minimised by a roundabout which meets all the design and safety requirements.

iv. The assessment also indicates that the junction will provide relief to Hadham Road and Rye Street my reducing the amount of traffic which accesses the local road network from both the Western and Eastern neighbourhoods of ASRs 1-4.

The Highway Authority has accepted the case for a new access on to A120 by means of a new roundabout due to the special circumstances set out above and subject to the roundabout meeting the required design and safety standards. The applicant has submitted a roundabout junction proposal which has been design checked and stage 1 safety audited. The design submitted is acceptable in principle subject to detailed design and stage 2 safety audit.

4.2 New A1250 Hadham Road Roundabout

A new roundabout junction is proposed close to the existing A120 / Hadham Road Roundabout. This access arrangement provides an easy and safe access to development traffic on to A120. Taking into consideration the scale and size of the development a western access to the development is needed to provide easy and efficient access to the wider road network. The access is also required for emergency access to the western neighbourhood of the development.

Concerns have been expressed by residents of Hadham Grove and Grove Park regarding the proposed roundabout. The residents have formed Bishop's Stortford Grove Residents Action Group (BSGRAG) and have submitted a petition to Hertfordshire County Council seeking to "ensure that access to the Western Neighbourhood for the Stortford North Development is from the Bishop's Stortford Ring Road".

BSGRAG have suggested two alternative access arrangements:

1) A direct link off the existing A120/A1250/A1184 roundabout (a fifth arm)

The existing four arm roundabout operates effectively in the existing situation. However the future year modelling work shows that without improvements, the junction will see a detriment on both the western and northern arms. The applicant is proposing to improve the A120/A1250/A1184 roundabout by means of widening the entry flares to

provide increase capacity for future years. Adding an additional arm on to this roundabout would however be against good design practice for a roundabout where a number of primary routes connect. A fifth arm would result in inadequate weaving distance between the arms all of which carry a high volume of traffic.

2) a further new roundabout on the A120 bypass

As highlighted previously, the Road Hierarchy and Network Development section of HCC's LTP3 states that the county council will develop and maintain strategies for roads within the urban and inter urban network that on Primary Routes will not allow existing or new developments to have direct access except where Special circumstances can be demonstrated. Having already agreed to the provision of a new access onto the A120 with the congestion relief this provides to Hadham Road and Rye Street it is not considered that there are special circumstances in this instance that would support a further relaxation of this policy and a second dedicated access for the eastern neighbourhood directly onto the primary route network.

BSGRAG have also suggested that the proposed new roundabout is too close to the A120/A1250/A1184 roundabout and that there will be queuing between the two junctions. There is no indication however in the transport model that queuing from the proposed new roundabout would extend back to the A120/A1250/A1184 junction after the proposed mitigation measures are taken into account.

In view of the above, the Highway Authority accepts that the roundabout on Hadham Road as proposed by the applicant is the best form of access for the development's western neighbourhood.

4.3 New Rye Street Priority Junction

ASRs 1-4 proposes a new priority junction on Rye Street. This is sited between property no. 219 and the bridge over Bourne Brook.

Placement of the access has had to take into account the impact on a line of existing trees. Following detailed discussions between the Highway Authority, East Herts District Council and the Consortium's transport consultants the design of the access has been refined to minimise the loss of trees. Revised drawing No. 0210-GA-03 D has been submitted and it is the agreed scheme in principle subject to detailed design and safety audit.

4.4 New Hazelend Road Roundabout

ASR 5 proposes a new roundabout junction on Rye Street to provide the main access for the development. This would form a junction between Hazelend Road/Michaels Road/Rye Street. The original proposal for this access was to include a Farnham Road arm on to the roundabout. However, this resulted in a five arm roundabout which failed a stage 1 safety audit. The applicant has therefore redesigned the roundabout in a manner that retains the existing egress from Farnham Road onto Rye Street. A further priority access junction will be provided on Farnham Road to provide access to limited number of properties.

4.5 New Hazelend Road Priority Junction

A further priority junction is proposed on Hazelend Road to the north of the main roundabout access to the site. This junction will be used by a limited number of vehicles and will have minimal impact on traffic flows on Hazelend Road.

5.0 Proposed Mitigation Measures

5.1 Passenger Transport

A new bus service and route through the site is proposed as part of the ASRs 1-4 development. The bus route is proposed to run from the town centre, along Link Road and Rye Street, through the site entering at the new Rye Street access and exiting at the new Hadham Road access then back towards the town centre along Hadham Road. The service is proposed to run at a 15 min. frequency and will provide residents with an alternative sustainable means of travel into the town centre.

The Consortium has agreed to make a stage payment totalling £3,250,000 to run a service for a minimum of 13 years. The service is to commence on the occupation of the 100th residential unit. New DDA compliant bus stops will be implemented both internal and external to the development along the proposed route into the town centre incorporating easy access kerbing, bus shelters and information display screens. The bus stops that will be upgraded external to the site are those on Patmore Close, Maple Avenue, Thornfield and North Street (at a cost of £100,000) to be secured through S106 contributions.

The ASRs 1-4 application originally included a proposal for the provision of a limited Park and Ride facility to link with the proposed new bus service. One local concern is the inadequacy of parking in the town centre. The Highway Authority has no fundamental objection to the provision of the Park and Ride which would provide the opportunity for 100 long-stay car parking spaces to be relocated to within the development site and remote from the town centre. Hence, the provision of the Park and Ride could ensure more parking spaces are available throughout the day for short term shoppers parking in the town. It would also provide an alternative sustainable means of travel into the town centre for drivers who would normally drive into town via Hadham Road.

The Highway Authority recognises that the provision of park and ride did not emerge through a detailed study and ideally needs to be considered in conjunction with a formal car parking charging strategy within the town centre. The main concern of local residents however is additional congestion and delay on the local road network. The provision of park and ride is a complementary measure along with other measures proposed that could help mitigate this impact.

For ASR 5, the applicant proposes to fund the diversion of the existing 510 service in to the site, in accordance with its existing frequency and operating hours. If the frequency of the 510 service were to be reduced by the operator in the future the applicant has agreed to provide an alternative service with a minimum frequency of 30 minutes in the peak period subject to the ability to operate the service with one vehicle. The service would be guaranteed for a period of 5 years from the point of occupation of 100th unit. The estimated cost of this service is £380,000. The applicant has also agreed to provide DDA compliant bus stops within the site and along Rye Street into the town centre incorporating new bus shelters and information display screens wherever space permits.

5.2 Travel Planning

The NPPF states that it is a requirement to submit a Travel Plan with sustainable measures with Transport Assessments. It firmly establishes Travel Plans as a national policy requirement for all new developments. The aim is to ensure new developments promote and support sustainable means of travel and manages the delivery of this by setting measurable targets that in turn are supported by mitigation measures and incentives that encourage sustainable travel.

There are three types of travel plan proposed for ASRs1-4, these are residential, school and business travel plans. A residential travel plan only is proposed for ASR 5.

The Travel Plans would include measurable and achievable targets which the development will be measured against and the documents will set out the methodology as to how these targets will be assessed. These include surveys, monitoring actual trip generation against the predicted trips (including trips by modes) identified in the Transport Assessments and assessment of the effectiveness of mitigation measures identified in the travel plans. Monitoring will be carried out at an appropriate time after the developments implementation to check compliance with the agreed targets, at each of the four main access points to the overall BSN development; the A120 Roundabout Junction, Hadham Road Roundabout Junction, Rye Street Priority Junction and Hazelend Road Roundabout. The applicants have agreed to set aside additional sums in support of the plans to fund additional mitigation measures should the identified targets not be achieved.

A specific agreement has been reached with the applicant for ASRs 1-4 to monitor the actual traffic that accesses the proposed new roundabout access onto the A120 to ensure that this doesn't exceed the predictions in the Transport Assessment and thus risk introducing unreasonable delays on the A120 bypass. If traffic was to be shown to have exceeded the predicted traffic flows, the applicant has agreed to set aside an additional sum for appropriate mitigation measures, such as the possible signalisation of the roundabout. This agreement needs to be included in the S106 agreement.

Travel Planning will be an important element in the S106 agreement. The applicant for ASRs 1-4 has agreed to make a contribution of £30,000 towards travel plan monitoring and surveys. A similar agreement has been reached with the applicant for ASR 5 who would make a contribution of £6,000 towards travel plan monitoring and surveys. Travel planning measures would typically include Travel Information Packages and free bus vouchers issued to new residents.

5.3 Smarter Choices Campaign

It is proposed that a Smarter Choices style Personalised Travel Planning campaign in Bishop's Stortford would be funded by the applicants. The campaign will be carried out in accordance with DfT document "Making Personal Travel Planning Work". Personalised Travel Planning is a marketing campaign aimed at individual residents/users in an area to

demonstrate the alternative modes available to them to make their journeys. This approach has been used previously in Hertfordshire and elsewhere across the UK under various different names.

The modelling work undertaken as part of the Transport Assessment has assessed the traffic impacts of the development both with and without a reduction in traffic volumes to take account of the impact of the Smarter Choices campaign. Where Smarter Choices has been included in the modelling the effect of this has been estimated to remove around 3% of the traffic as a whole during the AM peak.

Studies have shown that Smarter Choices campaigns are generally successful on shorter journeys. Hence, as the majority of car journeys in Bishop's Stortford are internally generated it is considered the campaign has good potential to reduce car trips within the town. The success or failure of the campaign however will ultimately depend on the residents of Bishop's Stortford attitude towards changing their travel habits and their willingness to use alternative modes of travel to the private car.

Hertfordshire have partnered with Sustrans in the past to deliver personalised travel planning projects under the banner of TravelSmart. The applicant's proposal involves funding of a Smarter Choices campaign for Bishop's Stortford at an estimated cost of £400,000 with a bond for £200,000 for mitigation measures. The Highway Authority is currently in discussion with Sustrans and the Consortium's transport consultants to develop and agree the process for implementing the Smarter Choices campaign.

In support of achieving the desired outcomes from the Smarter Choices campaign the applicants have agreed to set aside a further contribution of £200,000 towards further mitigation measures that would help support and promote modal shift if the Smarter Choices outcomes assumed in the Transport Assessment are not fully realised within the period defined in the s106 agreement.

5.4 Recommended Additional Mitigation Measures

The Highway Authority accepts that the mitigation measures set out above will reduce the impact of new trips generated by the development preventing a 'severe' impact on the highway network. Though the Highway Authority would not recommend refusal on transport grounds, in accordance with the NPPF, the development will however result in material changes to traffic flows with significant impacts on congestion and journey times along key routes and at key junctions within the town.

The Highway Authority recommends therefore that further funds should be set aside to provide additional mitigation of the transport impacts at key sites within the town. This would result in an overall improvement in transport in the town, either by relieving increased congestion caused by the development or providing the necessary infrastructure to maximise the potential for mode shift i.e. improved bus, cycle and pedestrian infrastructure.

At a number of locations where transport impacts are recognised within the Transport Assessment, further investigation is required to determine appropriate 'further' mitigation measures, before implementing identified solutions. The scope of these further mitigation measures are set out below. The Highway Authority recommends that the LPA set aside additional funds under planning obligations to cover the cost of the relevant studies and measures.

5.4.1 Bus Strategy and Measures

As highlighted previously, the original proposal to include a Park and Ride site within the proposals for the development has been withdrawn due to a lack of support from the LPA. One of the reasons for this was the lack of a comprehensive strategy that linked Park and Ride to parking provision within the town centre.

Park and Ride has been identified as a key measure to provide a modal shift away from car journeys into Bishops Stortford for shoppers and employees working within the town centre within previous strategic documents produced by East Herts and the County Council to mitigate future congestion problems.

Due to the lack of room for further capacity to be provided within the highway network it is recognised that congestion will worsen in Bishops Stortford as a result of further development. Measures such a park and ride are therefore likely to become more viable. To guide the decision making process it is the Highway Authority's view that a Bus Strategy should be developed to fully assess the benefits and viability of Park and Ride for Bishops Stortford in the light of the additional traffic within the town created by the proposed developments. This study should include 'passenger transport' as a whole encompassing the full scope of measures that could potentially be targeted to maximise the use of buses from the development site - i.e. park and ride, AVL and RTPI inc. intelligent displays, bus priority through signal technology, bus lanes, quality and low carbon vehicles. This would need to assess the delivery needs and issues associated with each element, their viability (design

and commercial), delivery mechanism, funding, timescales and ongoing management requirements etc.

The Highway Authority recommends a sum of £200,000 should be secured through the planning obligation process to fund the development of the Bus Strategy and support the implementation of associated measures.

5.4.2 Measures Aimed at Mitigating the Impacts of Localised Congestion

Localised increases in congestion and delay have been identified within the Transport Assessment at a number of sites where no direct mitigation measures are currently proposed. The Highway Authority recommend that the LPA set aside a sum from the money available from planning obligations associated with the development towards funding the investigation and implementation of measures aimed at relieving congestion at the following sites:

- Lindsey Road / Cricketfield Lane to address risk of displaced traffic highlighted in the model.
- Hadham Road Route Strategy inc:
  - Eastbound queuing at the Bells Hill Junction
  - A1250 Hadham Road / B1004 junction increase in traffic and delay.
- Hockerill Junction:
  - to address increase in queues on the westbound approach in PM Peak.
  - increase in queuing on Stansted Road approach
- A1250 Dunmow Road / Birchanger Junction
- South Street / Dane Street Junction
- A1184 St James Way / London Road

We recommend a sum of £500,000 should be secured through the planning obligation process to support the delivery of the above investigations and measures.

5.4.3 Measures to Compliment Smarter Choices Campaign

The applicant's current proposal is to fund a Smarter Choices Campaign supplemented with a bond for £200,000 for additional mitigation measures should the targeted reduction in trips in the Transport Assessment not be met. The Highway Authority's preference however is for the Smarter Choice campaign to be carried out by an independent

organisation, SUSTRANS, to the same specification identified in the Transport Assessment. The applicant's transport consultants have agreed to the principle of employing SUSTRANS, however at this stage agreement has not been reached on the cost of SUSTRANS delivering the campaign. SUSTRANS have agreed to carry out the Smarter Choices campaign at a cost of £450,000 whereas the applicant's transport consultant's cost estimate of delivering the campaign to the same specification is £400,000. The Highway Authority recommends that the additional funds required for SUSTRANS to deliver the campaign should be secured through the planning obligation process.

The applicant's mitigation measures on town centre traffic impact are currently reliant on the achievements of the Smarter Choices campaign. The Highway Authority's view is that the modal shift targeted by the campaign is more likely to be achieved if the campaign is supported with complimentary physical measures aimed at promoting sustainable modes of travel within the town centre.

The Eastern Herts Transport Plan identified various pedestrian improvements that should be brought forward within Bishop's Stortford town centre. The Highway Authority considers that each of these measures would successfully compliment the Smarter Choices campaign and help maximise the outcomes of the campaign.

a. Improved pedestrian town centre route - £150,000
b. Station road bridge widening contribution to the S106 pool - £100,000.
c. Safe route to school at estimated cost - £100,000
d. Town, school and other cycle track facilities - £75,000

The Highway Authority recommend that the bond for £200,000 for additional mitigation measures as part of the Smarter Choices campaign is in fact paid as part of the s106 agreement to fund the complimentary measures identified above. We also recommend an additional sum of £225,000 should be secured through the planning obligation process to support the delivery of the full package of complimentary measures listed above.

5.4.4 Travel Planning

As stipulated in the NPPF the applicants have agreed to develop and implement Travel Plans for the developments. Travel Planning is to be secured through planning obligation process. Residential, business and school travel plans are all proposed by the applicant as part of their proposals all of which will include targets in line with the transport

assessment, monitoring and proposals for further mitigation measures should targets not be met.

The ASRs 1-4 applicant has currently agreed to provide a bond of £100,000 to fund the potential further mitigation measures. The Highway Authority recommend that a bond of £500,000 would be a more appropriate sum, taking into account the challenging targets that have been included in the Transport Assessment. If the travel planning process delivers to its targets, this will not result in any additional expense to the Developer.

5.5 Phasing and S106 Agreement

Delivery of relevant highway works and sustainable transport measures in accordance with the phasing of the development should be set out in the agreed Heads of Terms. These would form part of the S106.

All passenger transport contributions should be index linked from the date of the agreement to the date of payment. All Passenger Transport contributions should also be index linked to RPI and all other highway and transport contributions are to be index linked to SPON.

Rye Street is a key route into town which will be impacted by both developments ASRs 1-4 and ASR 5. Each will add additional traffic to the road where speed of traffic and poor bus, cycle and pedestrian facilities are already a concern. As described previously the Highway Authority have agreed in principle a highway improvement scheme for Rye Street based on a route strategy approach. The timing of the delivery of this scheme is very important as the proposed improvements need to be in place in time to mitigate the impact of the traffic that will be generated by both developments. It is currently anticipated that the access to Rye Street from ASRs 1-4 would not be constructed until a second phase of construction and that construction of the ASR 5 is likely to precede this, with construction occurring in parallel with the first phase of ASRs 1-4.

The Highway Authority has therefore agreed with the applicant for ASR 5 that the Rye Street Corridor Improvements would be implemented as part of the ASR 5 mitigation measures and prior to first occupation. However, if for any reason ASRs 1-4, phase 2 should come forward in advance ASR 5, the responsibility for implementing the Rye Street Corridor Improvements would need to be transferred to the ASRs 1-4 applicant. These arrangements need to be reflected by a financial agreement between the two developers and the delivery of the Rye

Street Corridor Improvements will need to be suitably worded in the S106 agreement.

6.0 Conclusion

This planning application response relates to the planning applications that have been submitted for both the ASRs 1-4. and ASR 5. To assess the combined impact of these two developments it was agreed at an early stage that the modelling work required to inform the respective traffic assessments should be carried out as a joint exercise and not as standalone schemes (in isolation from one another). Though the proposed access arrangements and passenger transport provision are unique to each site, the impacts and required mitigation measures are intrinsically interlinked.

Our response as the Highway Authority as a consultee to the planning applications must take account of The National Planning Policy Framework (March 2012) which places significant weight on the need to support economic growth through the planning system and states that "Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe".

The impact of the Bishop Stortford North developments on both the primary route network and the local highway network have been assessed using a detailed Paramics model complemented by the additional input from the Harlow Stansted Gateway Model (Saturn model) and separate LINSIG models to assess the impacts on two key remote junctions impacted by traffic generated by the development, namely, Little Hadham Traffic Signal junction and the M11 Junction 8.

Both applicants' development proposals generate a significant number of new trips on both the primary route network and the local road network in Bishop's Stortford. The applicants have identified proposed mitigation measures consisting of a combination of highway infrastructure improvements inc both capacity improvements and measures aimed at improving the facilities for sustainable modes of travel, improved bus service provision, travel planning and a Smarter Choices (travel awareness) campaign.

The Highway Authority is satisfied that the analysis of the traffic impact of the two developments will not adversely affect the primary route network. Hence, the future performance of key routes will be maintained. The S106 agreement will also make adequate provision for monitoring the traffic impact against agreed targets aligned with the data presented in

the applicants Transport Assessments, with provision being made for further mitigation measures should the proposed monitoring regimes demonstrate that these targets are not being met.

It is recognised that additional traffic generated by the developments will add to the existing long queues that regularly occur at the Little Hadham traffic signals.
The increase in queuing will not however result in regular 'blocking' of the A120/A1184/A1250 (Tesco's Roundabout) junction or blocking of the proposed new roundabout on Hadham Road as the main western exit from the BSN development. Though the development will add to the number of vehicles using the Little Hadham junction, resulting in increased journey times, this is not expected to introduce significant operational or safety issues on the route and therefore we do not consider the impact in the context of the NPPF to be 'severe'. The Highway Authority recognises the need to find a solution to the significant existing delays at the junction and that this could be exacerbated by future development in the area. The County Council's strategy to address this is to deliver a bypass. The Little Hadham Bypass remains a priority scheme for HCC.

The Transport Assessments demonstrate that the impact of development within Bishop' Stortford town will result in increases in traffic flow, congestion and increased journey times on a number of routes. There is very limited scope, if any, however for introducing additional capacity into the local highway network by physical road widening or construction. This is due to the highly constrained nature of the majority of key routes through the town, which are often narrow in nature and are constrained by the highway boundary and surrounding building lines. This aligns with the findings of previous transport studies undertaken by the Highway Authority and East Herts District Council, which established that there were no opportunities to directly increase the capacity of the local road network and hence the future transport strategy for the town needs to be one that focuses on achieving modal shift.

Mitigation of the traffic impact of the BSN development therefore is reliant on achieving a demonstrable shift in travel behaviour that reduces reliance on single occupant journeys using a private car through an increase in trips using more sustainable modes of travel. The package on mitigation measures proposed for the town centre by the applicants correctly focuses on both physical improvements for bus, cycle and pedestrian travel, together with travel planning and Smarter Choices promotional campaigns aimed at encouraging more sustainable trips by new residents of the development and existing residents of the wider town, respectively.

The proposed mitigation measures include a highway improvement scheme for Rye Street based on a route strategy approach. The Highway Authority also recommends a similar approach is adopted for Hadham Road, supported by additional funds secured through the planning obligations process.

The proposed mitigation of the traffic impacts on junctions in the town centre is very reliant on the success of with travel planning and the Smarter Choices campaign. The Highway Authority have however identified a number of sites where it believes there is scope to investigate localised impacts with a view to bringing forward complimentary physical measures that would support the achievement of the travel planning and Smarter Choices campaign targets again proposing that these are supported by additional funds secured through the planning obligations process. Similarly the Highway Authority have identified areas of localised congestion that require further exploration and associated measures that though they do not result in a 'severe' impact in the context of the NPPF could nevertheless reduce specific impacts on the highway network created by additional traffic if additional funds can be secured through the planning obligations process.

The Highway Authority has identified additional mitigation measures in this response as set out below:

Bus Strategy and Measures - £200,000
Measures Aimed at Mitigating the Impacts of Localised Congestion - £500,000
Measures to Compliment Smarter Choices campaign - £225,000
TOTAL -£925,000

The Highway Authority recommends that these additional funds should be secured through the planning obligation process. The Highway Authority has discussed the principles of the need for additional mitigation measures to help reduce the overall traffic impact of the Bishop Stortford North development on the town with the ASRs 1-4 applicant in the presence of the LPA. The applicant agreed to the principle that additional measures would improve the overall transport position in the town but highlighted the competing demands for planning obligations and the viability of the Development. It was recognised that it is a matter for the LPA and the applicant to prioritise and agree the allocation of funds available through the planning obligations process in view of the competing demands.

A planned update of the Bishop's Stortford Urban Transport Plan will provide an appropriate opportunity to review the respective benefits and priority of individual schemes that would result from the above. It is anticipated that work on the plan will resume in the Spring of 2014 when the preferred sites consultation on EHDC Local Plan has been concluded.

It is the Highway Authority's view that the combined scale of the proposed developments will unavoidably generate an increase in traffic within the town. Though the impact of this additional traffic on the town will be mitigated by the proposed highway infrastructure improvements improved bus service provision, travel planning and Smarter Choices campaign, the result will still be a significant increase in traffic on the local road network within the town.

The development and the mitigation measures proposed are in accordance with the transport policies set out in the NPPF, LTP3, East Herts Local Plan, East Herts Transport Plan and the Bishop's Stortford Transportation Study. The resulting traffic impact of the development taking into account the effects of the full package of mitigation measures will significantly add to congestion in the town but there is no indication that this will introduce significant operational or safety issues on the local highway network.

Accordingly the Highway Authority does not wish to restrict the grant of consent subject to the applicants entering in to the above conditions and the applicants entering in to appropriate S106 agreements.